



**National Technical University of Ukraine**  
**«Igor Sikorsky Kyiv Polytechnic Institute»**



**Department of educational process organization**

# **ACADEMIC OFFER CATALOGUE**

## **for foreign students participating in academic mobility programmes**

*APPROVED by  
Academic Council of Igor Sikorsky Kyiv Polytechnic Institute  
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**ACADEMIC OFFERS**  
for foreign students of  
**First level (Bachelor's degree)**

# 035 Philology

035 Philology (UA) / 0231 Language Acquisition, 0232 Literature and Linguistics (ISCED)

First level (Bachelor's degree)

## GERMANIC LANGUAGES AND LITERATURES (INCLUDING TRANSLATION), PRIMARY – ENGLISH

Department of Theory, Practice and Translation of English

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / spring semester	<a href="#">Introduction to Romano-Germanic linguistics: Latin</a>	3/Exam
	<a href="#">Introduction to Romano-Germanic Linguistics: History of English</a>	2/Test
	<a href="#">Practical Course in English. Level: Vantage II</a>	10/Exam
	<a href="#">Contrastive Grammar: Morphology</a>	6,5/Exam
	<a href="#">Contrastive Phonetics</a>	4/Test
2 / fall semester	<a href="#">Practical Course in English. Level: Vantage Profound II</a>	8/Exam
	<a href="#">Contrastive Phonetics</a>	4/Test
	<a href="#">Practical Grammar of the English Language</a>	4/Test
	<a href="#">History of Translation</a>	4/Test
	<a href="#">Contrastive Grammar: Syntax</a>	3,5/Exam
2 / spring semester	<a href="#">Practical Course in English. Level: Vantage Profound II</a>	8,5/Exam
	Contrastive Typology: Contrastive Lexicology	3/Exam
	<a href="#">Contrastive Typology: Contrastive Stylistics</a>	2/Test
	<a href="#">Phonostylistics and Practical English Phonetic Studies</a>	4/Test
	<a href="#">Practical Grammar of the English Language</a>	4/Test
3 / fall semester	<a href="#">Practical Course in English. Level: Effective Operational Proficiency II</a>	7/Exam
	<a href="#">Contrastive Typology: Contrastive Stylistics</a>	2/Test
	<a href="#">Copywriting in Advertisement and PR</a>	4/Test
	Terminology Studies	4/Test
	<a href="#">Sociocultural Variations in English Oral Speech</a>	4/Test
3 / spring semester	<a href="#">Practical Course in English. Level: Effective Operational Proficiency II</a>	6,5/Exam
	<a href="#">Phonostylistics and Practical English Phonetic Studies</a>	4/Test
	<a href="#">Contrastive Lexicology of the English and Ukrainian Languages</a>	3/Exam
	<a href="#">Contrastive Typology: Contrastive Stylistics</a>	2/Test
	<a href="#">Speech Etiquette as a Component of Translator's Sociocultural Competence</a>	4/Test
	<a href="#">Introduction to Romano-Germanic Linguistics: History of English</a>	2/Test
4 / fall semester	<a href="#">Practical Course in English. Level: Mastery 1</a>	4/Exam
	<a href="#">Methodology and Didactics of Teaching</a>	4/Test
	<a href="#">Speech Etiquette as a Component of Translator's Sociocultural Competence</a>	4/Test
	Terminology Studies	4/Test
	<a href="#">Copywriting in Advertisement and PR</a>	4/Test
4 / spring semester	<a href="#">Practical Course in English. Level: Mastery II</a>	1,5/Exam
	<a href="#">Copywriting in Advertisement and PR</a>	4/Test
	<a href="#">Sociocultural Variations in English Oral Speech</a>	4/Test
	Academic Writing	4/Test
	Second Foreign Language (French/German, B2)	4/Test
	<a href="#">Methodology and Didactics of Teaching</a>	4/Test

035 Philology (UA) / 0231 Language Acquisition

First level (Bachelor's degree)

## GERMANIC LANGUAGES AND LITERATURES (INCLUDING TRANSLATION), PRIMARY – GERMAN

Department – Theory, Practice and Translation of the German Language

Language of study – German

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	<a href="#">German (general) 1</a>	13
	<a href="#">Contrastive Grammar 1</a>	6.5
1 / spring semester	<a href="#">German (general) 2</a>	10
	<a href="#">Contrastive Grammar 2</a>	3.5
2 / fall semester	<a href="#">German (general) 3</a>	8
2 / spring semester	<a href="#">German (general) 4</a>	8.5
	<a href="#">Contrastive Typology. Contrastive Lexicology</a>	3
3 / fall semester	<a href="#">Practice of Oral and Written Speech 1</a>	4
	<a href="#">Practical Translation Course 1</a>	5
	<a href="#">German (general) 5</a>	7
3 / spring semester	<a href="#">Terminology Studies 1</a>	4
	<a href="#">Practical Translation Course 2</a>	6
	<a href="#">German (general) 6</a>	6.5
4 / fall semester	<a href="#">Practice of Oral and Written Speech 2</a>	4
	<a href="#">Practical Translation Course 3</a>	5
	<a href="#">German (general) 7</a>	4
	<a href="#">Consecutive Interpreting</a>	3.5
	<a href="#">Translation and Editing of Specialized Texts</a>	5
4 / spring semester	<a href="#">Translation of Specialized Medical Texts</a>	4
	<a href="#">Interpretation Strategies</a>	4
	<a href="#">Terminology Studies 2</a>	4
	<a href="#">Mediatranslation</a>	4
	<a href="#">Practical Translation Course 4</a>	4.5
	<a href="#">German (general) 8</a>	3

## 051 Economy

051 Economy (UA) / 0311 Economics (ISCED)

First level (Bachelor's degree)

### INTERNATIONAL ECONOMICS

Department of International Economics

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	<a href="#">Ukrainian Language for Professional Purposes</a>	2/Test
	<a href="#">History of Ukrainian Culture</a>	2/Test
	<a href="#">History of Economics and Economic Concept</a>	4,5/Exam
	<a href="#">Mathematics for Economists 1</a>	3,5/Test
	<a href="#">Informatics 1</a>	3/Test
	<a href="#">Economic Theory</a>	4,5/Exam
	<a href="#">Regional Economics</a>	3,5/Test
	<a href="#">Money and Credit</a>	4/Exam
1 / spring semester	<a href="#">Basics of a Healthy Lifestyle</a>	3/Test
	<a href="#">Foreign Language</a>	3/Test
	<a href="#">Mathematics for Economists 2</a>	4/Exam
	<a href="#">Informatics 2</a>	3/Test
	<a href="#">Management</a>	3,5/Test
	<a href="#">Socially Responsible Marketing</a>	3,5/Test
	<a href="#">Macroeconomics</a>	4,5/Exam
	<a href="#">Microeconomics</a>	4/Test
2 / fall semester	<a href="#">Optimization Methods and Models</a>	4,5/Exam
	<a href="#">Theory of Probability and Mathematical Statistics</a>	5/Exam
	<a href="#">Finances</a>	5/Exam
	<a href="#">Economics of Enterprise</a>	5/Test
	<a href="#">Integration Processes: Introduction to Specialty</a>	3/Test
	<a href="#">International Insurance</a>	4/Exam
	<a href="#">European Integration</a>	3,5/Test
	European Integration Coursework	1/Test
2 / spring semester	<a href="#">Logic</a>	2/Test
	Foreign Language	3/Test
	<a href="#">Philosophy</a>	2/Test
	<a href="#">Statistics</a>	5/Exam
	<a href="#">Econometrics</a>	4,5/Test
	<a href="#">National Economy</a>	3/Test
	<a href="#">International Economic Activity of Ukraine</a>	4/Exam
	<a href="#">International Economic Law</a>	3/Test
	<a href="#">Investment</a>	4/Exam
	Investment Coursework	1/Test
	<a href="#">Psychology</a>	2/Test

3 / fall semester	<a href="#">Science of Law</a>	2/Test
	<a href="#">Accounting</a>	4,5/Exam
	<a href="#">Economics of Labour and Social Labour Relations</a>	5/Exam
	<a href="#">Economics of Foreign Countries</a>	4.5/Exam
	Economics of Foreign Countries Coursework	1/Test
	<a href="#">Functional-Cost Analysis</a>	3/Test
	<a href="#">International Business</a>	4/Test
	<a href="#">Customs Activity</a>	4/Test
3 / spring semester	<a href="#">Foreign Language for Professional Purposes 1</a>	3/Exam
	<a href="#">International Economics</a>	4,5/Exam
	<a href="#">Economic Analysis of International Business</a>	4/Exam
	<a href="#">European Integration</a>	4,5/Exam
	European Integration Coursework	1/Test
	<a href="#">International Accounts and Currency Operations</a>	3.5/Test
	<a href="#">Systems Technology</a>	4/Test
	<a href="#">Commercial Diplomacy</a>	4/Test
4 / fall semester	<a href="#">Accounting in Foreign Countries</a>	4/Test
	<a href="#">International Financial System</a>	4,5/Exam
	Economics of Foreign Countries	4/Exam
	Economics of Foreign Countries Coursework	1/Test
	<a href="#">Financial Management</a>	3/Test
	<a href="#">Foreign Language for Professional Purposes 2</a>	3/Test
	<a href="#">Financial Activity of Enterprise</a>	4/Test
	<a href="#">State Regulation of Economy</a>	4.5/Exam
	<a href="#">International Consulting</a>	3.5/Test
	<a href="#">International Economic Relations</a>	3/Test
	<a href="#">Multinational Corporations</a>	4/Exam
4 / spring semester	<a href="#">Regional Economics</a>	3,5/Test
	<a href="#">Life Safety and Civil Defence</a>	2/Test
	<a href="#">International Financial System 2</a>	2.5/Test
	International Financial System 2 Coursework	1/Test
	<a href="#">Taxation</a>	3/Test
	<a href="#">Logistics of International Transportations</a>	3.5/Exam
	<a href="#">International Economic Law</a>	3/Test
	International Accounts and Currency Operations	5/Exam

051 Economy (UA) / 0311 Economics (ISCED)

First level (Bachelor's degree)

## **ECONOMIC CYBERNETICS**

Department of Economic cybernetics

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	<a href="#">Optimization methods and models</a>	4/Exam
1 / spring semester	<a href="#">Econometrics</a>	4/Test
2 / fall semester	<a href="#">Modeling of Economy</a>	5/Exam
	<a href="#">Crisis forecasting in the economy</a>	4/Test
	<a href="#">Theory of economic risk</a>	4/Test
	<a href="#">Money and credit</a>	3/Exam
2 / spring semester	<a href="#">Optimal control and game theory in economics</a>	4/Exam
	<a href="#">Operations research</a>	4/Test
	<a href="#">Intellectual capital economics</a>	4/Test
	<a href="#">Modeling the risks of financial activities of economic entities</a>	4,5/Exam

**073 Management**

073 Management (UA) / 0413 Management and administration (ISCED)

First level (Bachelor's degree)

**MANAGEMENT AND BUSINESS ADMINISTRATION**

Department of Enterprise management

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
4 / fall semester	<a href="#">Risk Management</a>	3,5/Exam
	<a href="#">Planning of International Activity</a>	4/Test
	<a href="#">International Logistics</a>	3.5/Test
4 / spring semester	<a href="#">Management of Startup Project</a>	4.5/Exam

## 101 Environmental studies

101 Environmental studies (UA) / 0521 Environmental sciences (ISCED)

First level (Bachelor's degree)

### ENVIRONMENTAL SAFETY

Department of Ecology and Plant Polymers Technology

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
2 / fall semester	<a href="#">Analytical Chemistry - I. Qualitative Analysis</a>	5/Exam
2 / spring semester	<a href="#">Analytical Chemistry - II. Quantitative Analysis</a>	5/Exam
	<a href="#">Meteorology and Climatology</a>	4/Test
3 / spring semester	<a href="#">Environmental Protection Organisation and Management</a>	4/Exam
	<a href="#">Toxicology</a>	5/Exam



## 121 Software Engineering

121 Software Engineering (UA) / 0613 Software and applications development and analysis (ISCED)

First level (Bachelor's degree)

### COMPUTER SYSTEMS SOFTWARE ENGINEERING

Department of Computing Technics

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	History of Science and Technology	2/Test
	Environmental Safety and Civil Protection	2/Test
	Mathematical Analysis I. Differential Calculation	5/Exam
	Linear Algebra and Analytical Geometry	4/Test
	Computer Discrete Mathematics	5/Exam
	Algorithms and Data Structures I. Fundamentals of Algorithmization	3,5/Test
	Programming Fundamentals I. Base construction.	5,5/Exam
1 / spring semester	Foreign Language-1. Practical Course of Foreign Language	3/Test
	Fundamentals of a Healthy Lifestyle	3/Test
	Ukrainian Language for Specific Purposes	2/Test
	Mathematical Analysis II. Integral Calculation	5/Exam
	Algorithms and Data Structures II. Data Structures	4,5/Test
	Programming Fundamentals II. Module Programming	5,5/Exam
	Course work on Programming Fundamentals III.	1/Test
	Computer Systems and Networks Fundamentals	5/Exam
	Software Engineering Components I. Introduction to Software Engineering	4/Test
2 / fall semester	Philosophical Bases of Scientific Cognition	2/Test
	Probability Theory	4/Test
	Databases	4/Test
	Databases. Coursework	1/Test
	Software Engineering Components I. Software Simulation	4/Exam
	Object-Oriented Programming	5/Exam
	Workshop on Linux	5,5/Exam
	Social Psychology	2/Test
2 / spring semester	Foreign Language-I1. Practical Course of Foreign Language	3/Test
	Group Dynamics and Communications	4/Test
	Software Engineering Components II. Software Design	5/Exam
	System Programming	5,5/Exam
	Networks and Network Information Technologies	5/Exam
	Methodologies and Technologies of Software Development	5/Test
	Methodologies and Technologies of Software Development. Coursework	1/Test
	Logic	2/Test

3 / fall semester	Rights and Freedoms	2/Test
	Group Dynamics and Communications	3,5/Test
	Software Engineering Components III. Software Architecture	4/Exam
	Software Engineering Components. Coursework	1/Test
	Workshop on Linux	6/Exam
	ELECTIVE COURSES	
	<i>Graphic and geometric modeling and creation of realistic images</i>	4/Test
	<i>Computer graphics and image processing</i>	4/Test
	<i>Designing User Interfaces</i>	4/Test
	<i>Reactive programming</i>	4/Test
	<i>Game application development</i>	4/ Test
	<i>Development of microservices</i>	4/Test
	<i>Development of mobile applications for Android</i>	4/Test
	<i>Development of mobile applications for iOS</i>	4/Test
	<i>AGILE Software Development Methodology</i>	4/Test
	<i>User Interface Programming Technologies (Front-end)</i>	4/Test
	<i>Server Software Development Technologies (Back-end)</i>	4/Test
	<i>Fundamentals of Frontend and Backend development</i>	4/Test
	<i>Basics of WEB – technologies/ Basics of front-end technologies</i>	4/Test
	<i>Basics of WEB-programming/ WEB – technologies</i>	4/Test
	<i>Client Development Basics</i>	4/Test
	<i>Java programming language</i>	4/Test
	<i>Basics of software development on the Java platform</i>	4/Test
	<i>Basics of software development on the Node.js platform</i>	4/Test
	<i>System programming C and C++</i>	4/Test
	<i>Modern technologies for developing WEB-applications on the .NET platform</i>	4/Test
	<i>Modern technologies for developing WEB-applications on the Java platform</i>	4/Test
	<i>Modern technologies for developing WEB-applications on the Node.js platform</i>	4/Test
	<i>Modern server programming technologies using Python ( Django)</i>	4/Test

3 / spring semester	Foreign Language for Specific Purposes I. English for Specific Purposes	3/Test
	Agile Programming Techniques	6/Exam
	Risk and Quality Management of Projects	6,5/Exam
	ELECTIVE COURSES	
	<i>Artificial Intelligence in Image Processing Tasks</i>	4/Test
	<i>Software tools for the design and implementation of neural network systems</i>	4/Test
	<i>Statistical Methods of Machine Learning</i>	4/Test
	<i>Applied Machine Learning Problems</i>	4/Test
	<i>Introduction to Data Science Technology</i>	4/Test
	<i>Introduction to Artificial Intelligence</i>	4/Test
	<i>Gaming Artificial Intelligence</i>	4/Test
	<i>Python programming technologies</i>	4/Test
	<i>Mobile Application Development Technologies</i>	4/Test
	<i>Designing User Interfaces</i>	4/Test
	<i>Reactive programming</i>	4/Test
	<i>Game application development</i>	4/Test
	<i>Development of mobile applications for Android</i>	4/Test
	<i>Development of mobile applications for iOS</i>	4/Test
	<i>User Interface Programming Technologies (Front-end)</i>	4/Test
	<i>Management of IT - infrastructure projects</i>	4/Test
	<i>Working with data in cloud environments</i>	4/Test
	<i>Distributed information systems</i>	4/Test
	<i>Development of microservices</i>	4/Test
	<i>Developing Applications Using the Spring Framework</i>	4/Test
	<i>Program and data security systems</i>	4/Test
	<i>Blockchain technology</i>	4/Test
	<i>Basics of software development on the Microsoft.NET platform</i>	4/Test
	<i>Modern technologies for developing WEB-applications on the .NET platform</i>	4/Test
	<i>Modern technologies for developing WEB-applications on the Java platform</i>	4/Test
	<i>Modern technologies for developing WEB-applications on the Node.JS platform</i>	4/Test
	<i>Server Software Development Technologies (Back-end)</i>	4/Test
	<i>Modern server programming technologies using Python ( Django)</i>	4/Test
	<i>Basics of software development on the Node.js platform</i>	4/Test

4 / fall semester	Economy of IT-industry	4/Test
	Life safety and civil protection	2/Test
	Group Dynamics and Communications	4/Test
	Foreign Language for Specific Purposes III	1,5/Test
	Software Engineering Components III. Quality and Testing Software	5/Exam
	Software Engineering Components Coursework	1/Test
	ELECTIVE COURSES	
	<i>Server Software Development Technologies (Back-end)</i>	6/Exam
	<i>Mobile computer networks</i>	6/Exam
	<i>Basics of computer modeling</i>	6/Exam
	<i>Computer Vision Technologies</i>	6/Exam
	<i>Distributed information systems</i>	6/Exam
	<i>Program and data security systems</i>	6/Exam
	<i>Mathematical foundations of data protection and information security</i>	6,5/Exam
	<i>Basics of Artificial Intelligence</i>	6,5/Exam
	<i>Statistical Methods of Machine Learning</i>	6,5/Exam
4 / spring semester	<i>Graphic and geometric modeling and creation of realistic images</i>	6,5/Exam
	<i>Fundamentals of Data Science</i>	6,5/Exam
	Pre-diploma Practice	7,5/Test
	<i>Modern software development technologies</i>	4,5/Test
	<i>User Interface Programming Technologies (Front-end)</i>	4,5/Test
	<i>Server Software Development Technologies (Back-end)</i>	6/Exam
	<i>Mobile computer networks</i>	6/Exam
	<i>Basics of computer modeling</i>	6/Exam
	<i>Computer Vision Technologies</i>	6/Exam
	<i>Graphic and geometric modeling and creation of realistic images</i>	6/Exam
	<i>Program and data security systems</i>	6/Exam
	<i>Fundamentals of Data Science</i>	6/Exam
	<i>Distributed information systems</i>	4/Test
	<i>Digital Signal Processing</i>	4/Test

## 123 Computer Engineering

123 Computer Engineering (UA) /0612 Database and network design and administration (ISCED)

First level (Bachelor's degree)

### COMPUTER SYSTEMS AND NETWORKS

Department of Computing Technics

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	History of Science and Technology	2/Test
	Higher Mathematics I. Differential and Integral Calculation of function of one variable	5/Exam
	Analytic Geometry	3/Exam
	Programming-I. Programming	6/Exam
	Computer Logic I. Computer Logic.	5/Test
	Computer Logic. Coursework	1/Test
	Data Structures and Algorithms	5/Test
1 / spring semester	Culture of Speech and Business Speech	2/Test
	Fundamentals of a Healthy Lifestyle	3/Test
	Practical foreign language course I	3/Test
	Higher Mathematics II. Differential and Integral Calculation of function of many variables	4/Exam
	Programming-II. Object-Oriented Programming	5/Test
	Discrete Mathematics	5/Test
	Physics	6/Exam
2 / fall semester	Computer Logic II. Computer Arithmetic.	5/Exam
	High Mathematics III. CVT Rows . Operating calculus	4,5/Exam
	Theory of electrical circuits and signals	5/Exam
	Probability and Mathematical Statistics	5/Test
	Introduction to Philosophy	2/Test
	Computer Modelling	5/Test
	Software Engineering	5/Exam
2 / spring semester	Social Psychology	2/Test
	Practical foreign language course II	3/Test
	Computer Electronics	5/Exam
	Environmental Strategy	2/Test
	Database Organization	4/Test
	Software Engineering. Coursework	1/Test
	Computer Architecture I. Arithmetic and Control Devices	5,5/Exam
	Algorithms and Methods of Computation	4/Test
	System Programming	5/Exam
	Logic	2/Test

3 / fall semester	Law	2/Test
	Computer Architecture II. Processors	4,5/Exam
	Parallel Programming	5/Test
	System Software. Coursework	1/Test
	ELECTIVE SUBJECTS	
	<i>AGILE Software Development Methodology</i>	4/Test
	<i>Analyze Data using Python</i>	4/Test
	<i>Introduction to Data Science Technology</i>	4/Test
	<i>Introduction to Artificial Intelligence</i>	4/Test
	<i>Graphic and Geometric Modeling and Creation of Realistic Images</i>	4/Test
	<i>Gaming Artificial Intelligence</i>	4/Test
	<i>Computer Graphics and Image Processing</i>	4/Test
	<i>Java Programming language</i>	4/Test
	<i>Fundamentals of Frontend and Backend development</i>	4/Test
	<i>Basics of WEB-technologies/WEB - technologies</i>	4/Test
	<i>Basics of WEB – technologies/ Basics of front-end technologies</i>	4/Test
	<i>Client Development Basics</i>	4/Test
	<i>Basics of Software Development on the Java Platform</i>	4/Test
	<i>Basics of Software Development on the Node.js Platform</i>	4/Test
	<i>Designing User Interfaces</i>	4/Test
	<i>Professional use of SQL and PL/SQL on the example of Oracle 11g</i>	4/Test
	<i>Reactive Programming</i>	4/Test
	<i>Working with data in cloud environments</i>	4/Test
	<i>Distributed Information Systems</i>	4/Test
	<i>Game Application Development</i>	4/Test
	<i>Development of Microservices</i>	4/Test
	<i>Development of Mobile Applications for Android</i>	4/Test
	<i>Development of Mobile Applications for iOS</i>	4/Test
	<i>Developing Applications Using the Spring Framework</i>	4/Test
	<i>Program and data security systems</i>	4/Test
	<i>System Programming C and C++</i>	4/Test
	<i>Modern technologies for developing WEB-applications on the .NET platform</i>	4/Test
	<i>Modern technologies for developing WEB-applications on the Java platform</i>	4/Test
	<i>Modern technologies for developing WEB-applications on the Node.JS platform</i>	4/Test
	<i>Modern Server Programming Technologies Using Python ( Django)</i>	4/Test
	<i>User Interface Programming Technologies (Front-end)</i>	4/Test
	<i>Server Software Development Technologies (Back-end)</i>	4/Test
	<i>Blockchain Technology</i>	4/Test
	<i>Functional Programming</i>	4/Test

3 / spring semester	Practical Foreign Language Course for Professional Purposes I	3/Test
	Computer Architecture III. Microprocessor Devices	5/Exam
	Computer Architecture. Coursework	1/Test
	System Software	5,5/Exam
	Computer Networks	5/Exam
	ELECTIVE SUBJECTS	
	<i>AGILE Software Development Methodology</i>	4/Test
	<i>Analyze data using Python</i>	4/Test
	<i>Introduction to Data Science Technology</i>	4/Test
	<i>Introduction to Artificial Intelligence</i>	4/Test
	<i>Gaming Artificial Intelligence</i>	4/Test
	<i>Computer graphics and image processing</i>	4/Test
	<i>Basics of software development on the Node.js platform</i>	4/Test
	<i>Designing User Interfaces</i>	4/Test
	<i>Professional use of SQL and PL/SQL on the example of Oracle 11g</i>	4/Test
	<i>Reactive programming</i>	4/Test
	<i>Working with data in cloud environments</i>	4/Test
	<i>Distributed information systems</i>	4/Test
	<i>Game application development</i>	4/Test
	<i>Development of microservices</i>	4/Test
	<i>Development of mobile applications for Android</i>	4/Test
	<i>Development of mobile applications for iOS</i>	4/Test
	<i>Developing Applications Using the Spring Framework</i>	4/Test
	<i>Program and data security systems</i>	4/Test
	<i>Modern technologies for developing WEB-applications on the .NET platform</i>	4/Test
	<i>Modern technologies for developing WEB-applications on the Java platform</i>	4/Test
	<i>Modern technologies for developing WEB-applications on the Node.JS platform</i>	4/Test
	<i>Modern server programming technologies using Python ( Django)</i>	4/Test
	<i>User Interface Programming Technologies (Front-end)</i>	4/Test
	<i>Server Software Development Technologies (Back-end)</i>	4/Test
	<i>Blockchain technology</i>	4/Test
	<i>Functional programming</i>	4/Test
	<i>Automation of the software life cycle</i>	4/Test
	<i>Computer graphics and multimedia</i>	4/Test
	<i>Mathematical foundations of data protection and information security</i>	4/Test
	<i>Basics of software development on the Microsoft.NET platform</i>	4/Test
	<i>Applied Machine Learning Problems</i>	4/Test
	<i>Software tools for the design and implementation of neural network systems</i>	4/Test
	<i>Statistical Methods of Machine Learning</i>	4/Test
	<i>Computer Vision Technologies</i>	4/Test
	<i>Python programming technologies</i>	4/Test
	<i>Mobile Application Development Technologies</i>	4/Test
	<i>Management of IT - infrastructure projects</i>	4/Test
	<i>Artificial Intelligence in Image Processing Tasks</i>	4/Test

### 133 Industrial Machinery Engineering

133 Industrial Machinery Engineering (UA) / 0715 Mechanics and Metal Trades

First level (Bachelor's degree)

## ENGINEERING OF EQUIPMENT FOR THE PRODUCTION OF POLYMERIC AND BUILDING MATERIALS AND PRODUCTS

Department of Chemical, Polymer and Silicate Mechanical Engineering

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	<a href="#">Informatics</a>	4/Test
	<a href="#">Heat Transfer</a>	4/Test
	<a href="#">Theoretical Foundations of Heat Technics</a>	4/Test
1 / spring semester	<a href="#">Applied Numerical Methods</a>	4/Test
	<a href="#">3D-graphics and printing</a>	4/Test

## COMPUTER-AIDED DESIGN OF CHEMICAL EQUIPMENT

Department - Machines and Apparatus of Chemical and Oil Refining Industries

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	<a href="#">Design of Heat Exchange Equipment</a>	4/Test
	<a href="#">Processes and Technologies of Primary Oil and Gas Refining</a>	4/Test
	<a href="#">Numerical Methods of Analysis</a>	4/Test
1 / spring semester	<a href="#">Special Methods of Thermal Treatment</a>	4/Test
	<a href="#">Chemical Engineering Thermodynamics</a>	4/Test
	<a href="#">Refrigeration Equipment</a>	4/Test
	<a href="#">3D-engineering Methods</a>	4/Test



## 134 Aerospace and rocket-space technology

134 Aerospace and rocket-space technology (UA) / 0716 Motor vehicles, ships and aircraft (ISCED)

First level (Bachelor's degree)

### AEROSPACE AND ROCKET SYSTEMS ENGINEERING

Department of Space Engineering

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	History of Science and Technology	2/Test
	Higher Mathematics	6/Exam
	Physics	5/Exam
	Chemistry	3/Test
	Descriptive Geometry	4/Exam
	Engineering basics of aviation and astronautics	3/Test
1 / spring semester	Ukrainian Language for Specific Purposes	2/Test
	Basics of a healthy lifestyle	3/Test
	Foreign Language	3/Test
	Higher Mathematics	6/Exam
	Physics	5/Exam
	Theoretical Mechanics	5/Exam
	Engineering and Computer Graphics	3/Test
2 / fall semester	General Theory of Development	2/Test
	Higher Mathematics	6/Exam
	Theoretical Mechanics	6/Exam
	Electrical Engineering and Electronics	3/Test
	Theory of Mechanisms and Machines	5/Test
	Hydrogas dynamics and thermodynamics	7,5/Exam
2 / spring semester	Foreign Language	3/Test
	Environmental Safety of Engineering Activities	2/Test
	Materials and Constructions Mechanics	3,5/Test
	Machines Details and Basics of Aircraft Designing	5/Exam
	Theory of Automatic Control	5/Exam
	Course Work in the Theory of Automatic Control	1/Test
	Aerospace Materials Science	4/Test
	Design of Rocket and Spacecraft Power Plants	6,5/Exam

134 Aerospace and rocket-space technology (UA) / 0716 Motor vehicles, ships and aircraft (ISCED)

First level (Bachelor's degree)

## AIRPLANES AND HELICOPTERS

Department of Aircraft and Rocket Engineering

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
3 / fall semester	Business law	2/Test
	Machines Details and Basics of Designing	3,5/Exam
	Structural Mechanics of Aircrafts and Helicopters	3,5/Exam
	Aerohydromechanics	3/Test
	The aircraft structure	2,5/Test
	Aerodynamics of Aircraft	3,5/Exam
3 / spring semester	Foreign Language for Professional Purposes	3/Test
	Structural Mechanics of Aircrafts and Helicopters	2,5/Exam
	The aircraft structure	2,5/Exam
	Course projects the aircraft structure	1,5/Test
	Aircraft designing	3,5/Exam
	Aerodynamics of Aircraft	2,5/Test

## **151 Automation and Computer Integrated Technologies**

151 Automation and Computer Integrated Technologies (UA) / 0714 Electronics and automation (ISCED)

First level (Bachelor's degree)

### **AUTOMATION HARDWARE AND SOFTWARE**

Department of Automation Hardware and Software

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / spring semester	<a href="#">Programming</a>	5/Exam
3 / fall semester	<a href="#">Industrial Networks</a>	4/Test
3 / spring semester	<a href="#">Basics of Robotics and Machine Vision</a>	4/Test
	<a href="#">Fundamentals of design of computer-integrated technological complexes</a>	3/Test
4 / spring semester	<a href="#">Application of computer-integrated technological complexes</a>	4/Test

## **153 Micro- and Nanosystem Engineering**

153 Micro- and Nanosystem Engineering (UA) / 0714 Electronics and Automation, 0788 Inter-Disciplinary Programmes and Qualifications Involving Engineering, Manufacturing and Construction (ISCED)

First level (Bachelor's degree)

### **MICRO- AND NANOELECTRONICS**

Department of Microelectronics

Language of study – English

COURSE TITLE	Number of ECTS credits / semester control
Chemistry of Electronics Materials	5.5
Basics of Micro- and Nanosystem Technology	4
Basics of Sensor Electronics	4
Sensory Materials and Technologies	4
Physical Basics of Sensory	4.5
Statistical Methods of Data Processing	4
Basics of Quantum Theory	5
Semiconductor Physics	4
Functional Electronics	5
Physical and Technological Bases of Nanoelectronics-2. Technological Bases of Nanoelectronics	4.5
Dielectric Physics	4
Optoelectronics	5
Informatics-2. Programming and Algorithmic Languages	5
Microprocessors and Microcontrollers	3
Microwave Microelectronics	5
Computational Mathematics	5

## **161 Chemical engineering and processes**

161 Chemical engineering and processes (UA) / 0711 Chemical engineering and processes (ISCED)

First level (Bachelor's degree)

### **INDUSTRIAL ECOLOGY AND RESOURCE EFFICIENT CLEANER TECHNOLOGIES**

Department of Ecology and Plant Polymers Technology

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
2 / fall semester	<a href="#">Analytical Chemistry - I. Qualitative Analysis</a>	5,0/exam
	<a href="#">Chemistry of plant polymers</a>	4,0/Test
2 / spring semester	<a href="#">Analytical Chemistry - II. Quantitative Analysis</a>	5,0/exam
3 / spring semester	<a href="#">Environmental Protection Organisation and Management</a>	4,0/exam
	<a href="#">Toxicology</a>	5,0/exam

# 163 Biomedical Engineering

163 Biomedical Engineering (UA) / 0588 Inter-disciplinary programmes and qualifications involving natural sciences, mathematics and statistics (ISCED)

First level (Bachelor's degree)

## MEDICAL ENGINEERING

Department of Biomedical Engineering

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
2 / fall semester	Higher Mathematics III: Series, Basics of Theory of Functions of Complex Variable.	6,5/Exam
	Physics II. Optics. Quantum physics	5/Exam
	Introduction to Philosophy	2/Test
	Quantitative Physiology	4,5/Test
	Material science and Structural materials	4,5/Test
	Foundations of Discrete Mathematics	4/Test
	Psychology	2/Test
2 / spring semester	Foreign Language II. Practical Course of Foreign Language	3/Test
	Ecological Management	2/Test
	Electrical Engineering and Electronics	6/Exam
	Biomaterials and Biocompatibility	5/Exam
	Biophysic	4,5/Test
	Mechanics	4,5/Test
	Object-Oriented Programming	4,5/Test
	Logic	2/Test
	Power sports	2/Test
3 / fall semester	Business Law	2/Test
	Radiation Safety and Dosimetry	5/Exam
	<a href="#">Analog and Digital Circuits Design-1. Analog Circuit Design</a>	4,5/Exam
	Biomedical Mechanics	4 /Test
	<a href="#">Registration and Processing of Biosignals and Medical Images</a>	4 /Test
	Telemedicine and Computer Networks.	4/Test
	Design of Automatic Monitoring and Control Systems	2/Test
3 / spring semester	Foreign Language for Specific Purposes-I. Practical foreign language course for professional communication I	3/Test
	Coursework in Analog and Digital Circuitry	1/Test
	Analog and Digital Circuitry II. Digital Circuitry	7/Exam
	Biomedical Devices, Sets and Systems	4,5/Exam
	Biothermodynamics and Mass-transfer Theory	4/Test
	Thermodynamics of biological processes and systems	4/Test

# 171 Electronics

171 Electronics (UA) / 0714 Electronics and Automation (ISCED)

First level (Bachelor's degree)

## ELECTRONIC COMPONENTS AND SYSTEMS

Department of Electronic Devices and Systems

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	Ukrainian for Specific Purposes	2/Test
	Mathematical Analysis I	5,5/Exam
	Analytic Geometry	4,5/Exam
	Physics I	5,5/Exam
	Engineering and Computer Graphics I. Engineering Graphics	2/Test
	Informatics I. Personal Computers and Fundamentals of Programming	4/Test
	<a href="#">Measuring Technique</a>	3,5/Test
1 / spring semester	History of Science and Technology	2/Test
	Basics of a Healthy Lifestyle	3/Test
	Foreign Language I. Practical course on Foreign Language I	3/Test
	Mathematical Analysis II	6,5/Exam
	Physics II	6,5/Exam
	Engineering and Computer Graphics II. Computer Graphics	4/Exam
	Informatics II. Programming and Algorithmic Languages	4/Test
	Fundamentals of Analytical Mechanics and Theory of Oscillations	4/Test
2 / fall semester	Environmental Safety of Engineering Activity	2/Test
	Mathematical Analysis III	5,5/Exam
	<a href="#">Materials Science in Electronics</a>	4/Exam
	<a href="#">Physical Fundamentals of Electronics</a>	4/Exam
	<a href="#">Calculus</a>	4/Test
	<a href="#">Programming of Embedded Systems</a>	3/Test
	Logic	2/Test
	<a href="#">Theory of Electrical Circuits</a>	4/Test
2 / spring semester	Foreign Language II. Practical Foreign Language Course II	3/Test
	Introduction to Philosophy	2/Test
	<a href="#">Nonlinear Electric Circuits and Transient Processes</a>	6/Exam
	<a href="#">Term Paper in Nonlinear Electric Circuits and Transient Processes</a>	1/Test
	Fundamentals of Probabilistic Data Processing	5/Exam
	Solid State Electronics	4,5/Exam
	<a href="#">Theory of Information</a>	4/Test
	<a href="#">Information Technologies</a>	4/Test
	Social psychology	2/Test

171 Electronics (UA) / 0714 Electronics and Automation (ISCED)

First level (Bachelor's degree)

## ACOUSTIC ELECTRONIC SYSTEMS AND ACOUSTIC INFORMATION PROCESSING TECHNOLOGY

Department – Acoustic and Multimedia Electronic Systems

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
2 / fall semester	<a href="#">Computational Mathematics</a>	4/Test
	<a href="#">Physical Fundamentals of Electronics</a>	4/Exam
2 / spring semester	<a href="#">The Probabilistic Basics of Data Processing</a>	5/Test
3 / fall semester	<a href="#">Circuitry</a>	4.5/Exam
3 / spring semester	<a href="#">Fundamentals of Non-Destructive Testing</a>	4/Test
	<a href="#">Fundamentals of Defectology</a>	4/Test
	<a href="#">Special Programming Languages for Embedded Systems</a>	4/Test
4 / fall semester	<a href="#">Base of Microprocessor Technology</a>	4/Exam
	<a href="#">Power Supply and Electromagnetic Compatibility of Multimedia Equipment</a>	4/Test
4 / spring semester	<a href="#">Information Support of Telecommunication Systems</a>	4.5/Test



## 172 Telecommunications and Radio Engineering

172 Telecommunications and Radio Engineering (UA) / 0714 Electronics and automation (ISCED)

First level (Bachelor's degree)

### INFORMATION-COMPUTING MEANS OF RADIO ELECTRONIC SYSTEMS

Department of Design of Electronic Digital Equipment

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	<a href="#">Informatics - 1</a>	4 / Test
1 / spring semester	<a href="#">Informatics - 2</a>	7 / Exam
2 / fall semester	<a href="#">Environmental Safety of Engineering Activity</a>	2 / Test
2 / spring semester	<a href="#">Functional and Logical Design</a>	5 / Exam
2 / fall semester	<a href="#">Fundamentals of Circuits Theory</a>	8 / Exam

**ACADEMIC OFFERS**  
for foreign students of  
**Second level (Master's degree)**

## 035 Philology

035 Philology (UA) / 0231 Language Acquisition (ISCED)

Second level (Master's degree)

### GERMANIC LANGUAGES AND LITERATURES (INCLUDING TRANSLATION), PRIMARY – ENGLISH

Department – Linguistics Department, Chair of Theory, Practice and Translation of English

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	Theory of Translation	2/Exam
	<a href="#">Pedagogy of Higher Education and Methodic Principles of Teaching Foreign Languages and Translation</a>	4/Test
	<a href="#">CAT Tools for Specialized Translation</a>	4/Test
	<a href="#">Corpus Linguistics</a>	4/Test
	<a href="#">Ancient Themes in European Literature</a>	4/Test
	<a href="#">Role of Phonetic Devices in Translating Texts of Different Genres</a>	4/Test
1 / spring semester	<a href="#">Suggestion in Oral Communication</a>	4/Test
	<a href="#">Sociolinguistics</a>	4/Test
	<a href="#">Public Speaking</a>	4/Test
	<a href="#">ICT in Teaching English for Specific Purposes</a>	4/Test
	<a href="#">Stereotypes of Speech Behaviour in Typical Communicative Situations</a>	4/Test

### GERMANIC LANGUAGES AND LITERATURES (INCLUDING TRANSLATION), PRIMARY – GERMAN

Department – Theory, Practice and Translation of the German Language

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	<a href="#">Practice in linguistic communication and translation (German)</a>	9
	<a href="#">Theory of Translation</a>	2
1 / spring semester	<a href="#">Practice in Interpreting</a>	3
	<a href="#">Audiovisual Translation</a>	4
	<a href="#">Introduction to Corpus and Computational Linguistics</a>	4
	<a href="#">Medical Translation</a>	4
	<a href="#">The Theory and Practice of Copywriting</a>	4
	<a href="#">Legal Translation</a>	4

## 051 Economy

051 Economy (UA) / 0311 Economics (ISCED)

Second level (Master's degree)

### INTERNATIONAL ECONOMICS

Department of International Economics

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	<a href="#">Economic Measurement of Sustainable Development</a>	2/Test
	<a href="#">Startup-Projects Development</a>	3/Test
	<a href="#">Methods of Decision-Making in the Context of Globalization</a>	2,5/Test
	<a href="#">Social Responsibility</a>	2,5/Test
	<a href="#">International Project Management</a>	2,5/Test
	<a href="#">Intellectual Capital Management</a>	3/Test
	<a href="#">Risk Forecasting in International Economic Activity</a>	3,5/Exam
	<a href="#">Global Economy</a>	4/Exam
	<a href="#">Integrated Corporate Structures in International Business</a>	3,5/Exam
	<a href="#">Scientific Work on Theme of Master Thesis</a>	2/Test
	<a href="#">International Trade</a>	4,5/Exam
1 / spring semester	International Trade Coursework	1/Test
	<a href="#">Workshop on Professional Communication in Foreign Language</a>	3/Test
	<a href="#">International Scientific and Technical Cooperation</a>	4/Test
	<a href="#">Management of International Competitiveness</a>	4/Test
	<a href="#">International Investment Activity</a>	4/Test
	<a href="#">International Economic Development Strategies</a>	4,5/Exam
	<a href="#">Strategic Enterprise Management</a>	4/Test
	<a href="#">Management of International Business Projects Industry 4.0</a>	4,5/Exam
	<a href="#">Scientific Work on Theme of Master Thesis</a>	2/Test

054 Sociology (UA) / 0314 Sociology and cultural studies (ISCED)

Second level (Master's degree)

## CONFLICT RESOLUTION AND MEDIATION

Department of Sociology

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	Methodology and methods of sociological research on conflicts - 1	2,5/test
	Sociology of conflicts and wars in the context of transformations and modernizations	5/Exam
	Regional/ethnic conflicts and peace-building - 1	3/test
	Sociological studies of migrations and forced relocations	3/Exam
1 / spring semester	Methodology and methods of sociological research on conflicts - 2	3,5/Exam
	Regional/ethnic conflicts and peace-building - 2	3/Exam
	Contemporary Sociological Theories	4/test
	Sociology of war: ideological discourses, mobilization practices	4/test

## 073 Management

073 Management (UA) / 0413 Management and Administration (ISCED)

Second level (Master's degree)

### MANAGEMENT AND BUSINESS ADMINISTRATION

Department of Enterprise Management

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	Practical Course of Foreign Language Business Communication	3/Test
	<a href="#">Financial Management</a>	4,5/Exam
	<a href="#">Design of Integration Structures</a>	4/Test
	<a href="#">Enterprise Development Management</a>	5/Exam
	<a href="#">Strategic Management</a>	4/Exam
	<a href="#">Human Resource Management Technologies</a>	4/Test
	<a href="#">Digital Business Transformation</a>	4/Test
1 / spring semester	<a href="#">Management of Foreign Exchange Transactions</a>	5,5/Exam
	<a href="#">Corporate Governance</a>	5,5/Exam
	<a href="#">Design Thinking</a>	4.5/Test
	<a href="#">Technology Transfer</a>	4.5/Test
	<a href="#">Environmental Management</a>	4.5/Test
	<a href="#">Business Management</a>	5/Exam

073 Management (UA) / 0413 Management and administration (ISCED)

Second level (Master's degree)

## MANAGEMENT OF INTERNATIONAL BUSINESS

Department of Enterprise Management

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	<a href="#">Financial Management</a>	4,5/Exam
	<a href="#">Design of Integration Structures</a>	4/Test
	<a href="#">Strategic Management in International Business</a>	5/Exam
	<a href="#">Digital Transformation and New Business Models</a>	4/Test
1 / spring semester	<a href="#">International Management</a>	5/Exam

## 141 Electric power engineering, electrotechnics and electromechanics

141 Electric Power Engineering, Electrotechnics and Electromechanics (UA) /

0713 Electricity and Energy (ISCED)

Second level (Master's degree)

### ELECTRIC POWER DISTRIBUTION SYSTEMS ENGINEERING

Power Supply Department

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
2 / fall semester	<a href="#">Mathematical Methods of Optimization in Power Engineering</a>	4/Exam
	<a href="#">Mathematical Modeling of Processes and Systems in Power Engineering</a>	4/Exam
	<a href="#">Theory of Nonlinear Electric and Magnetic Circuits</a>	4/Exam
	<a href="#">Practical Course of Foreign Language for Scientific Communication</a>	1,5/Test
	<a href="#">Higher School Pedagogy</a>	2/Test
	Scientific and Research Work on Topic of Master's Thesis	3,5/Test
	<a href="#">Integrated resource planning in power engineering</a>	4/Test
	<a href="#">Intelligent Technologies for Electricity Distribution</a>	4/Test
	Innovations in Energy Sector	3/Test



## 144 Thermal Power Engineering

144 Thermal Power Engineering (UA) / 0713 Electricity and Energy (ISCED)

Second level (Master's degree)

### ENERGY MANAGEMENT AND ENGINEERING OF THERMAL POWER SYSTEMS

Department – Heat Engineering and Energy Saving

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	Intellectual Property and Patenting	3 / Test
	Fundamentals of Engineering and Technology for Sustainable Development	2 / Test
	Energy and Resource Saving in the Energy Sector	4 / Exam
	Management of Startup Projects	3 / Test
	Methods of Buildings Energy Efficiency Analysis	4.5 / Exam
	Combined Systems with Renewable Energy Sources	4 / Test
	Applied Tasks of Energy Saving	5 / Exam
	Course Work on Applied Tasks of Energy Saving	1 / Test
	Scientific Work on the Topic of Master's Thesis	2 / Test
	Workshop on Foreign Language Scientific Communication	1,5 / Test
1 / spring semester	Analysis and Expertise of Energy Supply Projects	3 / Test
	Course Work on Methods of Buildings Energy Efficiency Analysis	1 / Test
	Scientific Work on the Topic of Master's Thesis	2 / Test
	Methods of energy monitoring and energy audit	5.5 / Exam
	Market research in the energy sector	3 / Test
	Methods for control of energy consumption efficiency	4 / Test
	Methods of energy analysis in heat technologies	5 / Exam
	Heat and mass transfer processes and technologies	5 / Exam
	Workshop on Foreign Language Scientific Communication	1,5 / Test

## **153 Micro- and Nanosystem Engineering**

153 Micro- and Nanosystem Engineering (UA) / 0714 Electronics and Automation, 0788 Inter-Disciplinary Programmes and Qualifications Involving Engineering, Manufacturing and Construction (ISCED)

Second level (Master's degree)

### **MICRO- AND NANOELECTRONICS**

Department of Microelectronics

Language of study – English

COURSE TITLE	Number of ECTS credits / semester control
Physicochemistry of the Surface of Semiconductors	5
Modeling of Semiconductor Devices and Integrated Circuits	5
Mathematical Modeling of Systems and Processes	4
Wireless Sensor Networks	5
Electronic Sensors	5
Design of Semiconductor Devices and Integrated Circuits	5
Microelectronic Information Sensor Systems	5
Design of Semiconductor Devices and Integrated Circuits	7
Scientific Research	2
Magnetoelectronics in Information Systems	5
Devices Based on Nanosized and Quantum Effects	5
Special Course of Micro- and Nanosystem Technology	4

## 171 Electronics

171 Electronics (UA) / 0714 Electronics and Automation (ISCED)

Second level (Master's degree)

### ELECTRONIC COMPONENTS AND SYSTEMS

Department of Electronic Devices and Systems

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	<a href="#">Electronic Systems for Operation and Control</a>	5 / Exam
	<a href="#">Course Project in Electronic Systems for Operation and Control</a>	1,5 / Test
	<a href="#">Fundamentals of Automatic Control Theory</a>	6 / Exam
	<a href="#">Power Electronic Systems</a>	5 / Exam
	<a href="#">Power Supply Systems of Electronic Equipment</a>	5 / Test
	<a href="#">Scientific Research I. Fundamentals of Scientific Research</a>	2 / Test
1 / spring semester	<a href="#">Scientific Research II. Research Work on Master Thesis Subject</a>	2 / Test
	<a href="#">Specialized and Industrial Microprocessor Systems</a> / <a href="#">Microprocessor Systems Based on ARM Processors</a>	5 / Exam
	<a href="#">Display and Data Recording Devices</a> / <a href="#">Information Visualization and Detection Systems</a>	4 / Test
	<a href="#">Components of Electronic Control Systems</a> / <a href="#">Specialized Power Electronic Devices and Systems</a>	5 / Exam
	<a href="#">Design and Technology of Electronic Devices and Systems</a> / <a href="#">Design of Robotic Electronic Systems</a>	5 / Exam
	<a href="#">Internet of Things Technology in Electronics</a> / <a href="#">Internet Technology in Industry</a>	4 / Test
2 / fall semester	Pedagogical Excellence	2 / Tests
	Mathematical Optimization Methods	4 / Exam
	<a href="#">Mathematical Modeling of Systems and Processes</a>	4 / Exam
	<a href="#">Supplementary Topics of Information Electronics</a>	6 / Exam
	<a href="#">Course Project in Supplementary Topics of Information Electronics</a>	1,5 / Test
	<a href="#">Scientific Research II. Research Work on Master Thesis Subject</a>	3,5 / Test
	<a href="#">Fundamentals of Machine Learning</a>	3,5 / Test
	<a href="#">Modern trends in Computer and Microprocessor Technology</a>	4 / Test

171 Electronics (UA) / 0714 Electronics and Automation (ISCED)

Second level (Master's degree)

## ACOUSTIC ELECTRONIC SYSTEMS AND ACOUSTIC INFORMATION PROCESSING TECHNOLOGY

Department – Acoustic and Multimedia Electronic Systems

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / spring semester	<a href="#">Software for Wireless Security Systems</a>	4/Test
	<a href="#">Technologies for Creating Educational Computer Games and Augmented Reality Design</a>	4.5/Test
	<a href="#">Acoustic Equipment of Studios and Rooms</a>	5/Exam
	<a href="#">Hardware for Wireless Security Systems</a>	5/Test
2 / fall semester	<a href="#">Mathematical Modeling of Systems and Processes</a>	4/Exam

## 184 Mining

184 Mining (UA) / 0724 Mining and Extraction (ISCED)

Second level (Master's degree)

## GEOENGINEERING

Department of Geoengineering

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	<a href="#">Intellectual Property and Patenting</a>	3 / Test
	Basics of Engineering and Sustainable Development Technologies	2 / Test
	<a href="#">Geotechnical Structures Construction</a>	4 / Exam
	<a href="#">Underground Enterprises Reconstruction</a>	4 / Exam
	<a href="#">Specialized Course On Underground Construction</a>	4 / Test
	<a href="#">Computer-Aided Design System</a>	4 / Test
	<a href="#">Municipal Underground Structures Engineering</a>	3.5 / Exam
	<a href="#">Course project in Municipal Underground Structures Engineering</a>	1.5 / Test
	<a href="#">Scientific Work on the Topic of Master's Thesis</a>	2 / Test
1 / spring semester	<a href="#">Practical course of Foreign Language on Business Communication</a>	3 / Test
	<a href="#">Management of startup projects</a>	3 / Test
	<a href="#">Special Methods of Building</a>	4 / Exam
	<a href="#">Scientific Work on the Topic of Master's Thesis</a>	2 / Test
	ELECTIVE COURSES	
	<a href="#">Designing of Underground Transport Systems</a>	4 / Exam
	<a href="#">Management of Technological Processes of Opencast Mining</a>	4 / Exam
	<a href="#">Environmental Safety of Subsoil Use</a>	4 / Exam
	<a href="#">Designing of Connection Between Ground and Underground Facilities</a>	4 / Exam
	<a href="#">Logistics of Mining Transport Systems</a>	4 / Exam
	<a href="#">Utilization and Processing of Mining Wastes</a>	4 / Exam
	<a href="#">Modernization of Underground Networks</a>	4 / Test
	<a href="#">Resource-Saving Technologies for Mining and Processing of Rocks</a>	4 / Test
	<a href="#">Environmental Protection Technologies for Opencast Mining</a>	4 / Test
	<a href="#">Designing Underground Structures of Special Purpose</a>	4 / Test
	<a href="#">Mathematical Methods of Process Optimization by Geoengineering Systems</a>	4 / Test
	<a href="#">Optimization of Quarrying Processes in the Quarry</a>	4 / Test
	<a href="#">Resource Management of a Geotechnical Enterprise</a>	4 / Test
	<a href="#">Geo-information Systems of Superuse</a>	4 / Test
	<a href="#">Information Technologies in Nature Protection</a>	4 / Test
	<a href="#">Geoinformation Systems of Construction Objects</a>	4 / Test
	<a href="#">Designing of Opencast Mining Enterprises</a>	4 / Test
	<a href="#">Thermodynamics of Stability of Quarry Sides and Dumps</a>	4 / Test

ACADEMIC OFFERS  
for foreign students of  
**Third level (PhD)**

## 035 Philology

035 Philology (UA) / 0231 Language Acquisition (ISCED)

Third level (PhD)

## PHILOLOGY

Department – Linguistics Department, Chair of Theory, Practice and Translation of English

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	Linguistic Studies: History and Modernity	5/Exam
	Methodology and Organization of Philological Research: Methodology of Philological Studies	2/Test
	<a href="#">Non-verbal means of communication: nominative and pragmatic aspects</a>	4/Test
	<a href="#">Text Theory: Vectors Of Development, Research Schools And Personalities</a>	4/Test
	<a href="#">Synergetic approach as a methodological basis of linguistic research</a>	4/Test
	<a href="#">Academic Writing and Scientific Communication in English</a>	3/Exam
1 / spring semester	Methodology and Organization of Philological Research: Organization of Research Activities in Philology	2/Test
	<a href="#">Phonosemantic aspect of linguistic research</a>	4/Test
	<a href="#">Sociocultural aspect of linguistic research</a>	4/Exam
	Academic Writing and Scientific Communication in English	3/Exam
	<a href="#">Current trends in higher education</a>	4/Test
	<a href="#">Stylistics and Text Interpretation: Tradition and New Vistas</a>	4/Test
2 / fall semester	Modern Translatology	5/Exam
	Academic Writing and Scientific Communication in English	3/Exam
	<a href="#">Cognitive Poetics: Scope of Research</a>	4/Test
	<a href="#">Non-verbal means of communication: nominative and pragmatic aspects</a>	4/Test
	<a href="#">Psychoenergetic and communicative-pragmatic aspects of language functioning</a>	4/Test
2 / spring semester	<a href="#">Energetic approach to the study of communication processes</a>	4/Test
	<a href="#">Multimodality of Modern Mass Media Space</a>	4/Test
	<a href="#">Psycholinguistics</a>	4/Test
	<a href="#">Synergetic approach as a methodological basis of linguistic research</a>	4/Test
	<a href="#">Stylistics and Text Interpretation: Tradition and New Vistas</a>	4/Test

**051 Economy**

051 Economy (UA) / 0311 Economics (ISCED)

Third level (PhD)

**ECONOMICS**

Department of International Economics

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	<a href="#">Philosophical Principles of Scientific Activity 1</a>	6/Test
	<a href="#">Foreign Language for Scientific Activity 1</a>	6/Test
	<a href="#">Global Economy</a>	3/Exam
	<a href="#">Neoclassical Models of Economic Processes</a>	3/Exam
1 / spring semester	<a href="#">Philosophical Principles of Scientific Activity 2</a>	6/Exam
	<a href="#">Foreign Language for Scientific Activity 2</a>	6/Exam
	<a href="#">Organization of Scientific and Innovative Activities</a>	4/Test
2 / fall semester	<a href="#">Change Management and Business Transformation</a>	3/Exam
	<a href="#">Pedagogic Practice</a>	2/Test
	<a href="#">Economic Theories of Nobel Laureates</a>	5/Test
2 / spring semester	<a href="#">Theory of Analysis of Economic Systems</a>	3/Exam
	<a href="#">Mechanisms of Integration into the International Research Space</a>	5/Test



**141 Electric power engineering, electrotechnics and electromechanics**

141 Electric Power Engineering, Electrotechnics and Electromechanics (UA) /

0713 Electricity and Energy (ISCED)

Third level (PhD)

**ELECTRIC POWER ENGINEERING, ELECTROTECHNICS and ELECTROMECHANICS**

Department – Department of theoretical electrical engineering

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	Philosophical principles of scientific activity-1. Scientific worldview and ethical culture of the scientist	2.0 / Test
	Foreign language for scientific activity-1. Foreign language for scientific research	3.0 / Test
1 / spring semester	Philosophical principles of scientific activity-2. Philosophical epistemology and epistemology	4.0 / Exam
	Foreign language for scientific activity-2. Foreign language of scientific communication	3.0 / Exam
	Advanced technologies in electric drive and electromechanical systems-1	2.0 / Test
2 / fall semester	Fundamentals of theory of electromagnetic field and processes	3.0 / Test
	Monitoring, control and protection of electric power systems and electrotechnical complexes	3.0 / Exam
	Advanced technologies in electric drive and electromechanical systems-2	2.0 / Exam
	Pedagogical Internship	2.0 / Test
	Special issues of protection against electromagnetic effect of lightning	3.0 / Test
2 / spring semester	Methods of research, formation and control of intelligent energy systems and complexes	3.0 / Exam
	Non-conventional and renewable energy sources in electric power systems and electrotechnical complexes	3.0 / Test
	Analysis and research of development of lightning discharge channel as dynamic system	3.0 / Test
	Mathematical modeling of systems of protection of electrotechnical complexes against electromagnetic effects of lightnings	4.0 / Exam

**153 Micro- and Nanosystem Engineering**

153 Micro- and Nanosystem Engineering (UA) / 0714 Electronics and Automation, 0788 Inter-Disciplinary Programmes and Qualifications Involving Engineering, Manufacturing and Construction (ISCED)

Third level (PhD)

**MICRO- AND NANO ELECTRONICS**

Department of Microelectronics

Language of study – English

COURSE TITLE	Number of ECTS credits / semester control
Electronic Materials: Principles and Applied Science	5
Micro- and Nanocomponents and Systems	3
Photonic and Optoelectronic Devices	5

**184 Mining**

184 Mining (UA) / 0724 Mining and Extraction (ISCED)

Third level (PhD)

**GEOENGINEERING**

Department – Geoengineering

Language of study – English

Educational offers		
Year of study/ semester	COURSE TITLE	Number of ECTS credits / semester control
1 / fall semester	Philosophical principles of scientific activity	3 / Test
	Foreign language for scientific activity	3 / Test
1 / spring semester	Philosophical principles of scientific activity	3 / Exam
	Foreign language for scientific activity	3 / Exam
	Organization of scientific and innovative activities	4 / Test
2 / fall semester	Geomechanical Processes in Rock Ranges	6 / Exam
	Mathematical Modelling of Geomechanical Processes	3 / Test
	Pedagogical practice	2 / Test
2 / spring semester	Mathematical Modelling of Geomechanical Processes	3 / Test
	Educational component 1 F	5 / Test
	Educational component 2 F	5 / Test

## **DESCRIPTIONS OF COURSES**

## 051 Economy

Regional economics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3,5 credits (105 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Enterprise Management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "History of economics and economic thoughts")</i>
<b>Scope of the course</b>	<p><i>This course aims to explore and discuss the problem of regional economic disparities. The course covers current issues on regional economic policy and development.</i></p> <p><i>In the subsequent lectures we will aim to cover the following topics:</i></p> <ol style="list-style-type: none"> <li><i>1. Theoretical foundations of regional economy</i></li> <li><i>2. Basic concepts of regional economy. Development of theories of regional economy</i></li> <li><i>3. Forms of location and territorial organization of productive forces</i></li> <li><i>4. Natural resource potential in the regional economy</i></li> <li><i>5. Labor potential in the regional economy</i></li> <li><i>7. Economic zoning</i></li> <li><i>8. Regions in a competitive market environment</i></li> <li><i>9. Theoretical foundations of state regional economic policy</i></li> <li><i>10. Modern Urban and Regional Economics</i></li> </ol>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in current state and directions of regional economic development. current state and directions of regional economic development.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <p><i>After studying the discipline, according to the requirements of the educational program, students must demonstrate the following learning outcomes:</i></p> <p><i>Knowledge: - economic laws and categories related to the location of productive forces and the regional economy; - the main features of a modern market economy and features of the regional location of productive forces; the prospects for structural changes in the economy; sectoral and territorial structure of the national economy and methods of substantiation of the location of production and investment.</i></p>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- analyze the economic situation in the country;</i></li> <li><i>- describe the economic laws and categories related to the location of productive forces;</i></li> <li><i>- determine the dynamics of production by major industries and product groups;</i></li> <li><i>- analyze production volumes by main industries and product groups;</i></li> <li><i>- to determine the limits of the most effective state intervention in the deployment of productive forces at the regional level;</i></li> <li><i>- create a general model of intersectoral and territorial relations for a particular industry or product group;</i></li> <li><i>- analyze the factors of the location of individual production.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (google classroom)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Test</i>

Economic Theory	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>A prerequisite for a correct understanding of the economic achievements of mankind under the influence of changes in economic and social life of society, through which economic theories change.</i></p>
<b>Scope of the course</b>	<p><i>This course aims to introduce and discuss a number of questions about economic theory. In the lectures will aim to cover the following topics:</i></p> <p><i>Topic 1. Subject and method of economic theory. Topic 2. Production of material goods and services. Product and nature of work. Topic 3. Economic needs and interests. Topic 4. Socio-economic structure of society. Economic system and laws of its development. Topic 5. Commodity form of organization of social production. Goods and money. Topic 6. Capital: the process of production and accumulation. Hired labor and wages. Topic 7. Production costs and profits. Topic 8. The market, its essence and functions. Market models. Competition and pricing. Topic 9. Household in the system of economic relations. Topic 10. The enterprise as a producer. Gross income and profit. Topic 11. Sectoral features of production and functioning of capital. Forms of profit, interest and rent. Topic 12. Social reproduction. Social product and its main forms. Topic 13. Economic development. Employment, reproduction of labor and their economic functions. Topic 14. Modern economic systems. Features of development of transition economies. Topic 15. The essence and structure of the world economy. Forms of international economic relations. Topic 16. Economic aspects of global problems and their impact on the economic development of Ukraine</i></p>
<b>Rationale</b>	<i>The study of economic theory is the basis for understanding the economic life of society, the formation of a new type of economic thinking and economic culture in future generations, which will contribute to the effective solution of complex problems of transformation of Ukraine's economic system to market conditions.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Demonstrate knowledge and understanding of the theoretical foundations and principles of marketing activities.</i></li> <li><i>- Analyze and predict market phenomena and processes based on the application of fundamental principles, theoretical knowledge and applied skills of marketing activities.</i></li> <li><i>- Demonstrate the ability to apply an interdisciplinary approach and perform marketing functions of a market entity, including in industrial and related markets.</i></li> </ul>
<b>Competencies and skills</b>	<i>The course is aimed at developing students' skills of critical thinking, the ability to navigate freely in a large array of modern economic information; allows students to form a set of theoretical knowledge and practical skills of economic analysis.</i>
<b>Instructional Materials</b>	<i>1. Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Economy-Theory-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Economy-Theory-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

MACROECONOMICS	
<b>Restrictions</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of International Economics.</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B1, B2. The discipline has an interdisciplinary nature and integrates knowledge from other educational and scientific fields. This discipline is closely related to other disciplines of the General training cycle. The discipline "Macroeconomics" provides a foundation for further study of such modules as "National economics".</i>
<b>Scope of the course</b>	<i>The subject of the discipline "Macroeconomics" is the causes and consequences of the joint activities of all agents of the national economy, which are reflected through such generalizing categories as the gross domestic product, social expenditures, employment and unemployment, inflation, the state budget, balance of payments, exchange rate, etc. From macroeconomics expect not only an explanation of the essence of causal links in the economy, but also the disclosure of the opportunities of society in the person of the state to influence the course of economic development of the country. Topic 1. Intro to Macroeconomics. Topic 2. Macroeconomic indicators. Topic 3. Labour market. Employment policy. Topic 4. Commodity market. Topic 5. Money Market. Inflationary mechanism. Topic 6. Household consumption. Private investment. Topic 7. Cumulative cost and GDP. Topic 8. Government in the system of national economics. Topic 9. Macroeconomic policy in an open economy</i>
<b>Rationale</b>	<i>This course is an introduction to the behavioral science of economics, which focuses on the aggregate behavior of households, firms and the government. Topics covered include gross domestic product, national income, economic growth, unemployment, inflation, the business cycle, fiscal policy and monetary policy, and international trade.</i>
<b>Learning outcomes</b>	<p><i>The ability to demonstrate the following exemplary educational objectives will be evaluated in this course:</i></p> <ul style="list-style-type: none"> <li>● <i>to know the main macroeconomic definitions;</i></li> <li>● <i>to employ the appropriate methods, technologies, and data that social and behavioral scientists used to investigate the human condition;</i></li> <li>● <i>to use and critique alternative explanatory systems or theories;</i></li> <li>● <i>to analyze the effects of historical, social, political, economic, cultural, and global forces on the area under study</i></li> <li>● <i>to analyze, critically assess, and develop creative solutions to macroeconomic problems</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course, students should be able to demonstrate:</i></p> <ul style="list-style-type: none"> <li>● <i>a basic understanding of news relating to the economy as a whole as reported in such publications as The Economist;</i></li> <li>● <i>the economic implications of changes in government fiscal or monetary policy;</i></li> <li>● <i>how interest rates are determined and the role of interest rates in personal and corporate decision-making;</i></li> <li>● <i>and critically apply economic concepts when participating as a citizen in a democratic society.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Macroeconomics-2021-2022-.pdf">http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Macroeconomics-2021-2022-.pdf</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

ECONOMICS OF ENTERPRISE	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The course is based on the knowledge acquired by students while studying the disciplines "Economic theory", "Regional Economics", "Macroeconomics", "Microeconomics"</i></p>
<b>Scope of the course</b>	<p><i>This course aims to introduce and discuss a number of questions about economics of enterprise. Lectures are aimed to cover the following topics:</i></p> <p><i>Topic 1. Enterprise: business and legal environment</i></p> <p><i>Topic 2. Fixed assets of an enterprise</i></p> <p><i>Topic 3. Current assets of an enterprise</i></p> <p><i>Theme 4. Personnel of an enterprise and labour productivity</i></p> <p><i>Theme 5. Costs and pricing</i></p> <p><i>Topics 6. Financial results of activity</i></p> <p><i>Topic 7. Competitiveness of an enterprise</i></p> <p><i>Topic 8. Planning of the commercial activity</i></p> <p><i>Topic 9. Processes of the production</i></p> <p><i>Topic 10. Organization of the production: a goal and systems</i></p> <p><i>Topic 11. Cases of the successful companies</i></p> <p><i>Topic 12. Strategic management of an enterprise</i></p>
<b>Rationale</b>	<i>The training component promotes the development of professional experience in the economic justification of production and commercial activities of enterprises</i>
<b>Learning outcomes</b>	<p><i>The purpose of the discipline is to form students' abilities:</i></p> <ul style="list-style-type: none"> <li><i>- to explain economic and social processes and phenomena on the basis of theoretical models, analyze and meaningfully interpret the results.</i></li> <li><i>- to use modern sources of economic, social, managerial, accounting information for preparation of official documents and analytical reports.</i></li> <li><i>- substantiate economic decisions based on understanding the laws of economic systems and processes and with the use of modern methodological tools.</i></li> <li><i>- to conduct an economic analysis of the functioning and development of economic entities, their evaluation competitiveness.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>After mastering the discipline, students must demonstrate the following results teaching:</i></p> <p><i>Skills:</i></p> <ul style="list-style-type: none"> <li><i>- Understand the principles of economics, features of economic systems .</i></li> <li><i>- Identify sources and understand the methodology for determining and methods of obtaining socio-economic data, collect and analyze the necessary information, calculate economic and social indicators</i></li> <li><i>- Show skills of independent work, demonstrate critical, creative, self-critical thinking</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus: <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/1-Ua.-Ekonomika-pidpryemstv-2021-2022.pdf">http://ied.kpi.ua/wp-content/uploads/2021/09/1-Ua.-Ekonomika-pidpryemstv-2021-2022.pdf</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



ACCOUNTING	
<b>Restrictions (specialty for which the course is offered)</b>	051 Economy / 0311 Economics
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	3
<b>Number of ECTS credits</b>	4,5
<b>Language of study</b>	English
<b>Department</b>	International Economics
<b>Assumed knowledge and prerequisites</b>	English B1, B2 The course is based on the knowledge acquired by students while studying the disciplines "Fundamentals of Economic Theory".
<b>Scope of the course</b>	In the process of studying this course, the following topics will be considered: Topic 1.1. General characteristics of accounting, its subject and method. Topic 1.2. Balance sheet. Topic 1.3. Accounting accounts and double entry. Topic 1.4. Valuation and calculation. Topic 1.5. Documentation and inventory, equipment and forms of accounting. Topic 2.1. Accounting for fixed assets. Topic 2.2. Inventory accounting. Topic 2.3. Accounting for cash and receivables. Topic 2.4. Accounting for financial investments. Topic 2.5. Equity accounting. Topic 2.6. Accounting for liabilities. Topic 2.7. Accounting for labour, remuneration and social insurance of personnel. Topic 3.1. Accounting for the costs of the enterprise. Topic 3.2. Accounting for income and financial results. Topic 3.3. Financial statements.
<b>Rationale</b>	The purpose of the discipline is to develop students' abilities for a comprehensive understanding of the essence of the accounting process of the economic activities of companies; aggregate information when drawing up financial reporting forms, calculate financial results and financial condition of the company.
<b>Learning outcomes</b>	Expected learning outcomes include: - accounting for assets, equity and liabilities of the company, its income, expenses, calculation of financial results; - calculation of depreciation of fixed assets using different methods; - accounting for production inventories using different methods, - accounting for cash and settlements between companies; - calculation of the amount of income and expenses incurred by the company for the reporting period, determination of the cost of goods (work, services) sold and the financial result; - calculation of staff salaries, vacation pay, sick leave and other payments to employees, the methodology of their taxation; - preparation and analysis of the forms of the company's financial statements for making further management and strategic decisions.
<b>Competencies and skills</b>	Upon successful completion of the course students are expected to be able to: - analyse primary accounting data; - calculate depreciation of non-current assets using different methods; - the use of a methodology for accounting for inventories using different methods, - to conduct an inventory and reflect its results in accounting; - calculate the amount of income and expenses incurred by the company for the reporting period, determine the cost of goods (works, services) sold and the financial result; - use the methodology for calculating staff salaries, vacation pay, sick leave and other payments to employees, the methodology for their taxation; - to draw up and analyse the forms of the company's financial statements for making further management and strategic decisions.
<b>Instructional Materials</b>	Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Accounting-2021-2022.pdf">http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Accounting-2021-2022.pdf</a>
<b>Mode of delivery</b>	lectures/workshops/tutorials
<b>End-of-semester control</b>	Exam

INTERNATIONAL ECONOMICS	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 Prerequisite for the study of the credit module are the disciplines of the fundamental cycle "Economic Theory", "Business Economics".</i>
<b>Scope of the course</b>	<i>This course aims to introduce and discuss a number of questions about international economics. In the lectures will aim to cover the following topics: Topic 1. International trade Topic 2. International movement of factors of production Topic 3. International scientific and technical cooperation Topic 4. World monetary and financial system Topic 5. International economic integration</i>
<b>Rationale</b>	<i>The purpose is to form students' abilities: system knowledge of the conditions, forms, mechanisms of functioning of the international economy, methods and tools for regulating international economic activity; analysis and evaluation of the processes of international trade, capital movements, international scientific and technical cooperation, monetary and financial relations, international integration; substantiation of the recommendation on regulation of the international economic activity of the countries.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: - purpose and main characteristics of the elements of the international economy; - theoretical aspects and patterns of international trade, the movement of factors of production, international scientific and technical cooperation, monetary and financial mechanism, international economic integration; - the main provisions of the economic mechanism of activity of enterprises of different state affiliation in the field of international exchange of goods; - methods of analysis of international economic activity of the enterprise and the country as a whole.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: - to apply knowledge in practice for successful management of a division, enterprise, association of enterprises; - have methods of calculating the main indicators of international economic activity of the enterprise and the national economy; - substantiate the feasibility and economic efficiency of international trade, methods of its regulation; - to carry out economic assessment and forecasting of the movement of factors of production; - calculate the price of the license for technology transfer; - assess the impact of exchange rate fluctuations on international trade indicators.</i>
<b>Instructional Materials</b>	<i>1. Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Economy-Theory-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Economy-Theory-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Economics of Labour and Social Labour Relations	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2.</i></p> <p><i>This discipline is closely related to other disciplines "Fundamentals of Entrepreneurship", "Tax System", "Competitiveness and Competitiveness of International Business", "International Economic Relations", "World Economic Relations", "Enterprise Finance", "Organization of Production", "International Logistics in Industry 4.0".</i></p>
<b>Scope of the course</b>	<p><i>The main components of the course are considered: 1. Object, subject and tasks of the discipline. 2. Labor resources and labor potential of society. 3. Socio-labor relations as a system. 4. Social partnership. 5. Labor market and its regulation. 6. Socio-labor relations of employment. 7. Organization and rationing of labor. 8. Productivity and efficiency. 9. Income policy and wages. 10. Work planning. 11. Analysis, reporting, audit in the field of labor. 12. Monitoring of the social and labor sphere as a tool for regulating and improving social and labor relations. 13. International labor organization and its impact on the development of social and labor relations.</i></p>
<b>Rationale</b>	<p><i>The course is aimed for the developing students' skills, such as:</i></p> <ul style="list-style-type: none"> <li><i>- to master what is labor relations, conditions of formation and use of labor potential;</i></li> <li><i>- to understand the categories, concepts, mechanisms for ensuring the development and effective use of labor potential and the formation of social and labor relations in Ukraine.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include: general provisions on the role of labor in the development of man and society; basic forms of labor; basic principles of social protection; essence, criteria and indicators of labor efficiency; labor productivity and methods of its measurement; factors and reserves of labor productivity growth; the essence and significance of the organization of labor, its place in the system of organization of activity; elements of labor organization and its forms; tasks, principles, methods of labor rationing at the enterprise; indicators of living standards.</i></p>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to: distinguish the main forms of labor in the development of man and society; to determine the socio-economic role of labor in the development of man and society; determine the needs for labor resources; determine the supply of labor; determine indicators of labor efficiency; substantiate the main directions of increasing labor efficiency; calculate labor productivity indicators; to analyze the content and complexity of work; to study the labor process of workers of different categories; distinguish between forms and systems of remuneration; determine wages for piecework and hourly pay systems; use foreign experience in developing an employment management system.</i></p>
<b>Instructional Materials</b>	<p><i>Syllabus, Educational textbook</i></p> <p><i><a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-Ua.-Ekonomika-praci-i-socialno-trudovi-vidnosyny-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/08/1-Ua.-Ekonomika-praci-i-socialno-trudovi-vidnosyny-2021-2022.docx</a></i></p>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

INTEGRATION PROCESSES: INTRODUCTION TO THE SPECIALTY	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 Course is based on the knowledge acquired by students while studying the disciplines "Economic Theory", "Political Economy".</i>
<b>Scope of the course</b>	<i>This course aims to introduce and discuss a number of questions about integration processes. In the lectures will aim to cover the following topics: 1. Theoretical concepts and objective prerequisites for international economic integration. 2. Forms and effects of regional economic integration. 3. International Organizations and World Trade Organization (WTO). 4. Global Financial Institutions: The International Monetary Fund, The World Bank. 5. Integration processes in Europe. The European Union (EU). 6. Cooperation in the Asia-Pacific region. 7. Integration processes in North and South America. 8. Leading integration groups on the African continent. 9. Globalization as a component of global integration processes in the world economy.</i>
<b>Rationale</b>	<i>The training component contributes to the development of professional experience in the functioning of international trade and business.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: - purpose and main characteristics of elements of integration processes; - theoretical aspects and patterns of international trade, the movement of factors of production, international scientific and technical cooperation, monetary and financial mechanism, international economic integration; - the main provisions of the economic mechanism of activity of enterprises of different state affiliation in the field of international exchange of goods; - methods of analysis of the international economic activity of the enterprise and the country as a whole.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: - to apply knowledge in practice for successful management of a division, enterprise, association of enterprises; have methods of calculating the main indicators of international economic activity of the enterprise and the national economy; - substantiate the feasibility and economic efficiency of international trade, methods of its regulation; to carry out economic assessment and forecasting of the movement of factors of production; calculate the price of the license for technology transfer; - assess the impact of exchange rate fluctuations on international trade indicators; analysis of the processes of development of international trade, capital movements, international scientific and technical cooperation, monetary and financial relations, international integration; - identification and assessment of economic effects of international economic activity of countries.</i>
<b>Instructional Materials</b>	<i>1. Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-Intergration-processes.-Introduction-to-the-specialty-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-Intergration-processes.-Introduction-to-the-specialty-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

National Economy	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i> <i>Prerequisite for the study of the credit module are the disciplines of the fundamental cycle "Economic theory", "Statistics", "Political Science", "Sociology".</i>
<b>Scope of the course</b>	<i>This course aims to introduce and discuss a number of questions about national economy. In the lectures will aim to cover the following topics:</i> <i>Topic 1. National economy: general and special</i> <i>Topic 2. Economic theories and basic institutions national economy.</i> <i>Topic 3. The theory of social welfare and social market economy.</i> <i>Topic 4. Characteristics of economic potential</i> <i>Topic 5. Institutional factors of development national economy</i> <i>Topic 6. Institutional factors of development national economy</i> <i>Topic 7. Statehood and public administration economy</i> <i>Topic 8. Democracy, economic freedom and economic order</i> <i>Topic 9. Structural restructuring of the national economy</i> <i>Topic 10. Programming and forecasting national economy</i> <i>Topic 11. Economic growth policy in national economy</i> <i>Topic 12. Institutional forms of integration in world economy</i>
<b>Rationale</b>	<i>The purpose of the study The discipline "National Economy" is the formation of students' additional competencies that provide such opportunities and advantages in the labor market as knowledge of the basic laws and problems of functioning and the regulation of national economic systems (NES) of various types and, above all, national economies market and transitional type, the ability to analyze the situation and identify the main directions of socio-economic development of the country and its state economic policy (DEP) in market conditions relations.</i>
<b>Learning outcomes</b>	<i>In the context of the goal, the task of the discipline is to reveal the general and special in the national economic system, institutional factors and their impact on the specifics of economic development, functional role states in managing the economy and its integration into the world economy. One of the key tasks of training students have the formation of their analytical thinking and analysis of the state of the country's economy and DEP activities on increasing the economic potential of the country and stimulating economic growth, etc.</i>
<b>Competencies and skills</b>	<i>The course is aimed at developing students' skills of critical thinking, the ability to navigate freely in a large array of modern economic information; allows students to form a set of theoretical knowledge and practical skills of economic analysis.</i>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-National-economy-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-National-economy-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

INTERNATIONAL ECONOMIC ACTIVITY OF UKRAINE	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 The course is based on the knowledge acquired by students while studying the disciplines "Macroeconomics", "Business Economics".</i>
<b>Scope of the course</b>	<i>In the lectures will aim to cover the following topics: Topic 1. International economic activities of Ukraine: definition, principles, characteristic of subjects. Topic 2. Ukraine in International Trade of goods. Topic 3. Ukraine in International Trade of services. Topic 4. Defence of rights and legal interests of entities of international economic activity of Ukraine. Topic 5. Ukraine in International movement of capital. Topic 6. Ukraine in International labor migration. Topic 7. Ukraine in International technology transfer. Topic 8. Ukraine in the international financial flows. Topic 9. The influence of digitalization world economy on electronic settlement technologies in Ukraine. Topic 10. International integration processes and place of Ukraine in this processes. Topic 11. The Role of International Organizations in International Economic Activity of Ukraine. Topic 12. Ukraine in international rankings</i>
<b>Rationale</b>	<i>After mastering the discipline, students must demonstrate the following knowledge of economic laws directions formation and forms of international economic relations; needs of economic entities of Ukraine in relations with other entities of the world.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>- <i>analyze the dynamics and structure of exports and imports of goods and services of the country;</i></li> <li>- <i>to determine the efficiency of export and import operations;</i></li> <li>- <i>calculate the prices of proposals for foreign trade contracts;</i></li> <li>- <i>substantiate the most optimal methods, means of payment and forms of payment under international contracts;</i></li> <li>- <i>determine the final price of the international contract according to different basic conditions.</i></li> </ul>
<b>Competencies and skills</b>	<i>The course is aimed at developing students' skills:</i> <ul style="list-style-type: none"> <li>- <i>to identify knowledge and understanding of the problems of international economic activity, the foundations of the modern economy at the international level;</i></li> <li>- <i>to explain economic and social processes and phenomena on the basis of theoretical models of development of national economies in the world economy, to analyze and meaningfully interpret the obtained results;</i></li> <li>- <i>ability to analyze in depth the problems and phenomena in the field of international economic activity, taking into account economic risks and possible socio-economic consequences;</i></li> <li>- <i>use terminology in the field of international economic activity.</i></li> </ul>
<b>Instructional Materials</b>	<i>1. Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/10/1-En.-International-economic-relations.doc">http://ied.kpi.ua/wp-content/uploads/2021/10/1-En.-International-economic-relations.doc</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>



Economic Analysis of International Business	
<b>Restrictions (specialty for which the course is offered)</b>	051 Economy / 0311 Economics
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	3
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Department of International Economics
<b>Assumed knowledge and prerequisites</b>	English B2. This discipline is closely related to other disciplines such as: "Fundamentals of Entrepreneurship", "Competitiveness and Competitiveness of International Business", "International Economic Relations", "World Economic Relations".
<b>Scope of the course</b>	The content of the discipline Topic 1. CONTENT, SUBJECT AND TASKS OF ECONOMIC ANALYSIS. Topic 2. METHODOLOGY OF ECONOMIC ANALYSIS. Topic 3. ANALYSIS OF PRODUCTION AND SALES OF PRODUCTS. Topic 4. ANALYSIS OF SECURITY AND EFFICIENCY OF USE OF PRODUCTION RESOURCES OF THE ENTERPRISE. Topic 5. ANALYSIS OF THE COST OF PRODUCTS AND COSTS OF PRODUCTION. Topic 6. ANALYSIS OF FINANCIAL RESULTS. Topic 7. ANALYSIS OF THE FINANCIAL STATUS OF THE ENTERPRISE
<b>Rationale</b>	The educational component contributes to the development of professional expertise in: Ability to apply economic and mathematical methods and models to solve economic problems. Ability to use modern sources of economic, social, managerial, accounting information for the preparation of official documents and analytical reports. Ability to substantiate economic decisions based on understanding the laws of economic systems and processes and using modern methodological tools. Ability to conduct economic analysis of the functioning and development of economic entities, assessment of their competitiveness.
<b>Learning outcomes</b>	Expected learning outcomes include: - subject, content, tasks and types of economic analysis; - methods of economic analysis; - the main provisions of the information base of economic analysis; - system of complex economic analysis and search for production reserves; - methods of analysis of the use of fixed assets and production facilities; - methods of analysis of production and sales; - methods of analysis of the cost of products (works, services); - methods of analysis of profit and profitability of production.
<b>Competencies and skills</b>	Upon successful completion of the course students are expected to be able to: - determine the purpose of economic analysis, develop a program for its implementation; - select the necessary information according to accounting and operational accounting, financial and statistical reporting; - to analyze the main indicators of production, economic and financial activities of enterprises; - to make analytical reviews, to formulate conclusions, recommendations and practical offers on the basis of the conducted analysis; - to analyze the consistency of financial and production indicators in the development of policy of economic behavior of the enterprise in the market; - have the techniques of forecasting, which allows you to justify the prospects of production and economic activities of the enterprise; - to assess the financial risk in carrying out business transactions.
<b>Instructional Materials</b>	Syllabus, Educational textbook <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-Ua.-Ekonomichnyi-analiz-mizharodnoho-biznesu.-Ekonomichnii-analiz-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/08/1-Ua.-Ekonomichnyi-analiz-mizharodnoho-biznesu.-Ekonomichnii-analiz-2021-2022.docx</a>
<b>Mode of delivery</b>	lectures/workshops/tutorials
<b>End-of-semester control</b>	Exam

Functional-cost analysis	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>3,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The course is based on the knowledge acquired by students while studying the disciplines "Business Economics", "Enterprise Finance", "Management", "Feasibility study of economic decisions", "International Economics", "Organization of production"</i></p>
<b>Scope of the course</b>	<p><i>In the lectures will aim to cover the following topics:</i></p> <p><i>Topic 1. The concept of functional-cost analysis</i></p> <p><i>Topic 2. Functional approach to production systems</i></p> <p><i>Topic 3. Organization of the FVA system</i></p> <p><i>Topic 4. Cost accounting in the FVA system</i></p> <p><i>Topic 5. The structure of costs in the FVA system</i></p> <p><i>Topic 6. Cost management</i></p> <p><i>Topic 7. Application of non-financial indicators in FVA</i></p> <p><i>Topic 8. Differentiated management of business processes in the enterprise</i></p>
<b>Rationale</b>	<i>The purpose of the discipline - to master the theoretical knowledge of functional and cost analysis of various objects, tools, methods of analysis in terms of different cost accounting systems.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- the essence and necessity of functional-cost analysis;</i></li> <li><i>- features of application of different methods of functional-cost analysis;</i></li> <li><i>- regularities of evolution of cost accounting systems of different levels and to reveal possibilities of application of FVA on their basis;</i></li> <li><i>- features of functional-cost analysis in relation to various objects;</i></li> <li><i>- systems of financial and non-financial indicators used in the framework of functional-cost analysis.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- collect, process, analyze the information necessary for the FVA;</i></li> <li><i>- identify potential objects of functional-cost analysis and formulate its objectives;</i></li> <li><i>- to be guided in the basic forms of realization of the functional-cost analysis;</i></li> <li><i>- focus on the classification of costs on various grounds;</i></li> <li><i>- be able to conduct functional-cost analysis in relation to various objects;</i></li> <li><i>- determine the role of functional-cost analysis in the cost management system;</i></li> <li><i>- to focus on methodological approaches to the implementation of functional-cost analysis.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-Economic-analysis-of-international-business.-Functional-and-cost-analysis-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-Economic-analysis-of-international-business.-Functional-and-cost-analysis-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



International Insurance	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of International Economics</i>
<b>English B2 Course is based on the knowledge acquired by students while studying the disciplines</b>	<i>English B2. The discipline has an interdisciplinary nature and integrates knowledge from other educational and scientific fields. According to the structural and logical scheme of the training program, this discipline is closely related to other disciplines and other important courses as: "International Economics", "International Finance", "Enterprise Finance", "Integration Processes: European Integration", "Logistics", "International Economic Relations", "Transnational Corporations" and others.</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes ability to have a holistic system of knowledge about the essence of economic processes occurring in the international insurance market, and also:</i></p> <ul style="list-style-type: none"> <li><i>- have a holistic system of knowledge about the essence of economic processes occurring in the international insurance market;</i></li> <li><i>- to acquire the necessary practical skills to carry out basic insurance operations;</i></li> <li><i>- understand the basic provisions of the theory and practice of insurance of individuals and legal entities in market relations.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in economic relations that arise in the process of transactions in the international insurance market. According to the requirements of the educational-professional program, bachelor's degree, students after mastering the discipline must demonstrate the following learning outcomes such as: to form the mission and strategic goals of the enterprise and carry out a comparative description of insurance products and select the appropriate ones.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include: essence and specifics of the concept of "international insurance"; specific features of international insurance; organizational and legal aspects of insurers; methods and forms of reinsurance; conditions for providing insurance services for personal insurance; conditions for providing insurance services for property insurance; conditions for providing insurance services for liability insurance;</i></p> <ul style="list-style-type: none"> <li><i>- features of insurance markets of the leading countries of the world; elements of hedging organization; mechanisms for the use of financial instruments for insurance purposes; - approaches to credit risk insurance; - banking risk insurance systems;</i></li> <li><i>- mechanisms for insuring financial investments, guarantees and bonds;</i></li> <li><i>- organizational and legal aspects of international insurance activities.</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: analyze insurance companies operating in the market; to make a comparative description of insurance products and choose the appropriate ones; assess the financial condition of the insurer and its solvency; conclude insurance agreements; use foreign experience in the hedging procedure.</i>
<b>Instructional Materials</b>	<i>Syllabus, Educational textbook <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-Ua.-Mizhnarodne-strhuvannia-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/08/1-Ua.-Mizhnarodne-strhuvannia-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

European Integration	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>3,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 The course is based on the knowledge acquired by students while studying the disciplines " Integration Processes:Introduction to Specialty".</i>
<b>Scope of the course</b>	<i>This course aims to introduce and discuss a number of questions about customs business. In the lectures will aim to cover the following topics: Topic 1. Theoretical foundations of integration processes in Europe. Topic 2. Stages of European economic integration. Topic 3. Institutional governance structure in the European Union. Topic 4. Internal economic policy of the EU. Topic 5. European monetary policy and integration. Topic 6. EU financial and credit policy. Topic 7. EU foreign economic policy. Topic 8. European integration in science and technology. Topic 9. The mechanism of Ukraine's integration into the EU</i>
<b>Rationale</b>	<i>The main purpose of the discipline is to form knowledge about the structure and features of the European Union in the context of sustainable development of integration processes in the world, and trends in economic cooperation between Ukraine and the EU.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: - The study will provide skills in analysis to solve problems related to the European integration of the country and solve practical problems during the integration processes in the field of regional and local government, which involves the use of theories and scientific methods of regional governance. - Applicants for higher education will get acquainted with the best foreign practices of regional authorities, as well as study the main regulations and provisions of legislation governing integration processes in Europe.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: - gain skills in understanding integration processes, principles and patterns of development of forms and practices of creation and functioning of the European Union; - master the skills to aggregate knowledge about the theoretical content and features of the evolution of integration processes; critically evaluate and rethink the accumulated experience (own and others), analyze their professional and social activities; - acquire skills to conduct research activities, including analysis of problems, setting goals and objectives, choosing the method and methods of research, as well as assessing its quality; - acquire theoretical knowledge in order to preserve and increase the moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the European community - gain skills in critical and self-critical thinking on the basis of normative-legal and moral-ethical norms of behavior with an understanding of the history and patterns of development of integration processes, and their impact on regional governance; - acquire skills in research and exploration, processing and analysis of information of regional importance, their systematization by EU regulations.</i>
<b>Instructional Materials</b>	<i>1. Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-Evropejska-integratsiia-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-Evropejska-integratsiia-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

INVESTMENT	
<b>Restrictions (specialty for which the course is offered)</b>	051 Economy / 0311 Economics
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	2
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	International Economics
<b>Assumed knowledge and prerequisites</b>	English B2 The course is based on the knowledge acquired by students while studying the disciplines "Fundamentals of Economic Theory".
<b>Scope of the course</b>	In the process of studying this course, the following topics will be considered: Topic 1.1. Methodological bases of investing. Topic 1.2. Entities of investment activity. Topic 1.3. Foreign investments. Topic 1.4. Innovative investment. Topic 2.1. Characteristics and types of real investments. Topic 2.2. Investment design. Topic 2.3. Evaluation of investment efficiency. Topic 2.4. Investment risks and methods of their assessment. Topic 2.5. Financial support of the investment process. Topic 3.1. Securities, features of their issue and circulation. Topic 3.2. Securities market institutions. Topic 3.3. Securities portfolio management.
<b>Rationale</b>	The purpose of the discipline is to form students' comprehensive understanding of the essence of the investment process at the micro level, at the state and international level; analyze specific economic situations and solve practical problems associated with investing in current and non-current assets of companies; choose the most profitable funding sources.
<b>Learning outcomes</b>	Expected learning outcomes include: - the content of the main categories of investment activities and the investment process; - the essence of investments, the methodology for calculating their efficiency and the feasibility of investing resources; - methods of financial analysis of the investment activity of the enterprise; - methodology for calculating the required volume of investments and determining the cost of various sources of financing; - the essence and characteristics of investment risks, methods of their assessment and management; - the essence of debt securities and securities for ownership, a methodology for assessing their value and profitability; - portfolio investment management technique; - features of innovative investment; - the essence and role of foreign investment, their goals and results.
<b>Competencies and skills</b>	Upon successful completion of the course students are expected to be able to: - collect data for analysis and investment decisions; - determine the required amount of investments and choose the optimal source of their financing, considering different costs; - determine investment risks and assess their impact, suggest ways to minimize them; - calculate the efficiency of investment projects and investments in securities; - draw up a business plan for an investment project; - manage portfolio investments; - know the features of innovative investments; - analyse the effectiveness of foreign investments, their goals and results; - to solve economic situations arising in the process of investing, attracting foreign investment.
<b>Instructional Materials</b>	Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Investment-2021-2022.pdf">http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Investment-2021-2022.pdf</a>
<b>Mode of delivery</b>	lectures/workshops/tutorials
<b>End-of-semester control</b>	Exam

Economics of Foreign Countries	
<b>Restrictions (specialty for which the course is offered)</b>	051 Economy / 0311 Economics
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	3
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	International Economics
<b>Assumed knowledge and prerequisites</b>	English B2 Prerequisite for the study of the credit module are the disciplines of the fundamental cycle "Political Economy", "Microeconomics", "Macroeconomics".
<b>Scope of the course</b>	This course aims to introduce and discuss a number of questions about international economics. In the lectures will aim to cover the following topics: Topic 1. The world economy in the XXI century. Topic 2. Economic potential of the state and indicators of its development Topic 3. Trends in the world economy Topic 4. Determinants of economic success of leading countries Topic 5. The economy of Europe Topic 6. Economies of Asia and the Pacific Topic 7. Economy of North and South America Topic 8. The economy of Africa Topic 9. Ukraine's place in the world economy
<b>Rationale</b>	The purpose of studying the discipline "Economics of foreign countries" is the formation of students' ability to conduct foreign economic activity in international markets, among business entities of different nationalities, in the field of trade, movement of factors of production and international economic policy; gaining knowledge and ensuring students' understanding of the peculiarities of world development, economies at the global level, economies of regions and individual countries at the macro level, as well as the study of the experience of leading countries and the possibilities of its application in Ukraine.
<b>Learning outcomes</b>	Expected learning outcomes include: - ability to show knowledge and understanding of the problems of the subject area, the basics of the modern economy at the micro, meso, macro and global levels; - understanding of the peculiarities of the modern world and national economy, their institutional structure, substantiation of the directions of social, economic and foreign economic policy of the state; - ability to use computer technology and data processing software to solve economic problems, analyze information and prepare analytical reports based on international experience; - ability to analyze in depth problems and phenomena in one or more professional areas, taking into account economic risks and possible socio-economic consequences for the country's economy.
<b>Competencies and skills</b>	Upon successful completion of the course students are expected to be able to: - ability to analyze the depth of problems and phenomena in one or more professional areas, taking into account economic risks and possible socio-economic consequences; - apply their knowledge in practice for the successful management of the unit, enterprise, association of enterprises, taking into account the international specifics and features of international relations with individual countries; - have methods for calculating the main indicators of international economic activity of the enterprise and the national economy as a whole.
<b>Instructional Materials</b>	1. Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/10/1-En.-Economy-of-foreign-countries-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/10/1-En.-Economy-of-foreign-countries-2021-2022.docx</a>
<b>Mode of delivery</b>	lectures/workshops/tutorials
<b>End-of-semester control</b>	Exam

INTERNATIONAL FINANCIAL SYSTEM	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2.</i></p> <p><i>Course is based on the knowledge acquired by students while studying the disciplines "Economic Theory", "Macroeconomics", "Money and Credit", "Finance", "Financial Market", "Enterprise Finance", "International Economics".</i></p>
<b>Scope of the course</b>	<p><i>The scope of the course includes the study of the following issues:</i></p> <p><i>Topic 1. The system of international finance</i></p> <p><i>Topic 2. The evolution of the world monetary system</i></p> <p><i>Topic 3. The world financial market and its structure</i></p> <p><i>Topic 4. Currency markets and currency transactions</i></p> <p><i>Topic 5. Features of the European market</i></p> <p><i>Topic 6. International investment market</i></p> <p><i>Topic 7. International credit market and lending technologies</i></p> <p><i>Topic 8. Finance of multinational corporations</i></p> <p><i>Topic 9. International settlements and balance of payments</i></p> <p><i>Topic 10. Regulation of international monetary and financial relations</i></p> <p><i>Topic 11. Debt in the system of international finance</i></p> <p><i>Topic 12. Ukraine in the global financial market</i></p>
<b>Rationale</b>	<i>The training component promotes the development of professional experience in the field of international finance.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- the essence of the main categories of international finance;</i></li> <li><i>- evolution of the world monetary system;</i></li> <li><i>- features of the functioning of the world financial market and its structure;</i></li> <li><i>- methods of conducting foreign exchange transactions in the financial market of Ukraine;</i></li> <li><i>- development of lending technologies in the international credit market and credit syndication procedures: export and commercial loans;</i></li> <li><i>- the essence of international balances and methods of calculating the balance of payments;</i></li> <li><i>- conducting international settlements according to the following forms of payment: promissory notes, checks, collection, documentary letter of credit, etc.;</i></li> <li><i>- regulation of international monetary and financial relations and cooperation of Ukraine with foreign donors on a bilateral and multilateral basis.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- choose the appropriate form of international settlements in the conduct of export-import operations;</i></li> <li><i>- develop and make financial decisions related to operations in international financial markets;</i></li> <li><i>- have theoretical and practical aspects of international lending;</i></li> <li><i>- analyze information and participate in the development of the company's financial strategy, be able to manage currency and credit risks;</i></li> <li><i>- choose the necessary types of foreign exchange transactions in foreign trade agreements.</i></li> </ul>
<b>Instructional Materials</b>	<p><i>1. Syllabus: <a href="http://ied.kpi.ua/uk/archives/4084">http://ied.kpi.ua/uk/archives/4084</a></i></p> <p><i>2. <a href="https://classroom.google.com/u/1/c/Mjl2ODU5NTQxMDgz">https://classroom.google.com/u/1/c/Mjl2ODU5NTQxMDgz</a></i></p>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

INTERNATIONAL FINANCIAL SYSTEM 2	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>3,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>Course is based on the knowledge acquired by students while studying the disciplines "Economic Theory", "Macroeconomics", "Money and Credit", "Finance", "Financial Market", "Enterprise Finance", "International Economics".</i></p>
<b>Scope of the course</b>	<p><i>The scope of the course includes the study of the following issues:</i></p> <p><i>Topic 1. The system of international finance. Topic 2. The evolution of the world monetary system. Topic 3. The world financial market and its structure. Topic 4. Currency markets and currency transactions. Topic 5. Features of the European market. Topic 6. International investment market. Topic 7. International credit market and lending technologies. Topic 8. Finance of multinational corporations</i></p> <p><i>Topic 9. International settlements and balance of payments. Topic 10. Regulation of international monetary and financial relations. Topic 11. Debt in the system of international finance. Topic 12. Ukraine in the global financial market.</i></p>
<b>Rationale</b>	<i>The training component promotes the development of professional experience in to form students' abilities in financial analysis and practice, mastering professional knowledge and skills in the field of international finance and using the acquired knowledge, skills to develop tactics and strategies of state and company behavior in the international financial environment.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– the essence of the main categories of international finance;</i></li> <li><i>– features of the functioning of the world financial market and its structure;</i></li> <li><i>– methods of conducting foreign exchange transactions in the financial market;</i></li> <li><i>– features of the functioning of the European market, namely: the eurocurrency market, capital market, bond market, euro currency market, gold market;</i></li> <li><i>– development of lending technologies in the international credit market and credit syndication procedures: export and commercial loans;</i></li> <li><i>– the essence of international balances and methods of calculating the balance of payments;</i></li> <li><i>– regulation of international monetary and financial relations and cooperation of Ukraine with foreign donors on a bilateral and multilateral basis in the global financial market, etc.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– choose the appropriate form of international settlements in the conduct of export-import operations;</i></li> <li><i>– develop and make financial decisions related to operations in international financial markets, and in particular in the foreign exchange market in conditions of risk and uncertainty;</i></li> <li><i>– have theoretical and practical aspects of international lending;</i></li> <li><i>– analyze information and participate in the development of the company's financial strategy, be able to manage currency and credit risks;</i></li> <li><i>– choose the necessary types of foreign exchange transactions in foreign trade agreements.</i></li> </ul>
<b>Instructional Materials</b>	<p><i>1. Syllabus: <a href="http://ied.kpi.ua/uk/archives/4084">http://ied.kpi.ua/uk/archives/4084</a></i></p> <p><i>2. <a href="https://classroom.google.com/u/1/c/MjI2ODU5NTQxMDgz">https://classroom.google.com/u/1/c/MjI2ODU5NTQxMDgz</a></i></p>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>



Multinational Corporations	
<b>Restrictions</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2.</i></p> <p><i>This discipline is closely related to other disciplines of law and management: International Economics, International Marketing, Business Economics, Organization of Production. The discipline provides a foundation for further study of such modules as Management of International Competitiveness; International Finance; Financial Management, Functional Cost Analysis.</i></p>
<b>Scope of the course</b>	<p><i>The main components of the economic mechanism and the structure of financing the activities of TNCs are considered.</i></p> <p><i>Topic 1. Prerequisites and principles of operation of transnational corporations</i></p> <p><i>Topic 2. The impact of TNCs on socio-economic and political processes in the world</i></p> <p><i>Topic 3. Interaction of TNCs and national economies</i></p> <p><i>Topic 4. Management system of multinational corporations</i></p> <p><i>Topic 5. Characteristics of TNCs as an employer</i></p> <p><i>Topic 6. Financial activities of TNCs</i></p> <p><i>Topic 7. Innovative activities of TNCs</i></p> <p><i>Topic 8. Directions of interaction of TNCs with startup structures</i></p> <p><i>Topic 9. Marketing activities of multinational corporations</i></p>
<b>Rationale</b>	<i>The purpose of the discipline is to form the ability to analyze the activities of modern transnational corporations (TNCs), the economic mechanism of their operation, priorities and problems of development in the context of globalization.</i>
<b>Learning outcomes</b>	<p><i>The main tasks of the discipline. After mastering the discipline, students must demonstrate the following learning outcomes:</i></p> <ul style="list-style-type: none"> <li><i>• the essence of TNCs, the content and scope of their activities;</i></li> <li><i>• evolution of organizational structures of TNCs;</i></li> <li><i>• specifics of development and implementation of the global strategy of TNCs;</i></li> <li><i>• methods of research of production and commercial activities of TNCs;</i></li> <li><i>• factors influencing the development of business associations.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Analyze the state and trends of development of transnational corporations, assess their impact on national economies and world economic processes, determine the level of their interaction with the world, as well as:</i></p> <ul style="list-style-type: none"> <li><i>• perform interdisciplinary analysis of socio-economic phenomena caused by the activities of TNCs, taking into account the risks and possible consequences;</i></li> <li><i>• use the results of economic research in practice;</i></li> <li><i>• develop strategies for diversifying the activities of multinational corporations, strategies for entering new markets, strategies for innovation and development;</i></li> <li><i>• perform interdisciplinary analysis of socio-economic phenomena and problems in one or more professional areas, taking into account the risks and possible socio-economic consequences;</i></li> <li><i>• think abstractly, apply analysis and synthesis to identify key characteristics of economic systems of different levels, as well as the behavior of their subjects;</i></li> <li><i>• ability to act socially responsible and consciously on the basis of ethical principles, to appreciate and respect cultural diversity, individual differences of people.</i></li> </ul>
<b>Instructional Materials</b>	<p><i>Syllabus, Educational textbook</i></p> <p><i><a href="https://books.google.com.ua/books?id=U8v4DwAAQBAJ&amp;printsec=frontcover&amp;hl=uk&amp;source=gbs_ge_summary_r&amp;cad=0#v=onepage&amp;q&amp;f=false">https://books.google.com.ua/books?id=U8v4DwAAQBAJ&amp;printsec=frontcover&amp;hl=uk&amp;source=gbs_ge_summary_r&amp;cad=0#v=onepage&amp;q&amp;f=false</a></i></p>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Optimization methods and models	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "None" )</i>
<b>Scope of the course</b>	<i>The scope of the course includes the ability to apply economic and mathematical methods and models to solve economic problems; the ability to predict on the basis of standard theoretical and econometric models of socio-economic processes.</i>
<b>Rationale</b>	<i>methodologies and tools for building different types of economic and mathematical models; means of using mathematical modeling to solve economic problems; methods for estimating the parameters of dependencies that characterize the quantitative relationships between economic quantities; technologies for building econometric models and means of their use in the management of socio-economic processes.</i>
<b>Learning outcomes</b>	<i>apply appropriate economic and mathematical methods and models to solve economic problems; apply the acquired theoretical knowledge to solve practical problems and meaningfully interpret the results.</i>
<b>Competencies and skills</b>	<i>solve linear and nonlinear optimization problems using appropriate methods; analyze the mathematical solution of problems for making optimal decisions in a market economy and competition.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures and seminars/workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>



Econometrics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "None" )</i>
<b>Scope of the course</b>	<i>The scope of the course includes the ability to apply economic and mathematical methods and models to solve economic problems; the ability to predict on the basis of standard theoretical and econometric models of socio-economic processes.</i>
<b>Rationale</b>	<i>methodologies and tools for building different types of economic and mathematical models; means of using mathematical modeling to solve economic problems; methods for estimating the parameters of dependencies that characterize the quantitative relationships between economic quantities; technologies for building econometric models and means of their use in the management of socio-economic processes.</i>
<b>Learning outcomes</b>	<i>apply appropriate economic and mathematical methods and models to solve economic problems; apply the acquired theoretical knowledge to solve practical problems and meaningfully interpret the results.</i>
<b>Competencies and skills</b>	<i>solve linear and nonlinear optimization problems using appropriate methods; analyze the mathematical solution of problems for making optimal decisions in a market economy and competition.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures and seminars/workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Modeling of Economy	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Economic cybernetics or analog</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Economic and mathematical methods and models", "Economic cybernetics")</i>
<b>Scope of the course</b>	<i>The scope of the course includes the ability to apply economic and mathematical methods and models to solve economic problems on advanced level; the ability to predict on standard theoretical and econometric models of socio-economic processes.</i>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in:</i></p> <ul style="list-style-type: none"> <li><i>• theoretical bases of analysis, modeling and forecasting of development of economic objects and processes at macro-, meso- and microeconomic levels;</i></li> <li><i>• tools for building economic and mathematical models for the study of socio-economic processes;</i></li> <li><i>• methodologies for evaluating the performance of business entities.</i></li> </ul>
<b>Learning outcomes</b>	<ul style="list-style-type: none"> <li><i>• apply economic and mathematical methods and models to solve economic problems;</i></li> <li><i>• substantiate economic decisions on the basis of understanding the laws of economic systems and processes and using modern methodological tools;</i></li> <li><i>• in-depth analysis of problems and phenomena in one or more professional areas, taking into account economic risks and possible socio-economic consequences;</i></li> <li><i>• to study the behavior of economic objects at the macro- and microeconomic levels.</i></li> </ul>
<b>Competencies and skills</b>	<ul style="list-style-type: none"> <li><i>• apply appropriate economic and mathematical methods and models to solve economic problems;</i></li> <li><i>• perform interdisciplinary analysis of socio-economic phenomena and problems in one or more professional areas, taking into account the risks and possible socio-economic consequences;</i></li> <li><i>• determine the numerical and qualitative characteristics of the behavior of economic agents for their rational activities.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures and seminars/workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>

Theory of Economic Risk	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Economic and mathematical methods and models", "Economic cybernetics")</i>
<b>Scope of the course</b>	<i>The scope of the course includes study of the basic principles of risk analysis, its modeling, accounting and management.</i>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise:</i></p> <ol style="list-style-type: none"> <li><i>1. Understand that economic processes are influenced by uncontrolled factors, that these processes develop mostly in conditions of uncertainty, conflict, multicriteria, the fundamental impossibility of making accurate economic forecasts necessary for rational decision-making.</i></li> <li><i>2. Master the basic principles of risk analysis, its modeling, accounting and management; to master, skills independently to carry out the qualitative analysis, identification of risk and to carry out the corresponding calculations.</i></li> </ol>
<b>Learning outcomes</b>	<ol style="list-style-type: none"> <li><i>1. The ability to solve complex specialized problems and practical problems in the economic sphere, which are characterized by complexity and uncertainty of conditions, which involves the application of theories and methods of economics.</i></li> <li><i>2. Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>3. Ability to apply knowledge in practical situations.</i></li> <li><i>4. Ability to adapt and act in a new situation.</i></li> <li><i>5. Ability to make informed decisions.</i></li> <li><i>6. Ability to apply economic and mathematical methods and models to solve economic problems.</i></li> <li><i>7. Ability to analyze in depth the problems and phenomena in one or more professional areas, taking into account economic risks and possible socio-economic consequences.</i></li> </ol>
<b>Competencies and skills</b>	<ol style="list-style-type: none"> <li><i>1. Apply analytical and methodological tools to justify proposals and management decisions by various economic agents (individuals, households, enterprises and public authorities).</i></li> <li><i>2. Apply appropriate economic and mathematical methods and models to solve economic problems.</i></li> <li><i>3. To analyze the functioning and development of economic entities, to determine the functional areas, to calculate the relevant indicators that characterize the effectiveness of their activities.</i></li> <li><i>4. Perform interdisciplinary analysis of socio-economic phenomena and problems in one or more professional areas, taking into account the risks and possible socio-economic consequences.</i></li> <li><i>5. Demonstrate flexibility and adaptability in new situations, in working with new objects, and in uncertain conditions.</i></li> </ol>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures and seminars/workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Optimal Control and Game Theory in Economics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Mathematics for economists", "Economic and mathematical methods and models", "Numerical methods")</i>
<b>Scope of the course</b>	<i>The scope of the course includes knowledge in game theory and uses of it in economical tasks</i>
<b>Rationale</b>	<ul style="list-style-type: none"> <li>- to substantiate economic decisions on the basis of understanding of laws of economic systems and processes and with application of modern methodical tools;</li> <li>- in-depth analysis of problems and phenomena in one or more professional areas, taking into account economic risks and possible socio-economic consequences;</li> <li>- analyze and predict the behavior of economic systems as objects of optimal control or game theory.</li> </ul>
<b>Learning outcomes</b>	<ul style="list-style-type: none"> <li>- theoretical principles of formalization of economic problems in the form of objects of management in deterministic and conflict conditions;</li> <li>- methods of the theory of optimal control and differential games for analysis and prediction of the behavior of economic systems in deterministic and risk conditions.</li> </ul>
<b>Competencies and skills</b>	<ul style="list-style-type: none"> <li>- apply the acquired theoretical knowledge to solve practical problems and meaningfully interpret the results;</li> <li>- perform interdisciplinary analysis of socio-economic phenomena and problems in one or more professional areas, taking into account the risks and possible socio-economic consequences;</li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures and seminars/workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>

Operations Research	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Economic and mathematical methods and models")</i>
<b>Scope of the course</b>	<i>The scope of the course includes methods of optimization in operations</i>
<b>Rationale</b>	<ol style="list-style-type: none"> <li>1. Apply knowledge in practical situations</li> <li>2. Make informed decisions in poorly structured systems</li> <li>3. To form rational behavior and optimal solutions in the problems of organizational systems management.</li> </ol>
<b>Learning outcomes</b>	<ol style="list-style-type: none"> <li>1. Methodologies of forming reasonable decisions in different conditions;</li> <li>2. Concepts and methodologies of research of rational behavior of organizational systems;</li> <li>3. Means of diagnosis and forecasting of organizational systems;</li> </ol>
<b>Competencies and skills</b>	<ol style="list-style-type: none"> <li>1. apply analytical and methodological tools to substantiate proposals and management decisions by various economic agents (individuals, households, enterprises and public authorities);</li> <li>2. apply the acquired theoretical knowledge to solve practical problems and meaningfully interpret the results;</li> <li>3. apply quantitative optimization methods for the study of dynamic systems;</li> <li>4. assess the risks of implementing rational decisions in organizational systems.</li> </ol>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures and seminars/workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Optimization Methods and Models	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "None" )</i>
<b>Scope of the course</b>	<i>The scope of the course includes the ability to apply economic and mathematical methods and models to solve economic problems; the ability to predict on the basis of standard theoretical and econometric models of socio-economic processes.</i>
<b>Rationale</b>	<i>methodologies and tools for building different types of economic and mathematical models; means of using mathematical modeling to solve economic problems; methods for estimating the parameters of dependencies that characterize the quantitative relationships between economic quantities; technologies for building econometric models and means of their use in the management of socio-economic processes.</i>
<b>Learning outcomes</b>	<i>apply appropriate economic and mathematical methods and models to solve economic problems; apply the acquired theoretical knowledge to solve practical problems and meaningfully interpret the results.</i>
<b>Competencies and skills</b>	<i>solve linear and nonlinear optimization problems using appropriate methods; analyze the mathematical solution of problems for making optimal decisions in a market economy and competition.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures and seminars/workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>

Econometrics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "None" )</i>
<b>Scope of the course</b>	<i>The scope of the course includes the ability to apply economic and mathematical methods and models to solve economic problems; the ability to predict on the basis of standard theoretical and econometric models of socio-economic processes.</i>
<b>Rationale</b>	<i>methodologies and tools for building different types of economic and mathematical models; means of using mathematical modeling to solve economic problems; methods for estimating the parameters of dependencies that characterize the quantitative relationships between economic quantities; technologies for building econometric models and means of their use in the management of socio-economic processes.</i>
<b>Learning outcomes</b>	<i>apply appropriate economic and mathematical methods and models to solve economic problems; apply the acquired theoretical knowledge to solve practical problems and meaningfully interpret the results.</i>
<b>Competencies and skills</b>	<i>solve linear and nonlinear optimization problems using appropriate methods; analyze the mathematical solution of problems for making optimal decisions in a market economy and competition.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures and seminars/workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Crisis Forecasting in the Economy	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Economic and mathematical methods and models", "Economic cybernetics")</i>
<b>Scope of the course</b>	<i>The scope of the course includes study of the basic principles of risk analysis, its modeling, accounting and management.</i>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise:</i></p> <ol style="list-style-type: none"> <li><i>1. Understand that economic processes are influenced by uncontrolled factors, that these processes develop mostly in conditions of uncertainty, conflict, multicriteria, the fundamental impossibility of making accurate economic forecasts necessary for rational decision-making.</i></li> <li><i>2. Master the basic principles of risk analysis, its modeling, accounting and management; to master, skills independently to carry out the qualitative analysis, identification of risk and to carry out the corresponding calculations.</i></li> </ol>
<b>Learning outcomes</b>	<ol style="list-style-type: none"> <li><i>1. The ability to solve complex specialized problems and practical problems in the economic sphere, which are characterized by complexity and uncertainty of conditions, which involves the application of theories and methods of economics.</i></li> <li><i>2. Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>3. Ability to apply knowledge in practical situations.</i></li> <li><i>4. Ability to adapt and act in a new situation.</i></li> <li><i>5. Ability to make informed decisions.</i></li> <li><i>6. Ability to apply economic and mathematical methods and models to solve economic problems.</i></li> <li><i>7. Ability to analyze in depth the problems and phenomena in one or more professional areas, taking into account economic risks and possible socio-economic consequences.</i></li> </ol>
<b>Competencies and skills</b>	<ol style="list-style-type: none"> <li><i>1. Apply analytical and methodological tools to justify proposals and management decisions by various economic agents (individuals, households, enterprises and public authorities).</i></li> <li><i>2. Apply appropriate economic and mathematical methods and models to solve economic problems.</i></li> <li><i>3. To analyze the functioning and development of economic entities, to determine the functional areas, to calculate the relevant indicators that characterize the effectiveness of their activities.</i></li> <li><i>4. Perform interdisciplinary analysis of socio-economic phenomena and problems in one or more professional areas, taking into account the risks and possible socio-economic consequences.</i></li> <li><i>5. Demonstrate flexibility and adaptability in new situations, in working with new objects, and in uncertain conditions.</i></li> </ol>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures and seminars/workshops</i>
<b>End-of-semester control</b>	<i>Test</i>



MONEY AND CREDIT	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 Management</i>
<b>Educational level</b>	<i>Bachelor</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English /Polish</i>
<b>Department</b>	
<b>Assumed knowledge and prerequisites</b>	<i>English B2/ Polish B2</i>
<b>Scope of the course</b>	<i>The course focuses on:</i> <i>Fundamentals of intellectual capital</i> <i>Organizational structure of intellectual capital and its management</i> <i>Theory of investment in intellectual capital</i> <i>Sources and processes of intellectual capital creation</i> <i>The efficiency of investment in intellectual capital</i>
<b>Rationale</b>	<i>This course allows you to form a holistic theoretical and scientific-practical view of the nature, status, problems and prospects of intellectual capital, assessment of intangible assets and intellectual property, as well as the basis for implementing the intellectual capital management system of the organization.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <i>Forming the knowledge of:</i> <ul style="list-style-type: none"> <li><i>• essence and types of intellectual capital;</i></li> <li><i>• theoretical approaches and views on the content, technique and technology of creating new intellectual products;</i></li> <li><i>• mechanism for forming the organizational structure of intellectual capital management;</i></li> <li><i>• methods and tools for the generation, use and development of intellectual capital;</i></li> <li><i>• methodological approaches to valuing intangible assets, as well as intellectual property of the organization; algorithm for implementing an intellectual capital management system;</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li><i>• identify prospects and opportunities for the accumulation of intellectual capital;</i></li> <li><i>• conduct structural and functional analysis of intellectual capital;</i></li> <li><i>• evaluate certain types of intellectual capital;</i></li> <li><i>• evaluate sources of investment in intellectual capital;</i></li> <li><i>• give an opinion on the effectiveness of intellectual capital management</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts etc)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Exam</i>

INTELLECTUAL CAPITAL ECONOMICS	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economics; 073 Management</i>
<b>Educational level</b>	<i>Bachelor</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English /Polish</i>
<b>Department</b>	
<b>Assumed knowledge and prerequisites</b>	<i>English B2/ Polish B2</i>
<b>Scope of the course</b>	<i>The credit module involves the formation of thorough knowledge about the functioning of money, the laws of their movement and development, the monetary system, the peculiarities of the functioning of banks and lending activities.</i>
<b>Rationale</b>	<p><i>Program learning outcomes: Understand the principles of economics, features of economic systems.</i></p> <p><i>Integral competence: The ability to solve complex specialized problems and practical problems in the economic sphere, which are characterized by complexity and uncertainty of conditions, which involves the application of theories and methods of economics.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <p><i>Forming the knowledge of: main economic categories and laws of functioning of money and credit; goals and instruments of the state monetary policy; features of modern forms of credit and their functions; the essence of money as an economic category and their role in the process of social reproduction; economic content and mechanisms of basic banking operations and banking services;</i></p>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– use the economic terminology, explain the basic concepts of micro- and macroeconomics; the models of socio-economic phenomena in terms of fundamental principles and understanding of the main directions of economic development; apply the acquired theoretical knowledge to solve practical problems and meaningfully interpret the results; choose the most rational solutions for obtaining banking services etc.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts etc)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Test</i>

## Modeling the Risks of Financial Activities of Economic Entities

<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economics Educational-Professional Program "Economic cybernetics"</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B1, General knowledge of higher mathematics, statistics, business economics, economic modeling</i>
<b>Scope of the course</b>	<i>The scope of the course includes: Tools and practical implementation of financial calculations and operations and the use of models of financial mathematics; Mathematical methods of financial analysis of business management in a competitive environment; Methodology for solving practical economic problems of financial activities of enterprises and institutions, calculations of the consequences of various commercial transactions.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in using methods of financial and economic analysis, which allow to describe at quantitative and qualitative levels the phenomena and processes of the financial sphere of economic life of various enterprises and institutions, and assess possible risks of various financial transactions.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: – implementation of financial calculations and operations, creation and application of models of risk theory in economic activity; – management of financial operations and effective decision-making in the financial activities of enterprises and institutions.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: – analyze the financial results of various entities and forecast possible risks in market conditions; – manage the financial activities of enterprises of various forms of ownership based on the methods of modern theory of economic risks.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book)</i>
<b>Mode of delivery</b>	<i>lectures and workshops /tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

ECONOMIC MEASUREMENT OF SUSTAINABLE DEVELOPMENT	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<i>The purpose of the discipline is the formation of students' ability to analyze the economic component of sustainable development of the country, industry, enterprise; to calculate indicators, categories of policy and the index of sustainable development at the level of the country, industry, enterprise, to perform scenario modeling of processes that affect the balanced development of economic systems.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in the sphere of the economic aspect of sustainable development</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- generate, process indicators that characterize the level of economic development of the country, industry, enterprise and form strategies for their development;</i></li> <li><i>- to calculate indicators, index of economic dimension of sustainable development and use them in the process of international economic activity of countries, regions, intersectoral complexes;</i></li> <li><i>- to analyze the economic aspect of the goals of sustainable development;</i></li> <li><i>- to form data sets for the analysis of an economic component of sustainable development of the country, branch, the enterprise taking into account processes of globalization;</i></li> <li><i>- process data sets that characterize the economic dimension of sustainable development of the country, industry, enterprise;</i></li> <li><i>- identify the relationship between key indicators of economic development of society and the factors that affect them;</i></li> <li><i>- choose a method for forecasting the sustainable development of the world depending on the characteristics of the original data and the identified dependencies;</i></li> <li><i>- develop scenarios of economic processes of sustainable development of the country and make management decisions</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- develop scenarios and strategies for the development of socio-economic systems;</i></li> <li><i>- learn and master modern knowledge;</i></li> <li><i>- make informed decisions;</i></li> <li><i>- generate new ideas (creativity);</i></li> <li><i>- search, process and analyze information from various sources;</i></li> <li><i>- work in an international context;</i></li> <li><i>- motivate people and move towards a common goal;</i></li> <li><i>- act socially responsibly and prudently.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/10/2-En.-Economic-measurement-of-sustainable-development.docx">http://ied.kpi.ua/wp-content/uploads/2021/10/2-En.-Economic-measurement-of-sustainable-development.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

SOCIAL RESPONSIBILITY	
<b>Restrictions (specialty for which the course is offered)</b>	051 Economy / 0311 Economics
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	1
<b>Number of ECTS credits</b>	2,5
<b>Language of study</b>	English
<b>Department</b>	International Economics
<b>Assumed knowledge and prerequisites</b>	English B2
<b>Scope of the course</b>	<i>The purpose of the discipline is the formation of students' fundamental knowledge of the theory and practice of social responsibility, the acquisition of appropriate professional competencies that ensure the formation of socially responsible behaviour.</i>
<b>Rationale</b>	<i>In the lectures will aim to cover the following topics: Topic 1. Social responsibility as a factor of sustainable development. Topic 2. Social responsibility of man and the state. Topic 3. Organizational and economic support of corporate social responsibility management. Topic 4. Formation of relations between employers and employees on the basis of social responsibility. Topic 5. Formation of business relations with external stakeholders on the basis of social responsibility. Topic 6. Environmental component of social responsibility Topic 7. Preparation of a non-financial report. Topic 8. Evaluating the effectiveness of social responsibility. Topic 9. Strategic directions of social responsibility development</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>- the essence of the types, categories, evolution, concepts, models and levels of social responsibility;</li> <li>- features of social responsibility of different business entities;</li> <li>- the place of social responsibility in the management of the organization;</li> <li>- regulatory framework for the development of social responsibility of enterprises;</li> <li>- models of corporate social responsibility and the formation of different types of corporate culture;</li> <li>- criteria, indicators and methods of assessing the social responsibility of enterprises, the essence of social investment as a form of corporate responsibility of employers;</li> <li>- essence, components and priorities of development of socially responsible personnel management policy;</li> <li>- environmental aspects of social responsibility and their legal regulation;</li> <li>- essence, structure, requirements and features of international standards of social reporting.</li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>- to form a mechanism for managing the social responsibility of the enterprise;</li> <li>- to form effective interaction of employers with the staff on the basis of social responsibility;</li> <li>- to form relations of the enterprise with external organizations on the basis of social responsibility;</li> <li>- to determine the areas of activation of individual and collective environmental responsibility;</li> <li>- monitor the social responsibility of the enterprise;</li> <li>- evaluate the effectiveness of social responsibility of the enterprise;</li> <li>- to develop corporate social responsibility as a factor of increasing competitiveness.</li> </ul>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/10/2-En.-Social-responsibility-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/10/2-En.-Social-responsibility-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

INTERNATIONAL PROJECT MANAGEMENT	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>2,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (or equal language level)</i>
<b>Scope of the course</b>	<i>The purpose of the discipline is the formation of students' abilities: a comprehensive understanding of the content of project management of enterprises of various forms of ownership; analyze specific economic situations and solve practical problems related to project management, taking into account the challenges of Industry 4.0; aggregate information, calculate summary performance indicators of international business projects and perform their economic interpretation.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in the sphere of international project management.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include systematic understanding of project-oriented activities of enterprises and the specifics of project management, which can serve as a basis for creating a system of knowledge on effective initiation, planning, development, implementation and completion of business projects.</i>
<b>Competencies and skills</b>	<p><i>After studying the discipline the student will:</i></p> <ul style="list-style-type: none"> <li><i>- understand the theoretical and methodological, methodological and organizational aspects of project management in the era of Industry 4.0;</i></li> <li><i>- know the principles of implementation of competitive business projects on the basis of technological superiority and innovation;</i></li> <li><i>- have professional terminology in the field of business project management;</i></li> <li><i>- understand the features of different approaches to the development of organizational structures for managing international projects;</i></li> <li><i>- be able to apply methods of network and calendar planning of projects and methods of organizing the activities of project groups, taking into account the team roles of participants;</i></li> <li><i>- know the procedure of project risk assessment;</i></li> <li><i>- know the basics of planning, ensuring and quality control of projects;</i></li> <li><i>- be able to identify the main software products that are suitable for use in project management to solve specific problems.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus <a href="http://ied.kpi.ua/uk/archives/4169">http://ied.kpi.ua/uk/archives/4169</a> , additional learning materials</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

INTELLECTUAL CAPITAL MANAGEMENT	
<b>Restrictions (specialty for which the course is offered)</b>	051 Economy / 0311 Economics
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	1
<b>Number of ECTS credits</b>	3
<b>Language of study</b>	English /Italian /French
<b>Department</b>	International Economics
<b>Assumed knowledge and prerequisites</b>	English B2 (or equal language level)
<b>Scope of the course</b>	<p>The purpose of the course is to form student's competence to solve complex specialized tasks and practical problems in the sphere of intellectual capital management, including abilities:</p> <ul style="list-style-type: none"> <li>– to use scientific, analytical, methodological tools to justify measures for the management of intellectual capital development of economic entities and related management decisions;</li> <li>– to collect, analyze and process statistical data, scientific and analytical materials that are necessary to solve complex economic problems, to draw sound conclusions based on them;</li> <li>– to think critically and generate new ideas for intellectual capital management;</li> <li>– to apply modern information technologies, methods and techniques for research of economic and social processes, acceptable to the established needs of research;</li> <li>– to formulate professional tasks in the field of economics and solve them, choosing the appropriate directions and appropriate methods for their solution, considering the available resources;</li> <li>– to conduct research at the high scientific level;</li> <li>– to substantiate management decisions on the effective development of intellectual capital.</li> </ul>
<b>Rationale</b>	The educational component contributes to the development of professional expertise in the sphere of intellectual capital management.
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>– the economic essence and the nature of intellectual capital at different levels;</li> <li>– methodological approaches to the assessment of intellectual capital;</li> <li>– selection, analysis and calculation of indicators of intellectual capital;</li> <li>– principles and methods of intellectual capital management of the enterprise, region, country;</li> <li>– modern foundations of intellectual property management as a component of intellectual capital.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>– develop theoretical and methodological approaches and generate their own vision of complex economic processes and relationships;</li> <li>– diagnose the formation and development of intellectual capital, in particular to highlight its structure and components depending on the characteristics of the enterprise;</li> <li>– develop an algorithm for managing intellectual capital as a whole and its individual elements;</li> <li>– choose effective management methods considering their goals, expected socio-economic consequences, risks, legislative, resource and other constraints;</li> <li>– develop activities to stimulate the development of intellectual capital;</li> <li>– make management decisions under uncertain conditions and requirements that require the application of new approaches, methods and tools of socio-economic research</li> </ul>
<b>Instructional Materials</b>	syllabus, additional learning materials
<b>Mode of delivery</b>	lectures/workshops/tutorials
<b>End-of-semester control</b>	Test



GLOBAL ECONOMY	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B1, B2</i></p> <p><i>The course is based on the knowledge acquired by students while studying the disciplines "Management", "International Economic Activity of Ukraine", "World Economic Relations", "European integration ", "World Economy ", " National Economy "and others.</i></p>
<b>Scope of the course</b>	<p><i>The scope of the course includes the study of the following issues:</i></p> <p><i>Topic 1.1. Formation and development of the global economy. Topic 1.2. Global problems of mankind and ways to solve them. Topic 1.3. Regionalism in economic development. Topic 2.1. The global market: the essence, structure and mechanisms of functioning. Topic 2.2. The functioning of the global market for goods and services. Topic 2.3. The mechanism of the global financial market. Topic 2.4. Global labor market and mechanisms of functioning. Topic 2.5. The global technology market as a form of realization of the technological resource of global economic development and international scientific and technological relations. Topic 3.1. Global economy management and economic security. Topic 3.2. Ukraine in the global economic environment</i></p>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional experience: identification of the main parameters of global development and definition of modern market and institutional methods of global management; substantiation of the choice of organizational processes of management of the international economic activity of regions, branches, interbranch complexes; identify and evaluate the problems of international business development in the context of globalization; identify the impact of factors and analyze changes in trade policy and use the methods of commercial diplomacy; to determine regulatory priorities for the formation of modern international economic policy; to organize the functional support of the foreign trade agreement.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include knowledge of:</i></p> <p><i>models of global business corporatization; the genesis of global economic integration; dynamics of processes of institutionalization of global economic development; global market mechanisms; directions of Ukraine's integration into the world economic space; the nature, preconditions and factors of formation of the world economy; the nature, forms, models and competitive advantages of regional economic integration in the global context of development; forms and mechanisms of socialization of the world economy; mechanisms and tools of countercyclical regulation of economies in the global system.</i></p>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course, students should be able to:</i></p> <p><i>analyze the trends of globalization of economic development; identify and evaluate the problems of international business development in the context of globalization; identify the impact of factors and analyze changes in trade policy and use the methods of commercial diplomacy; to organize the functional support of the foreign trade agreement.</i></p>
<b>Instructional Materials</b>	<p><i>Syllabus: <a href="http://ied.kpi.ua/uk/archives/4088">http://ied.kpi.ua/uk/archives/4088</a></i></p> <p><i>Lecture material, learning materials, reference book:</i></p> <p><i><a href="https://classroom.google.com/c/NDA3MjMxNjE0NTY3?cjc=hj6j5k7">https://classroom.google.com/c/NDA3MjMxNjE0NTY3?cjc=hj6j5k7</a></i></p>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>



INTERNATIONAL TRADE	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of International Economics.</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>Scope of the course is:</i></p> <p><i>Topic 1. History of the international trade origin and development. Topic 2. Organization of international trade. Topic 3. Organization of international trade in services. Topic 4. International trade transactions and risks associated with them. Topic 5. International trade organizations and chambers of commerce. Topic 6. Standard documents and systems. Documentary sales. Topic 7. Export-import operations characteristics. Review of documents. Topic 8. Standard trade terms. INCOTERMS. Topic 9. Cargo insurance in international trade. Topic 10. International transportation of goods by sea. Topic 11. International road transport of goods. Topic 12. International air transportation of goods. Topic 13. E-commerce in international trade. Topic 14. Practical aspects of the use of e-commerce in international trade. Topic 15. Intellectual property in international business. Topic 16. Management of commercial enterprises. Topic 17. Legal support of international business. Topic 18. International commercial arbitration.</i></p>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in international trade processes organisation</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>· international trade theories, general economic patterns of international trade directions and forms formation;</i></li> <li><i>· international trade organization and regulation, practice of supranational international trade relations regulation;</i></li> <li><i>· various forms and methods of international trade development;</i></li> <li><i>· application of modern information technologies in the international trade operations implementation;</i></li> <li><i>· risks identification and prevention in international trade operations;</i></li> <li><i>· issues of international certification of goods and services;</i></li> <li><i>· issues of physical and electronic document flow in the implementation of international trade agreements;</i></li> <li><i>· the course of foreign economic activity of economic entities.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>· have basic categories and concepts;</i></li> <li><i>· apply the most effective methods of international trade;</i></li> <li><i>· choose organized commodity markets (exchanges, auctions, exhibitions, fairs, tenders) in international trade);</i></li> <li><i>· identify risks in international trade transactions, analyze and manage them;</i></li> <li><i>· to apply modern information technologies in the implementation of international trade operations, including - the organization of document flow, payment and other business and commercial transactions;</i></li> <li><i>· it is appropriate to use the international trade terms INCOTERMS;</i></li> <li><i>· to organize the functional support of the foreign trade agreement: payment relations, transport services, customs formalities, obtaining the necessary licenses, certificates.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/2-En.-International-_rade-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/08/2-En.-International-_rade-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Scientific Work on Theme of Master Thesis	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. The discipline has an interdisciplinary nature and integrates knowledge from other educational and scientific fields. According to the structural and logical scheme of the training program, this discipline is closely related to other disciplines: Interdisciplinary links: "Fundamentals of Economic Theory", "International Innovation", "International Economics", "International Investment Activity", "International Strategies for Economic Development", "Feasibility Study of Economic Decisions".</i>
<b>Scope of the course</b>	<i>The scope of the course includes students' acquisition of basic skills of research work, in the process of which they would be able to set scientific tasks, plan their implementation, organize the collection and processing of information, as well as create conditions for generating new ideas.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in organization, planning and implementation of research work on economic problems; correct and effective use of the available information base for conducting economic research.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: a wide range of theoretical and methodological techniques for conducting economic research on various aspects of activity; increase of professional knowledge and professional requirements to scientific substantiation of conclusions, generalizations and practical recommendations; a holistic view of science as a system of knowledge and tools of knowledge of deep economic processes; about features of search and processing of the information, registration of results of scientific researches, diploma works, master's dissertations, professional reports, etc.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able: to learn the essence of general scientific and specific scientific methods, principles of research of market relations, phenomena and processes; to set priorities when conducting economic research, to plan resources for their conduct; to give guidelines for the implementation of research results in the practice of economic activity of enterprises and organizations.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book) <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/2-Ua.-Osnovy-naukovyh-doslidzhen-v-ekonomitsi-2021-2022.doc">http://ied.kpi.ua/wp-content/uploads/2021/09/2-Ua.-Osnovy-naukovyh-doslidzhen-v-ekonomitsi-2021-2022.doc</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Scientific Work on Theme of Master Thesis 2	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2. The discipline has an interdisciplinary nature and integrates knowledge from other educational and scientific fields. According to the structural and logical scheme of the training program, this discipline is closely related to all disciplines of the EDUCATIONAL PROFESSIONAL PROGRAM.</i></p> <p><i>The logic completion of training is "Training of Master Thesis"</i></p> <p><i><a href="http://ied.kpi.ua/wp-content/uploads/2021/09/Educational-and-Professional-program-International-Economics-Master-degree-2021-English.pdf">http://ied.kpi.ua/wp-content/uploads/2021/09/Educational-and-Professional-program-International-Economics-Master-degree-2021-English.pdf</a></i></p>
<b>Scope of the course</b>	<i>The scope of the course. Obtaining the educational level "Master", the student goes through all the stages of classical scientific research: conducting an analytical review of literature sources of patent information research, performing experimental and / or design work, the results of which are presented at conferences different levels and in the form of publications in print or electronic publications.</i>
<b>Rationale</b>	<i>The discipline provides knowledge of the basics methodology, stages, directions of scientific creativity and logic of scientific research. Modern social production requires from the economist the ability to independently set and solve different fundamentally new issues, which cannot be done without mastering the basics of scientific research. That is why this discipline is necessary in the formation of knowledge of future professionals of any kind of industry. For the transition of Ukrainian education, science and production to world standards it is necessary to train new generation specialists with a broad outlook, capable of creative thinking, independent discovery of the new. This discipline briefly provides systematic information that will be needed when conducting research work by students and processing its results.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include: knowledge and understanding of the subject area and understanding of professional activity. Ability to abstract thinking, analysis and synthesis. Ability to identify, pose and solve problems.</i></p> <p><i>The ability to act socially responsible and consciously. Ability to carry out scientific and applied research in economics.</i></p>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: analyze and select effective analytical, computational and experimental methods of solving complex economic problems; find the necessary information from various sources, evaluate, process and analyze this information; perform research, analyze, process, evaluate and present research results, argue conclusions; knowledge and understanding of modern optimization methods for solving economic problems.</i>
<b>Instructional Materials</b>	<p><i>syllabus, learning materials (textbook)</i></p> <p><i><a href="http://ied.kpi.ua/wp-content/uploads/2021/09/2-Ua.-Metodychka-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/09/2-Ua.-Metodychka-2021-2022.docx</a></i></p>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Global Economy	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Third level (PhD)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The main prerequisite for the study of the discipline is the study of disciplines "Economic Theory", "Business Economics", "Microeconomics", "Macroeconomics", "International Economics", "Global Economics".</i></p>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1. The world economy as a system. Topic 2. Systematization of countries in the world economy. Topic 3. Theoretical paradigm of formation and development of the world economy. Topic 4. The main trends in economic development of leading countries. Topic 5. The place of developing countries and countries with emerging markets in the global economy. Topic 6. The economy of transitional societies in the context of globalization. Topic 7. World market of goods, services and innovations. World market as a concept. Topic 8. Foreign trade of Ukraine. Topic 9. The world market for international investment and credit</i></p>
<b>Rationale</b>	<p><i>The purpose of the discipline is the formation of graduate students' ability to comprehensively understand the essence of the world economy and its features, the development of economic systems in the context of globalization; analysis of specific economic situations and solving practical problems related to the activities of enterprises in international markets; formation of strategy of economic growth of business structures in the conditions of international competition.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Ability to search, process and analyze information from various sources.</i></li> <li><i>- Ability to work in an international context.</i></li> <li><i>- Ability to perform original research, to achieve scientific results that create new knowledge in economics and related interdisciplinary areas and can be published in leading scientific journals in economics and related fields.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- Have theoretical knowledge of economics, socio-economic systems and at the boundaries of subject areas, as well as research skills sufficient for basic and applied research at the level of the latest world achievements in the field, gaining new knowledge and / or innovation.</i></li> <li><i>- Deeply understand the basic (fundamental) principles and methods of economic sciences, as well as the methodology of scientific research, apply them in their own research in the field of economics in order to achieve economic and social efficiency in the context of globalization.</i></li> <li><i>- Develop and research fundamental and applied models of socio-economic processes and systems, use them effectively to gain new knowledge and / or create innovative products in economics and related interdisciplinary areas.</i></li> <li><i>- Apply modern tools and technologies for searching, processing and analyzing information, in particular, statistical methods for analyzing large data sets and / or complex structures, software and information systems.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, additional learning materials</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Organization of Scientific and Innovative Activities	
<b>Restrictions (specialty for which the course is offered)</b>	051 Economy / 0311 Economics
<b>Educational level</b>	Third level (PhD)
<b>Year of study</b>	1
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	International Economics
<b>Assumed knowledge and prerequisites</b>	English B2 The main prerequisite for the study of the discipline is the study of disciplines "World Economy", "Neoclassical models of economic processes".
<b>Scope of the course</b>	<p>The content of the discipline</p> <p>Topic 1.1. Essential characteristics of innovations and research and innovation processes</p> <p>Topic 1.2. Theoretical bases and modern tendencies of scientific and innovative development of economy</p> <p>Topic 1.3. State regulation and support of scientific and innovative activity</p> <p>Topic 1.4. Innovation policy of the enterprise</p> <p>Topic 1.5. Management of scientific and innovative processes</p> <p>Topic 1.6. Organizational forms of scientific and innovative activity.</p> <p>Topic 2.1. Features of creation of innovations and formation of demand for them</p> <p>Topic 2.2. Monitoring of innovations and information support of scientific and innovative activity.</p> <p>Topic 2.3. Update of technical and technological base and resource provision</p> <p>Topic 2.4. Research and innovation project.</p> <p>Topic 2.5. Comprehensive evaluation of the effectiveness of innovative activities.</p> <p>Topic 2.6. Commercialization of the results of scientific and innovative activities. Types and ways of presenting the results of innovation. Analysis of interdisciplinary approaches to the implementation of innovative projects.</p>
<b>Rationale</b>	The purpose of the discipline is to provide graduate students with knowledge about the specifics of the organization of research and innovation, taking into account the main links between innovation and general economic development of enterprises, industries, countries, integration associations to deepen understanding of the impact of management on research efficiency.
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>- Have theoretical knowledge of economics, socio-economic systems and at the boundaries of subject areas, as well as research skills sufficient for basic and applied research at the level of the latest world achievements in the field, gaining new knowledge and / or innovation.</li> <li>- Deeply understand the basic (fundamental) principles and methods of economic sciences, as well as the methodology of scientific research, apply them in their own research in the field of economics in order to achieve economic and social efficiency in the context of globalization.</li> <li>- Develop and research fundamental and applied models of socio-economic processes and systems, use them effectively to gain new knowledge and / or create innovative products in economics and related interdisciplinary areas.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>- Ability to perform original research, to achieve scientific results that create new knowledge in economics and related interdisciplinary areas and can be published in leading scientific journals in economics and related fields.</li> <li>- Ability to initiate, develop and implement comprehensive innovation projects in the economy and related interdisciplinary approaches, to identify leadership qualities and responsibilities during their implementation.</li> </ul>
<b>Instructional Materials</b>	Syllabus, additional learning materials
<b>Mode of delivery</b>	lectures/workshops /tutorials
<b>End-of-semester control</b>	Test

Pedagogic Practice	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Third level (PhD)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<i>The content of the discipline</i> <i>I. Organizational stage</i> <i>II. Pedagogical stage</i> <i>III. The final stage</i>
<b>Rationale</b>	<i>The purpose of pedagogical practice is to deepen and consolidate the knowledge of graduate students on the organization and forms of the educational process in modern conditions, its scientific, educational and methodological and regulatory support, the formation of skills and abilities to develop scientific and information sources in preparation for classes, the use of active teaching methods. oriented disciplines of the relevant professional field.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <i>- Deeply understand the basic (fundamental) principles and methods of economic sciences, as well as the methodology of scientific research, apply them in their own research in the field of economics in order to achieve economic and social efficiency in the context of globalization.</i> <i>- Freely present and discuss with experts and non-specialists the results of research, theoretical and practical problems of economics in state and foreign languages, qualified to reflect the results of research in scientific publications in leading scientific journals.</i> <i>- Apply innovative scientific and pedagogical technologies, formulate the content, learning objectives, ways to achieve them, forms of control, be responsible for the effectiveness of the educational process in compliance with the norms of academic ethics and integrity.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <i>- Ability to carry out scientific and pedagogical activities in higher education institutions and in the real sector of the economy.</i> <i>- Ability to adhere to research ethics, as well as the rules of academic integrity in research and scientific and pedagogical activities.</i>
<b>Instructional Materials</b>	<i>Syllabus, additional learning materials</i>
<b>Mode of delivery</b>	<i>lectures/workshops /tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



CUSTOMS BUSINESS	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 The course is based on the knowledge acquired by students while studying the disciplines "National Economy", "Business Economics".</i>
<b>Scope of the course</b>	<i>This course aims to introduce and discuss a number of questions about customs business. In the lectures will aim to cover the following topics: 1. Customs business, sources of customs, customs policy. 2. The concept, content and structure of the customs regime. 3. Customs clearance of foreign economic transactions. 4. Customs payments. 5. The Harmonized Commodity Description and Coding Systems. 6. International state transportation of goods under customs control. Goods prohibited for import, export and transit. 7. The World Customs Organization (WCO). 8. Customs offenses. Smuggling. 9. Foreign experience in customs clearance.</i>
<b>Rationale</b>	<i>The training component promotes the development of professional experience in the operation of business, trade, stock exchange, logistics and customs structures, to achieve economic results.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: - calculate the customs value of goods; - identify and analyze the key characteristics of the customs system, assess their relationship with the national and world economies; - select and apply economic-mathematical and statistical methods for analysis, forecasting and optimization of phenomena and processes in the customs system; - apply methods of calculating taxes and mandatory payments and the procedure for their payment by enterprises of all forms of ownership and individuals; - demonstrate skills in compiling customs reports.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: - have the basic categories and concepts; - have a method of interaction between companies and the state at the foreign economic level; - select and justify the best methods of state customs and tariff policy; - conduct a systematic analysis of professional situations; - to analyze economic phenomena and processes in the field of state customs and tariff policy; - use the results of economic research in practice; - master the methods of customs clearance of export-import operations; - master the skills of customs control.</i>
<b>Instructional Materials</b>	<i>1. Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Custom-Business-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Custom-Business-2021-2022.docx</a> 2. Textbook - Customs business: lecture notes [Electronic Resource]: Teaching manual for the students Specialty 051 "Economics" / T. V. Ivanova; Igor Sikorsky Kyiv Polytechnic institute. – Kyiv : Igor Sikorsky Kyiv Polytechnic institute, 2021. – 160 p. <a href="https://ela.kpi.ua/handle/123456789/39767">https://ela.kpi.ua/handle/123456789/39767</a>.</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Commercial Diplomacy	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International economy</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, International Economics, International Trade</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes</i></p> <ol style="list-style-type: none"> <li><i>1. Commercial diplomacy - a system of interstate regulation of world trade relations</i></li> <li><i>2. Conceptualizing Commercial diplomacy: The Crossroads of International Relations, Economics, IPE and Diplomatic Studies</i></li> <li><i>3. The Role of International Organizations in Commercial diplomacy</i></li> <li><i>4. Trade conflicts, disputes and trade wars: settlement, resolution, prevention. Trade defense measures.</i></li> <li><i>5. Rules for determining the origin of goods</i></li> <li><i>6. Standards of coercion in international economic relations</i></li> <li><i>7. EU Commercial Diplomacy: The Factors Shaping Common Action</i></li> <li><i>8. The Economic Effectiveness of Diplomatic Representation: An Economic Analysis of its Contribution to Bilateral Trade</i></li> <li><i>9. Commercial Diplomats in the Context of International Business</i></li> <li><i>10. National negotiation differences</i></li> <li><i>11. Economic Diplomacy in a Changing World</i></li> <li><i>12. Development Cooperation as Economic Diplomacy</i></li> </ol>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in sphere of commercial diplomacy, nternational economic policy in the context of globalization, industry 4.0, digitalization.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include knowledge:</i></p> <ul style="list-style-type: none"> <li><i>- of modern commercial diplomacy;</i></li> <li><i>- of environment of commercial diplomacy;</i></li> <li><i>- of laws governing international economic relations;</i></li> <li><i>- of the preconditions for trade wars and conflicts, the means of their settlement;</i></li> <li><i>- assessment of the state of foreign trade, currency and credit and production and investment policy of Ukraine and the world.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- analyses of Ukraine's international commercial relations with the countries of the international community, the operation of economic laws at the international level;</i></li> <li><i>- analyses of threats and benefits for domestic enterprises in entering different segments of international commodity, financial, foreign exchange markets;</i></li> <li><i>- research and exploration, processing and analysis of information on the factors influencing the trade policy of the world.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/10/1-En.-Commercial-Diplomacy-2021-2022.doc">http://ied.kpi.ua/wp-content/uploads/2021/10/1-En.-Commercial-Diplomacy-2021-2022.doc</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



International Economic Relations	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International economy</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 International Economics, International Trade</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes:</i></p> <p><i>Topic 1. International economic relations in the system of world economy. Topic 2. Integration and Globalization Processes of World Economy and International Economic Relations.. Topic 3. The Role of International Organizations in International Economic Relations System. Topic 4. International Trade of goods in International Economic Relations System. Topic 5. International Trade of services in International Economic Relations System. Topic 6. International movement of capital in International Economic Relations System. Topic 7. International labor migration in International Economic Relations System. Topic 8. International technology transfer in International Economic Relations System. Topic 9. International payments and financial flows in International Economic Relations System. Topic 10. World Finance in International Economic Relations System. Topic 11. Trade Wars and Trade Disputes in International Economic Relations System. Topic 12. International negotiations in the context of the evolution of international economic relations. Topic 13. National negotiation differences. Topic 14. International integration processes and place of Ukraine in this processes.</i></p>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in sphere of laws and mechanisms of international economic relations, trade wars and conflicts, practical skills of organization and conduct of international negotiations. Students will get acquainted with the best practices in the field of international economic relations, modern forms of their activation, national features of the organization and conduct of international negotiations.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include knowledge:</i></p> <ul style="list-style-type: none"> <li><i>- of modern international economic relations;</i></li> <li><i>- of environment of international economic relations;</i></li> <li><i>- of laws governing international economic relations;</i></li> <li><i>- of the preconditions for trade wars and conflicts, the means of their settlement; assessment of the state of foreign trade, currency and credit and production and investment policy of Ukraine and the world;</i></li> <li><i>- conducting a comparative analysis of threats and benefits for domestic enterprises in entering different segments of international commodity, financial, foreign exchange markets.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- in research and exploration, processing and analysis of information on factors influencing the international economic relations of Ukraine;</i></li> <li><i>- gain skills to work in a team in preparing and conducting business negotiations</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/2-En.-International-economic-relations-2021-2022.doc">http://ied.kpi.ua/wp-content/uploads/2021/08/2-En.-International-economic-relations-2021-2022.doc</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

## ACCOUNTING IN FOREIGN COUNTRIES

<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B1, B2 The course is based on the knowledge acquired by students while studying the disciplines "Fundamentals of Economic Theory".</i>
<b>Scope of the course</b>	<i>In the process of studying this course, the following topics will be considered: Topic 1. Common principles and accounting systems. Topic 2. Financial statements, its content and interpretation. Topic 3. Cash accounting. Topic 4. Accounting for settlements with debtors. Topic 5. Accounting for inventories. Topic 6. Accounting for long-term assets. Topic 7. Accounting for financial investments and consolidated reporting. Topic 8. Accounting for short-term liabilities. Topic 9. Accounting for long-term liabilities. Topic 10. Accounting for equity and profit distribution in corporations. Topic 11. Fundamentals of management accounting.</i>
<b>Rationale</b>	<i>The purpose of the discipline is to develop students' skills to comprehensively understand the essence of the accounting process of the economic activities of companies of various forms of ownership, taking into account the norms of International Financial Reporting Standards and the specifics of the accounting process in different countries.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>- methodology for accounting for assets, equity and liabilities in accordance with International Accounting and Financial Reporting Standards;</li> <li>- features of the organization of the accounting process in foreign companies;</li> <li>- the essence of accounting methods and procedures related to the accumulation, analysis, systematization and storage of accounting information, considering the legislation of foreign countries;</li> <li>- methodology for the preparation and analysis of the company's financial reporting forms in accordance with International Financial Reporting Standards and considering the specifics of individual countries;</li> <li>- features of the legal regulation of international economic relations arising between business entities;</li> <li>- the basics of the methodology of taxation of income of legal entities and individuals in foreign countries.</li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>- draw up accounting entries, considering the peculiarities of accounting in foreign countries;</li> <li>- use the methodology of accounting for inventories using various methods,</li> <li>- organize accounting of the company's financial investments using the cost method, methods of participation in capital and the method of consolidation;</li> <li>- prepare consolidated financial statements;</li> <li>- draw up and analyse forms of financial statements in accordance with international financial reporting standards and considering the specifics of a particular country;</li> <li>- use the methodology of management accounting.</li> </ul>
<b>Instructional Materials</b>	<i>1. Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Accounting-in-foreign-countries-2021-2022.pdf">http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Accounting-in-foreign-countries-2021-2022.pdf</a> 2. <a href="https://ela.kpi.ua/handle/123456789/41139">https://ela.kpi.ua/handle/123456789/41139</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

FINANCIAL MANAGEMENT	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The course is based on the knowledge acquired by students while studying the disciplines "Economic Theory", "Macroeconomics", "Microeconomics", "Money and Credit", "Finance", "Financial Market", "Enterprise Finance".</i></p>
<b>Scope of the course</b>	<p><i>The scope of the course includes the study of the following issues:</i></p> <p><i>Topic 1. Theoretical and organizational foundations of financial management</i></p> <p><i>Topic 2. The system of financial management</i></p> <p><i>Topic 3. Determining the value of money over time and its use in financial calculations</i></p> <p><i>Topic 4. Cash flow management</i></p> <p><i>Topic 5. Enterprise profit management</i></p> <p><i>Topic 6. Asset management. Cost and optimization of capital structure</i></p> <p><i>Topic 7. Investment management</i></p> <p><i>Topic 8. Financial risk management</i></p> <p><i>Topic 9. Analysis of financial statements</i></p> <p><i>Topic 10. In-house financial forecasting and planning</i></p> <p><i>Topic 11. Anti-crisis financial management at the enterprise</i></p>
<b>Rationale</b>	<i>The purpose of the discipline "Financial Management" is to train specialists in economics, the formation of their system of knowledge, ability to manage the finances of enterprises; mastering by students of professional knowledge and skills in operational and investment activities; use of acquired knowledge and skills to develop strategies and tactics of behaviour of the state and companies in the field of financial support of economic entities.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- the essence of the main categories of financial management;</i></li> <li><i>- methodological bases of financial management;</i></li> <li><i>- features of financial risk management;</i></li> <li><i>- methods of neutralization of financial risks in the business activities of the business entity;</i></li> <li><i>- application of crisis management tools for cash flows, profits, investments, assets;</i></li> <li><i>- methods of determining the value of capital and mastering ways to optimize its structure, etc.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course, students should be able to:</i></p> <ul style="list-style-type: none"> <li><i>- analyze the indicators of quantitative assessment of cash flows of the entity;</i></li> <li><i>- prepare primary documents for analysis of financial statements, etc. ;</i></li> <li><i>- manage financial flows and current financial needs of the enterprise;</i></li> <li><i>- apply methods of neutralization of financial risks in the economic activity of the business entity;</i></li> <li><i>- determine the value of money over time through the use of methodological tools of evaluation and their application in financial calculations;</i></li> <li><i>- determine the cost of capital to optimize its structure, etc.</i></li> </ul>
<b>Instructional Materials</b>	<p><i>Syllabus: <a href="http://ied.kpi.ua/uk/archives/4084">http://ied.kpi.ua/uk/archives/4084</a></i></p> <p><i>Lecture material, learning materials, reference book:</i></p> <p><i><a href="https://classroom.google.com/u/1/c/Mjl2ODU5ODg0MTU0">https://classroom.google.com/u/1/c/Mjl2ODU5ODg0MTU0</a></i></p>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Taxation	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International economy</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, International Trade, Finance, Macroeconomic, Microeconomic</i>
<b>Scope of the course</b>	<p><i>TOPIC 1. The system of state taxation</i></p> <p><i>TOPIC 2. Tax policy. The role of taxes in regulating the state economy.</i></p> <p><i>TOPIC 3. Indirect taxes, their characteristics</i></p> <p><i>TOPIC 4. Direct taxes, their characteristics</i></p> <p><i>TOPIC 5. Environmental tax, resource fee.</i></p> <p><i>TOPIC 6. Local taxes</i></p> <p><i>TOPIC 7. State policy in the field of combating tax evasion.</i></p>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in sphere of using the tools of tax policy; calculation and payment of taxes and fees, calculation economic indicators that characterize tax systems.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include knowledge:</i></p> <ul style="list-style-type: none"> <li><i>- of tax-related terminology;</i></li> <li><i>- of theories of taxation;</i></li> <li><i>-of the economic essence of taxes and fees;</i></li> <li><i>- of elements of taxes: subject (payer) and carrier, object and base of taxation, tax rate, procedure of tax calculation, tax period, term and procedure of tax payment, term and procedure of reporting on calculation and payment of tax;</i></li> <li><i>- of tax functions;</i></li> <li><i>- of structures of the state tax system;</i></li> <li><i>- of principles of taxation;</i></li> <li><i>- of features of direct and indirect taxes;</i></li> <li><i>- of features of value added tax, excise tax, duties, corporate income tax, personal income tax, environmental tax;</i></li> <li><i>- of features of collecting local taxes and fees;</i></li> <li><i>- of the mechanism of the state's struggle against tax evasion.</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: calculate tax liabilities for direct and indirect taxes; analyzing the impact of taxes on the financial results of enterprises.</i>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/2-En.-Taxation-2021-2022.doc">http://ied.kpi.ua/wp-content/uploads/2021/08/2-En.-Taxation-2021-2022.doc</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

STATE REGULATION OF ECONOMY	
<b>Restrictions</b>	051 Economy / 0311 Economics
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	4
<b>ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Department of International Economics
<b>Assumed knowledge and prerequisites</b>	English B1, B2. "Macroeconomics", "Business Economics", "Finance", "Statistics", "International Economics" are the supporting disciplines for studying the educational component "State Regulation of Economy".
<b>Scope of the course</b>	The discipline belongs to the cycle of disciplines of professional and practical training (at the choice of students). TOPIC 1. State regulation of the economy: the concept, characteristics of goals, objectives, principles. Methods of state regulation of the economy. TOPIC 2. Objects and subjects of state regulation of the economy, their functions. Regulatory and legal support of state regulation of the economy of Ukraine. TOPIC 3. Risk-oriented approach in state regulation of the economy. TOPIC 4. Currency regulation of international economic transactions in Ukraine. TOPIC 5. Protection of the rights of subjects of foreign economic activity of Ukraine. TOPIC 6. State regulation of export-import of goods. TOPIC 7. State regulation of export-import of services. TOPIC 8. State regulation of labor migration. TOPIC 9. State regulation of capital migration. TOPIC 10. Ukraine in international rankings
<b>Rationale</b>	The purpose of the educational component is to form students' competencies: to understand the problems of state regulation of the economy, the basics of the modern economy at the macro and international levels; to explain economic and social processes and phenomena on the basis of theoretical models of economic regulation, analyze and interpret the results; to apply economic and mathematical methods and models to solve economic problems.
<b>Learning outcomes</b>	According to the requirements of the educational component, students after mastering the credit module must demonstrate the following learning outcomes: - the essence of the concept of "state regulation of the economy", approaches to its definition; - subjects and objects of state regulation of the economy; - principles of state regulation of the economy; - regulatory and legal support of state regulation; - instruments of state regulation of the economy; - tools for regulating export-import activities; - conditions and methods of settlements for export-import operations; - requirements and responsibilities.
<b>Competencies and skills</b>	According to the requirements of the educational component, students after mastering the credit module must demonstrate the following learning outcomes: - to analyze the dynamics and structure of exports and imports of goods and services of the country; - to determine the indicators of export and import operations efficiency; - to calculate the prices of proposals for foreign trade contracts; - to substantiate the most optimal methods, means of payment and forms of payment under international contracts; - to determine the final price of the international contract according to different basic conditions.
<b>Instructional Materials</b>	Syllabus <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/1-Ua.-Macroeconomika-2021-2022.pdf">http://ied.kpi.ua/wp-content/uploads/2021/09/1-Ua.-Macroeconomika-2021-2022.pdf</a>
<b>Mode of delivery</b>	lectures/workshops/tutorials
<b>End-of-semester control</b>	Test

International Consulting	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The course is based on the knowledge acquired by students while studying the disciplines "Business Economics", "Enterprise Finance", "Management", "Economic Analysis of International Business".</i></p>
<b>Scope of the course</b>	<p><i>In the lectures will aim to cover the following topics:</i></p> <ol style="list-style-type: none"> <li><i>1. Essential characteristics and evolution of international consulting</i></li> <li><i>2. The concept of consulting services</i></li> <li><i>3. Development of the world market of consulting services.</i></li> <li><i>4. National consulting markets</i></li> <li><i>5. Organizational and economic aspects of consulting.</i></li> <li><i>6. Position and role of the consultant in the consulting process.</i></li> <li><i>7. Involvement of a consultant in the client organization.</i></li> <li><i>8. Personnel policy and organizational culture of consulting companies</i></li> <li><i>9. Organization of the consultant's work</i></li> <li><i>10. Management of consulting business</i></li> <li><i>11. Marketing and pricing in consulting</i></li> <li><i>12. Methods of counseling.</i></li> <li><i>13. Consulting technology.</i></li> <li><i>14. Features of consulting different types of enterprises</i></li> </ol>
<b>Rationale</b>	<i>The purpose of the discipline is to master the knowledge of the basics of consulting, the specifics of the organization of consulting business given the trends and prospects for the development of national consulting markets.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- to acquire knowledge of the theory of consulting, legal and methodological foundations of the organization and implementation of consulting activities, the principles of interaction between the consultant and the client organization;</i></li> <li><i>- to get acquainted with the development trends of national markets for consulting services and the evolution of consulting services;</i></li> <li><i>- to get acquainted with the experience of well-known international consulting associations and companies.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- collect, process, analyse the information needed to solve the consulted problem;</i></li> <li><i>- to formulate a problem, set tasks and identify typical errors at the stage of diagnosis;</i></li> <li><i>- information and analytical study of clients, their partners and competitors in the implementation of the consulting project;</i></li> <li><i>- substantiate and forecast options for the development of enterprises and organizations of all forms of ownership and scale of activity;</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-Economic-analysis-of-international-business.-Functional-and-cost-analysis-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-Economic-analysis-of-international-business.-Functional-and-cost-analysis-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



INTERNATIONAL INNOVATIVE ACTIVITY	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (or equal language level)</i>
<b>Scope of the course</b>	<p><i>The purpose of the course is to form student's competencies in the sphere of international innovation activity, in particular the ability to:</i></p> <ul style="list-style-type: none"> <li><i>– apply scientific, analytical, methodological tools for managing innovation both at the enterprise level and at the international level;</i></li> <li><i>– develop and manage innovative projects;</i></li> <li><i>– substantiate management decisions on effective development and intensification of the innovation process.</i></li> </ul>
<b>Rationale</b>	<i>The course will be useful for anyone who wants to learn more about innovations, to understand the forms of innovation activity, to acquire knowledge on the formation, activation and management of innovation process both at the enterprise level and internationally.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– the main approaches and forms of international innovation activity;</i></li> <li><i>– effective methods of innovation management;</i></li> <li><i>– evaluating the economic efficiency of innovations;</i></li> <li><i>– measures to stimulate innovation activity both at the enterprise level and at the international level.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– establish the basic directions to increase innovative activity of the enterprise;</i></li> <li><i>- identification of preconditions and obstacles to the implementation of international innovation activities;</i></li> <li><i>– application of organizational and economic measures for the implementation of innovations.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, additional learning materials</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

International Investment Activity	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	Department of International Economics.
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i> <i>The discipline "International Investment Activity" is taught after studying the disciplines "International Economics", "International Finance", "Investment".</i>
<b>Scope of the course</b>	<i>The content of the discipline</i> <i>Topic 1. The essence of international investment activity</i> <i>Topic 2. Factors and motivation of international investment activities</i> <i>Topic 3. Regulation of international investment activities</i> <i>Topic 4. Development of the international investment market in the era of globalization</i> <i>Topic 5. International activities in the stock market</i> <i>Topic 6. International bond market</i> <i>Topic 7. Derivative securities</i> <i>Topic 8. Real investment in the system of international agreements</i> <i>Topic 9. Investment strategies in the global environment</i>
<b>Rationale</b>	<i>The purpose of the discipline is to develop students' understanding of the laws of international investment, knowledge formation and acquisition of analytical skills in the field of foreign and foreign investment.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>- <i>identify patterns of international investment activity;</i></li> <li>- <i>to create an analytical system in the field of foreign investment, including in the domestic legal field;</i></li> <li>- <i>analysis and formation of the international investment portfolio;</i></li> <li>- <i>assessment of quantitative characteristics of international direct and portfolio investments;</i></li> <li>- <i>analysis of profitability and risk of securities in international markets and portfolios of international investments.</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>- <i>be guided in the legislative framework of international investment activities;</i></li> <li>- <i>analyse global investment trends;</i></li> <li>- <i>evaluate the effectiveness of state and supranational regulation of investment markets;</i></li> <li>- <i>assess the profitability of various investment instruments;</i></li> <li>- <i>determine the impact of exchange rates on the return on international investment.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus- <a href="http://ied.kpi.ua/wp-content/uploads/2021/10/2-En.-IIA_syllabus2021.docx">http://ied.kpi.ua/wp-content/uploads/2021/10/2-En.-IIA_syllabus2021.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



International Economic Development Strategies	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	Department of International Economics.
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i> <i>The discipline is taught after studying the disciplines "International Project Management", "Economic Measurement of Sustainable Development".</i>
<b>Scope of the course</b>	<i>The content of the discipline</i> <i>Topic 1. Strategies of economic development in the system of international economic relations</i> <i>Topic 2. Economic development as an indicator of economic transformation</i> <i>Topic 3. Features of development strategies of leading states</i> <i>Topic 4. Variability of choice of economic development strategies</i> <i>Topic 5. Variability of modern macroeconomic policies</i> <i>Topic 6. Strategies for international economic development of post-socialist countries</i> <i>Topic 7. Development strategies of countries with a constitutional monarchy</i> <i>Topic 8. Strategies of macro-regional integration associations</i> <i>Topic 9. International coordination of economic policies</i>
<b>Rationale</b>	<i>The purpose of the discipline is to form students' competence to systematize national strategies of economic development according to various parameters, to identify problematic issues and to form decisions regarding the adjustment of such strategies.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <i>- the essence and format of international economic development strategies, basic models of economic development;</i> <i>- trends in international economic development of countries, regional entities, international organizations;</i> <i>- development of measures aimed at the development of national economies;</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <i>- evaluate economic development strategies;</i> <i>- analyze trends in economic development of countries;</i> <i>- identify and assess problems of economic development of countries;</i> <i>- formulate proposals for improving economic development strategies;</i> <i>- to substantiate the choice of organizational processes of management of the international economic activity of regions, branches, interbranch complexes;</i> <i>-determine the priorities for the formation of modern international economic policy;</i> <i>-calculate indicators for evaluating the effectiveness of international strategies for economic development of individual countries.</i>
<b>Instructional Materials</b>	<i>Syllabus- <a href="http://ied.kpi.ua/wp-content/uploads/2021/10/2-En.SED_syllabus2021.docx">http://ied.kpi.ua/wp-content/uploads/2021/10/2-En.SED_syllabus2021.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Strategic Enterprise Management	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English /Italian /French</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (or equal language level)</i>
<b>Scope of the course</b>	<p><i>The purpose of the course is to form student's competence to solve complex specialized tasks and practical problems in the sphere of strategic management of the enterprise, in particular the ability to:</i></p> <ul style="list-style-type: none"> <li><i>– apply a scientific approach to the formation and justification of effective strategies in the economic activity of enterprises;</i></li> <li><i>– formulate professional tasks in the field of strategic management, to choose appropriate directions of development, to form the purposes and to substantiate the corresponding methods for their decision, considering available resources;</i></li> <li><i>– think critically and generate new ideas for business management and effective enterprise development strategy;</i></li> <li><i>– collect, analyze and process statistical data, scientific and analytical materials that are necessary to solve complex economic problems, to draw sound conclusions based on them;</i></li> <li><i>– conduct research at the high scientific level.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in the sphere of strategic management of the enterprises.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– features of strategic management in modern conditions;</i></li> <li><i>– methods of analysis of the external and internal environment of the enterprise;</i></li> <li><i>– principles and methods of developing enterprise strategy;</i></li> <li><i>– modern methodology of strategic enterprise management</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– analyze strategic and current tasks, identify priority goals and effectively manage them;</i></li> <li><i>– determine correctly the sequence of changes depending on the situation, plan and organize strategy of the enterprise;</i></li> <li><i>– choose effective management methods depending on the life cycle of the enterprise;</i></li> <li><i>– manage the process of development and implementation of enterprise's strategy at all levels;</i></li> <li><i>– use analytical methods to assess the status of the enterprise and stimulate its development.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/2-En.-Strategic-enterprice-management-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/09/2-En.-Strategic-enterprice-management-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

## MANAGEMENT OF INTERNATIONAL BUSINESS PROJECTS. INDUSTRY 4.0

<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>Prerequisite for studying the discipline is mastering the following disciplines: "Economic Theory", "Microeconomics", "Macroeconomics", "Business Economics", "Finance", "Management", "Competition and Competitiveness of the International Business".</i></p>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1.1. Processes and Challenges of Industry 4.0.</i></p> <p><i>Topic 1.2. Methods of business project management in the conditions of Industry 4.0.</i></p> <p><i>Topic 1.3. Substantiation of expediency of innovative business project.</i></p> <p><i>Topic 2.1. International business project life cycle.</i></p> <p><i>Topic 2.2. System of interests and competencies of project participants.</i></p> <p><i>Topic 2.3. Project-oriented management software.</i></p> <p><i>Topic 3.1. Optimization of quality, cost and duration of the project.</i></p> <p><i>Topic 3.2. Project team and communications management.</i></p> <p><i>Topic 3.3. Contract and project risk management.</i></p>
<b>Rationale</b>	<p><i>The purpose of the discipline is the formation of students' abilities: a comprehensive understanding of the content of project management of enterprises of various forms of ownership; analyze specific economic situations and solve practical problems related to project management, taking into account the challenges of Industry 4.0; aggregate information, calculate summary performance indicators of international business projects and perform their economic interpretation.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- understand the theoretical and methodological, methodological and organizational aspects of project management in the era of Industry 4.0;</i></li> <li><i>- know the principles of implementation of competitive business projects on the basis of technological superiority and innovation;</i></li> <li><i>- have professional terminology in the field of business project management;</i></li> <li><i>- understand the features of different approaches to the development of organizational structures for managing international projects;</i></li> <li><i>- be able to apply methods of network and calendar planning of projects and methods of organizing the activities of project groups, taking into account the team roles of participants;</i></li> <li><i>- know the procedure of project risk assessment;</i></li> <li><i>- know the basics of planning, ensuring and quality control of projects;</i></li> <li><i>- be able to identify the main software products that are suitable for use in project management to solve specific problems.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Study of the credit module "Management of international business projects. Industry 4.0" promotes the formation of students' systematic understanding of project-oriented activities of enterprises and the specifics of project management, which can serve as a basis for forming a system of knowledge on effective initiation, planning, development, implementation and completion of business projects in further professional activities.</i></p>
<b>Instructional Materials</b>	<p><i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/10/2-En.-Management-of-International-business-projects.-Industry-4.0-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/10/2-En.-Management-of-International-business-projects.-Industry-4.0-2021-2022.docx</a></i></p>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Economic Theories of Nobel Laureates	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Third level (PhD)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The prerequisite for the study of the discipline are the following disciplines: "World Economy", "Social Philosophy", "Pedagogical Acmeology", "Mechanisms of integration into the international research space".</i></p>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1. The essence of the Nobel Prize in economics.</i></p> <p><i>Topic 2. Neo-Keynesian direction of Nobel laureates in economic theory.</i></p> <p><i>Topic 3. Neoclassical direction of Nobel laureates in economic theory.</i></p> <p><i>Topic 4. The development of neoliberalism in the economic theories of Nobel laureates.</i></p> <p><i>Topic 5. Neo-institutionalism in the economic theories of Nobel laureates.</i></p> <p><i>Topic 6. Formation of Nobel Prize winners in behavioral economics.</i></p> <p><i>Topic 7. The latest technologies of applied analysis in the economic theory of Nobel laureates.</i></p> <p><i>Topic 8. Nobel laureates of today and their economic theories.</i></p>
<b>Rationale</b>	<i>The purpose of the discipline is to form in students systematic knowledge of the content of scientific achievements in the field of economics Nobel Prize winners and their impact on the development of modern trends in economic thinking, philosophy of management, scientific marketing, which were recognized worldwide.</i>
<b>Learning outcomes</b>	<i>The discipline "Economic Theories of Nobel Laureates" serves as a means of forming in graduate students a systematic understanding of world-class scientific achievements in the field of economics, creates an opportunity to analyze and evaluate the impact of economic theories of Nobel laureates on the world economy. orally and in writing.</i>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- apply the acquired knowledge of the basic economic theories of Nobel laureates in the process of scientific research;</i></li> <li><i>- use the basic provisions of economic theories of Nobel laureates for the development and adoption of management decisions at the level of the country, region or enterprise;</i></li> <li><i>- to determine the prospects for the development of countries, regions, enterprises, taking into account the basic provisions of economic theories of Nobel laureates.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, additional learning materials</i>
<b>Mode of delivery</b>	<i>lectures/workshops /tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

## Mechanisms of Integration into the International Research Space

<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Third level (PhD)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The main prerequisite for the study of the discipline is the study of disciplines "Organization of research and innovation", "Change Management and Business Transformation".</i></p>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1. Integration processes in international research.</i></p> <p><i>Topic 2. Prerequisites for the development of integration processes.</i></p> <p><i>Topic 3. Research of stages of formation of integration processes.</i></p> <p><i>Topic 4. Scientific achievements on the role and place of integration in modern international relations.</i></p> <p><i>Topic 5. Integration associations in research.</i></p> <p><i>Topic 6. Development of integration processes in Europe.</i></p> <p><i>Topic 7. Globalization as a process of global integration.</i></p> <p><i>Topic 8. International studies of integration processes and current crises.</i></p> <p><i>Topic 9. Ukraine in integration processes.</i></p>
<b>Rationale</b>	<i>The purpose of the discipline is to form in students a comprehensive understanding of the content of the mechanisms of integration into the international research space, as well as algorithms for setting and solving problems of international technical partnership in the conditions of Industry 4.0.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <p><i>Understand the stages, forms, trends of scientific and technical process</i></p> <p><i>Master the theoretical foundations and practical skills of integration in the international research space</i></p> <p><i>Determine the life cycle of technical and technological innovations</i></p> <p><i>Introduce the main mechanisms of integration of organizations in the international research space;</i></p> <p><i>To determine the possibilities of commercialization of the developed technology on the foreign markets of scientific and technical products in the conditions of international cooperation;</i></p> <p><i>Master the methods of assessing the investment attractiveness of a knowledge-intensive project;</i></p> <p><i>To determine the mechanism of resource provision of innovation activity in the conditions of Industry 4.0</i></p> <p><i>Identify features and use funding opportunities for research projects and groups from external sources.</i></p>
<b>Competencies and skills</b>	<i>The discipline "Mechanisms of integration into the international research space" lays the foundation for students to master the problems of developing mechanisms of international academic cooperation on the basis of scientific, technical and commercial partnership. The study of the discipline contributes to the formation of students' systematic understanding of knowledge-intensive activities of man, enterprises and organizations, as well as the specifics of managing scientific initiatives on the basis of international development. This can serve as a basis for creating a system of knowledge on the effective initiation, planning, development, implementation and completion of international research projects.</i>
<b>Instructional Materials</b>	<i>Syllabus, additional learning materials</i>
<b>Mode of delivery</b>	<i>lectures/workshops /tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Ukrainian Language for Professional Purposes	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Ukrainian language, literature and culture</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1. Language as a social phenomenon. The state language is the language of professional communication</i></p> <p><i>Topic 2. Fundamentals of Ukrainian language culture.</i></p> <p><i>Topic 3. Linguistic features of functional styles.</i></p> <p><i>Topic 4. Scientific style in the stylistic system of the Ukrainian language.</i></p> <p><i>Topic 5. Academic culture, academic integrity.</i></p> <p><i>Topic 6. The art of writing academic texts.</i></p> <p><i>Topic 7. Communication as a tool of professional activity</i></p> <p><i>Topic 8. Rhetoric and the art of presentation.</i></p> <p><i>Topic 9. The culture of oral professional communication.</i></p>
<b>Rationale</b>	<i>The purpose of the discipline is the ability to apply knowledge of Ukrainian and foreign languages in order to ensure the effectiveness of professional communication, to increase the level of academic culture.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- the main stages of formation, formation and development of the Ukrainian language;</i></li> <li><i>- features of genres of scientific style of modern Ukrainian literary language;</i></li> <li><i>- basic norms of modern Ukrainian literary language;</i></li> <li><i>- basic concepts and fundamental values of academic integrity, its impact on academic culture and quality of education</i></li> <li><i>- sources of scientific information and methods of information retrieval;</i></li> <li><i>- laws and basic means of communication;</i></li> <li><i>- requirements for writing and design of academic texts;</i></li> <li><i>- rules of registration of references and citations in academic works.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>The course is aimed at developing students' skills:</i></p> <ul style="list-style-type: none"> <li><i>- adhere to the norms of the culture of oral and written speech</i></li> <li><i>- to correct professional texts in accordance with the norms of the Ukrainian language and the norms of the New spelling;</i></li> <li><i>- fluent in the language of scientific and official business styles;</i></li> <li><i>- work with professional texts, using dictionaries of different types;</i></li> <li><i>- identify and prevent various forms of violations of academic integrity;</i></li> <li><i>- conclude documents;</i></li> <li><i>- use a variety of verbal and nonverbal means of influencing the interlocutor during professional communication.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



History of Ukrainian Culture	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>History</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <ol style="list-style-type: none"> <li><i>1 Introduction to the discipline "History of Ukrainian culture"</i></li> <li><i>2. The culture of primitive society and ancient civilizations</i></li> <li><i>3. Culture of Kievan Rus and Galicia-Volyn principality in the context of European medieval culture</i></li> <li><i>4 Ukrainian culture of the XIV-first half of the XVII century</i></li> <li><i>5 Cultural life in Ukraine in the second half of the seventeenth and eighteenth centuries.</i></li> <li><i>6. Ukrainian culture of the XIX century. - early twentieth century</i></li> <li><i>7. Revival of Ukrainian culture in the national-democratic revolution (1917-1920)</i></li> <li><i>8. Culture of Soviet Ukraine.</i></li> <li><i>9. Cultural processes in modern Ukraine. Relationship between Ukrainian and world cultures.</i></li> </ol>
<b>Rationale</b>	<i>The purpose of studying the discipline - the formation of future specialists of historical and national consciousness, universal spiritual values; national and religious tolerance, respect for the culture and customs of different peoples; raising the general educational and cultural level of student youth.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- general information about the cultural and historical process;</i></li> <li><i>- features of cultural epochs, their spiritual values and priorities;</i></li> <li><i>- main events, dates of the most significant achievements in the development of culture of the Ukrainian people at different stages of history;</i></li> <li><i>- names, main milestones of life and creative activity of outstanding figures of Ukrainian culture and their contribution to the development of world science;</i></li> <li><i>- main directions of development of education, science and culture of national minorities of Ukraine;</i></li> <li><i>- activities of the eastern and western Ukrainian diaspora to preserve ethnic identity.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>The course is aimed at developing students' skills:</i></p> <ul style="list-style-type: none"> <li><i>- in accordance with the prescribed skills in educational programs of specialties and specializations;</i></li> <li><i>- use the latest technologies to work with sources of historical information, independently analyze and summarize them;</i></li> <li><i>- to establish causal links between events and phenomena in the history of Ukrainian culture;</i></li> <li><i>- analyze problematic and debatable issues, formulate their own assessments and versions;</i></li> <li><i>- to realize the value of monuments of the history of Ukrainian culture and to promote their preservation;</i></li> <li><i>- to realize the role and place of Ukrainian culture;</i></li> <li><i>- to master the models of adequacy of social and professional contacts in the conditions of intercultural communication, tolerance in interethnic communication.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

History of Economics and Economic Concept	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Section 1. History of economic development and economic thought of the ancient world</i></p> <p><i>Section 2. The origin of economics and economic thought</i></p> <p><i>Section 3. Monetarism and mercantilism - the first economic schools</i></p> <p><i>Section 4. Classical political economy: origin, development, evolution</i></p> <p><i>Section 5. History of modern economics and economic thought</i></p>
<b>Rationale</b>	<p><i>The purpose of studying the discipline is:</i></p> <ul style="list-style-type: none"> <li><i>- comprehensively understand the processes, principles and patterns of development of economic forms and economic institutions in foreign countries and in Ukraine in different historical periods;</i></li> <li><i>- to increase their own economic culture in the field of economy;</i></li> <li><i>- to aggregate knowledge about the content and features of the evolution of basic economic doctrines.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- the content of the main categories and economic theories;</i></li> <li><i>- the essence of the methods of historical and economic research;</i></li> <li><i>- methods of collecting, processing, organizing information about economic phenomena and processes;</i></li> <li><i>- features of economic development of individual countries and economic systems;</i></li> <li><i>- methods of compiling and analyzing forecasts of economic systems;</i></li> <li><i>- features of economic relations that arise between economic entities;</i></li> <li><i>- on the development of programs of economic and social development of the country and individual economic entities;</i></li> <li><i>- practical application of the conclusions of economic theory to ensure the economic development of Ukraine and individual economic systems.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>The course is aimed at developing students' skills:</i></p> <ul style="list-style-type: none"> <li><i>- use methods of historical analysis of economic processes;</i></li> <li><i>- to determine the manifestations of economic phenomena and processes;</i></li> <li><i>- organize research on economic activity;</i></li> <li><i>- to make economic substantiations, explanations of economic phenomena and processes;</i></li> <li><i>- critically comprehend the approaches of different scientific schools and traditions and adapt them to the current state and current challenges of Ukraine's economic development;</i></li> <li><i>- scientifically substantiate the relevance, theoretical and practical significance of the chosen topic of research;</i></li> <li><i>- use existing information systems and technologies, in particular statistical monitoring, in economic analysis.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-History-of-Economics-and-Economic-Thought-2021-2022.pdf">http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-History-of-Economics-and-Economic-Thought-2021-2022.pdf</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>



Mathematics for Economists	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3,5/4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<i>The content of the discipline</i> <i>Section 1. Linear algebra</i> <i>Section 2. Vector algebra and analytic geometry</i> <i>Section 3. Border and derivative</i> <i>Section 4. Functions of many variables</i>
<b>Rationale</b>	<i>The purpose of the discipline is to form in students a system of theoretical knowledge and practical skills on the basics of mathematical apparatus, basic methods of quantitative measurement of randomness of factors influencing any process, the principles of mathematical statistics used in planning, organizing and managing production, evaluation product quality, system analysis of economic structures and technological processes, skills of mathematical research of applied problems, in particular construction of economic and mathematical models.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <i>- basic principles and tools of the mathematical apparatus;</i> <i>- methodologies of multifactor mathematical analysis.</i>
<b>Competencies and skills</b>	<i>The course is aimed at developing students' skills:</i> <i>- ability to apply knowledge in practical situations;</i> <i>- apply the acquired theoretical knowledge to solve practical problems and interpret the obtained results meaningfully;</i> <i>- be able to think abstractly, apply analysis and synthesis to identify key characteristics of economic systems of different levels, as well as the behavior of their subjects.</i>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test/Exam</i>

Informatics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Section 1. Introductory part. Subject and tasks of the discipline "Informatics".</i></p> <p><i>Section 2. General information about the PC.</i></p> <p><i>Section 3. Classification of PC software.</i></p> <p><i>Section 4. The concept of information and computer technology, information systems.</i></p> <p><i>Section 5. Modern office suites.</i></p> <p><i>Chapter 6. The structure of the MS Office package.</i></p> <p><i>Chapter 7. Basics of computer graphics.</i></p> <p><i>Section 1. Subroutines, coroutines, interpreting programs.</i></p> <p><i>Section 2. Introduction to the VB language</i></p> <p><i>Section 3. Classification of data types in VB.</i></p> <p><i>Section 4. Structured VB language operators.</i></p> <p><i>Section 5. Structured data types.</i></p> <p><i>Section 6. The concept of macros.</i></p>
<b>Rationale</b>	<p><i>The purpose of the discipline is to form:</i></p> <ul style="list-style-type: none"> <li><i>- ability to apply knowledge in practical situations;</i></li> <li><i>- skills of using information and communication technologies.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>• principles of construction and operation of computers;</i></li> <li><i>• personal computer software and computer networks;</i></li> <li><i>• algorithmization of computational processes;</i></li> <li><i>• modern information and communication technologies in professional activities.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>The course is aimed at developing students' skills:</i></p> <ul style="list-style-type: none"> <li><i>• apply the acquired theoretical knowledge to solve practical problems and meaningfully interpret the results;</i></li> <li><i>• use information and communication technologies to solve socio-economic problems, prepare and submit analytical reports.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Regional Economics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise Management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <ol style="list-style-type: none"> <li><i>1. Theoretical foundations of regional economy</i></li> <li><i>2. Basic concepts of regional economy. Development of theories of regional economy</i></li> <li><i>3. Forms of location and territorial organization of productive forces</i></li> <li><i>4. Natural resource potential in the regional economy</i></li> <li><i>5. Labor potential in the regional economy</i></li> <li><i>7. Economic zoning</i></li> <li><i>8. Regions in a competitive market environment</i></li> <li><i>9. Theoretical foundations of state regional economic policy</i></li> <li><i>10. Modern Urban and Regional Economics</i></li> </ol>
<b>Rationale</b>	<i>Discipline Purpose is to explore and discuss the problem of regional economic disparities.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- economic laws and categories related to the location of productive forces and the regional economy;</i></li> <li><i>- the main features of a modern market economy and features of the regional location of productive forces; the prospects for structural changes in the economy;</i></li> <li><i>- sectoral and territorial structure of the national economy and methods of substantiation of the location of production and investment.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>The course is aimed at developing students' skills:</i></p> <ul style="list-style-type: none"> <li><i>- analyze the economic situation in the country;</i></li> <li><i>- describe the economic laws and categories related to the location of productive forces;</i></li> <li><i>- determine the dynamics of production by major industries and product groups;</i></li> <li><i>- analyze production volumes by main industries and product groups;</i></li> <li><i>- to determine the limits of the most effective state intervention in the deployment of productive forces at the regional level;</i></li> <li><i>- create a general model of intersectoral and territorial relations for a particular industry or product group;</i></li> <li><i>- analyze the factors of the location of individual production.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-Regionalna-ekonomika-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-Regionalna-ekonomika-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Money and Credit	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Theoretical and applied economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1. The essence and functions of money</i></p> <p><i>Topic 2. Concepts of the origin of money</i></p> <p><i>Topic 3. Money circulation and money supply</i></p> <p><i>Topic 4. Money market</i></p> <p><i>Topic 5. Monetary systems</i></p> <p><i>Topic 6. Inflation and monetary reforms</i></p> <p><i>Topic 7. Currency market and currency systems</i></p> <p><i>Topic 8. Quantitative theory of money and modern monetarism</i></p> <p><i>Topic 9. Credit in a market economy</i></p> <p><i>Topic 10. Financial intermediaries of the money market</i></p> <p><i>Topic 11. Central banks</i></p> <p><i>Topic 12. Commercial banks</i></p> <p><i>Topic 13. International monetary institutions</i></p>
<b>Rationale</b>	<p><i>The subject of the discipline:</i></p> <ul style="list-style-type: none"> <li><i>- the main economic categories and laws of money and credit;</i></li> <li><i>- goals and instruments of monetary policy of the state;</i></li> <li><i>- features of modern forms of credit and their functions;</i></li> <li><i>- the essence of money as an economic category and their role in the process of social reproduction;</i></li> <li><i>- laws and bylaws governing monetary, credit and banking activities.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- economic laws and categories related to the location of productive forces and the regional economy;</i></li> <li><i>- the main features of a modern market economy and features of the regional location of productive forces; the prospects for structural changes in the economy;</i></li> <li><i>- sectoral and territorial structure of the national economy and methods of substantiation of the location of production and investment.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>The course is aimed at developing students' skills:</i></p> <ul style="list-style-type: none"> <li><i>- use economic terminology, explain the basic concepts of micro- and macroeconomics;</i></li> <li><i>- explain the models of socio-economic phenomena in terms of fundamental principles and knowledge based on an understanding of the main directions of development of economics;</i></li> <li><i>- apply the acquired theoretical knowledge to solve practical problems and meaningfully interpret the results;</i></li> <li><i>- choose the most rational solutions for obtaining banking services and calculate the effectiveness of their various options;</i></li> <li><i>- analyze the main indicators of money turnover and money supply, their structure and dynamics;</i></li> <li><i>- to form and process the necessary information base on the monetary and banking systems of the country.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Basics of a Healthy Lifestyle	
<b>Restrictions</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Physical education</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1. General basics of health</i></p> <p><i>Topic 2. Health effects of behavior</i></p> <p><i>Topic 3. Nutrition and health</i></p> <p><i>Topic 4. Health and age of human life</i></p> <p><i>Topic 5. Motor activity of people of different ages, genders</i></p> <p><i>Topic 6. Individual programs of motor activity</i></p>
<b>Rationale</b>	<i>The main purpose of the discipline "Fundamentals of a healthy lifestyle" is to form students' motivation to lead a healthy lifestyle and the ability to use different types and forms of physical activity for active recreation and a healthy lifestyle.</i>
<b>Learning outcomes</b>	<p><i>The ability to demonstrate the following exemplary educational objectives will be evaluated in this course:</i></p> <ul style="list-style-type: none"> <li><i>- on the basics of human health and methods of its assessment;</i></li> <li><i>- the impact of health effects of behavior on the quality of human life;</i></li> <li><i>- on the principles of nutrition;</i></li> <li><i>- the effect of motor activity on the human body;</i></li> <li><i>- on the basics of application of motor activity programs of different directions;</i></li> <li><i>- from the peculiarities of motor activity of persons of different ages, health conditions.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course, students should be able to demonstrate:</i></p> <p><i>apply the components of a healthy lifestyle in order to achieve personal and professional goals;</i></p> <ul style="list-style-type: none"> <li><i>- to use means of motor activity for the purpose of formation of personal health;</i></li> <li><i>- to exercise control and self-control over the state of the organism;</i></li> <li><i>- analyze and plan the means of physical activity in order to improve physical and mental performance, the development of physical qualities.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Foreign Language	
<b>Restrictions</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>English language</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <ol style="list-style-type: none"> <li><i>1. Expansion of the lexical minimum.</i></li> <li><i>2. Lexical minimum of business contacts, business meetings, meetings.</i></li> <li><i>3. Speech etiquette of communication, language models of treatment, politeness, apology, agreement, etc.</i></li> <li><i>4. Business correspondence with the use of background cultural and regional knowledge.</i></li> <li><i>5. Linguistic features of writing abstracts for a speech at the conference.</i></li> </ol>
<b>Rationale</b>	<i>The purpose of the discipline is to acquire knowledge, improve skills and develop skills to effectively and adaptively use a foreign language in various situations of social, educational and academic communication in accordance with the needs of intercultural communication.</i>
<b>Learning outcomes</b>	<i>The subject of the discipline "Foreign language" is defined as a set of language and speech knowledge, skills and abilities necessary for the formation of foreign language communicative competence in the social and professional spheres.</i>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course, students should be able to demonstrate:</i></p> <ul style="list-style-type: none"> <li><i>- speaking: to maintain interaction and express themselves in a number of contexts, for example: to follow the main points of a broad discussion; express or formulate their own views and opinions in an informal discussion; support conversation or discussion, even when there are pauses for grammatical and lexical planning and correction; without preparation to enter into conversations on familiar topics; begrudge; show initiative in interviews / consultations; summarize and express their opinion about a short story, article, conversation, discussion, interview or document and answer the following questions about the details; conduct a prepared interview; describe the process, giving detailed instructions; to exchange the accumulated factual information about everyday life and unusual events that in some way relate to personal and intercultural interests;</i></li> <li><i>- listening: understand the factual information by determining both the general content of the message, academic lectures, instructions, etc., and specific details of audio materials on topics of personal and intercultural interest;</i></li> <li><i>- reading: understand the main content of formal written communication and pass this information to others; receive information from the authentic text of a large volume or more texts in order to find the necessary information or to determine the subject of the publication; understand the general content of a written message using metatext units; be able to use the context in order to establish the meaning of a part of the text or individual lexical units;</i></li> <li><i>- letters: to write consecutive coherent texts on a number of familiar topics within their range of interests, summarizing and evaluating information and arguments from a number of sources; write a message or work with a well-developed argument, giving evidence "for" and "against" a certain point of view and explaining the advantages and disadvantages of different options; summarize information and arguments from a number of sources.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Management	
<b>Restrictions</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>ECTS credits</b>	<i>3,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise Management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <ol style="list-style-type: none"> <li><i>1. The essence, role and methodological foundations of management</i></li> <li><i>2. Laws, patterns and principles of management</i></li> <li><i>3. History of management development</i></li> <li><i>4. Organizations as objects of management</i></li> <li><i>5. Functions and technology of management</i></li> <li><i>6. Planning as a general function of management</i></li> <li><i>7. Organization as a general function of management</i></li> <li><i>8. Motivation as a general function of management</i></li> <li><i>9. Control as a general function of management</i></li> <li><i>10. Regulation as a general function of management</i></li> <li><i>11. Methods of management</i></li> <li><i>12. Management decisions</i></li> <li><i>13. Information and communication in management</i></li> <li><i>14. Leadership and leadership</i></li> <li><i>15. Responsibility and ethics in management</i></li> <li><i>16. Organizational change and management efficiency</i></li> </ol>
<b>Rationale</b>	<p><i>The purpose of the discipline "Management" is the formation of students' competencies:</i></p> <p><i>The ability to be critical and self-critical.</i></p> <p><i>The ability to act socially responsibly and consciously.</i></p>
<b>Learning outcomes</b>	<p><i>After mastering the discipline, students must demonstrate the following learning outcomes:</i></p> <p><i>Regularities of formation and functioning of the management system of the organization.</i></p> <p><i>Methods of making and justifying management decisions.</i></p>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course, students should be able to demonstrate:</i></p> <p><i>Use professional reasoning to convey information, ideas, problems and ways to solve them to professionals and non-specialists in the field of economic activity.</i></p> <p><i>Demonstrate basic skills of creative and critical thinking in research and professional communication.</i></p> <p><i>Show skills of independent work, demonstrate critical, creative, self-critical thinking.</i></p> <p><i>Demonstrate the ability to act socially responsibly and consciously on the basis of ethical principles, to appreciate and respect cultural diversity, individual differences.</i></p>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



Socially Responsible Marketing	
<b>Restrictions</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>ECTS credits</b>	<i>3,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Industrial Marketing</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The discipline «Socially responsible marketing» grounds on the next disciplines as “History of Economics and Economic Thought”, “Economic Theory”, “Management”.</i></p>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1.1. The concepts of management. Socially responsibility aspects</i></p> <p><i>Topic 1.2. The definition of “marketing”, ‘socially responsible marketing’ and ‘the marketing concept’.</i></p> <p><i>Topic 1.3. The levels of strategic planning and marketing-and-product strategies.</i></p> <p><i>Topic 1.4. The marketing activity structure</i></p> <p><i>Topic 1.5. The situation analysis</i></p> <p><i>Topic 1.6. Marketing research</i></p> <p><i>Topic 2.1. Product policy as the part of the marketing mix</i></p> <p><i>Topic 2.2. Marketing of innovations</i></p> <p><i>Topic 2.3. Pricing policies and Sale policy as parts of the marketing mix</i></p> <p><i>Topic 2.4. Integrative marketing communications as parts of the marketing mix</i></p> <p><i>Topic 2.5. Communication process management</i></p> <p><i>Topic 2.6. Marketing management and social responsibility</i></p> <p><i>Topic 2.7. International markets and digital marketing</i></p> <p><i>Topic 2.8. The brand equity concept. Creating success long-term growth</i></p> <p><i>Topic 2.9. The future of socially responsible marketing</i></p>
<b>Rationale</b>	<i>The discipline objective is to form among students a marketing mindset and a global world outlook to economic relations and economic activities on local and international markets on the basis of social responsibility.</i>
<b>Learning outcomes</b>	<p><i>After mastering the discipline, students must demonstrate the following learning outcomes:</i></p> <ul style="list-style-type: none"> <li><i>- to conduct marketing analysis of the marketing environment, SWOT-analysis, the competitive analysis;</i></li> <li><i>- to define a marketing problem or a marketing opportunity and form alternative marketing decisions for their resolving or realization;</i></li> <li><i>- to develop and conduct marketing research for making marketing decisions;</i></li> <li><i>- to develop marketing strategies and the marketing mix on the basis of social responsibility;</i></li> <li><i>- to manage a range of products and services, adapt it to consumers’ needs and motivations and develop a product policy;</i></li> <li><i>- to develop and manage innovative startup-projects for new global markets.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course, students should be able to demonstrate:</i></p> <ul style="list-style-type: none"> <li><i>- To reproduce moral, cultural, scientific values, multiply the achievements of society in the socioeconomic sphere, and promote healthy lifestyles;</i></li> <li><i>- To identify sources and understand the methodology of determination and methods for obtaining socioeconomic data, collect and analyze the necessary information, calculate economic and social indicators.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-SocResponsibleMarketing-2021-2022.pdf">http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-SocResponsibleMarketing-2021-2022.pdf</a>.</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



Microeconomics	
<b>Restrictions</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economics and entrepreneurship</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The discipline «Socially responsible marketing» grounds on the next disciplines as "History of Economics and Economic Thought", "Economic Theory", "Management".</i></p>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Section 1. Theory of consumer behavior</i></p> <p><i>Section 2. Theory of the enterprise: production and costs</i></p> <p><i>Section 3. Theory of market structures</i></p> <p><i>Section 4. Factors markets, equilibrium and efficiency of the market system</i></p>
<b>Rationale</b>	<p><i>The purpose of the discipline - the formation of students' knowledge of the theory of consumer behavior, economic entities in conditions of limited resources, market structures, markets, factors of production, as well as the basics of choosing directions and ways to use resources for various competing purposes; study of basic concepts, categories and means of microeconomic analysis; Acquisition of practical skills of application of basic principles and tools of microeconomic analysis to modeling of behavior of the basic microeconomic subjects, performance of the technical and economic calculations connected with the substantiation of optimization of decisions of microeconomic systems.</i></p>
<b>Learning outcomes</b>	<p><i>After mastering the discipline, students must demonstrate the following learning outcomes:</i></p> <ul style="list-style-type: none"> <li><i>- Know and use economic terminology, explain the basic concepts of micro- and macroeconomics;</i></li> <li><i>- Understand the principles of economic science, especially the functioning of economic systems.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course, students should be able to demonstrate:</i></p> <ul style="list-style-type: none"> <li><i>- Use professional reasoning to convey information, ideas, problems and ways to solve them to specialists and non-specialists in the field of economic activity;</i></li> <li><i>- Explain the models of socio-economic phenomena in terms of fundamental principles and knowledge based on an understanding of the main directions of economic science;</i></li> <li><i>- Understand the main features of the modern world and national economy, institutional structure, areas of social, economic and foreign economic policy of the state;</i></li> <li><i>- To analyze the functioning and development of economic entities, to determine the functional areas, to calculate the relevant indicators that characterize the effectiveness of their activities;</i></li> <li><i>- Perform interdisciplinary analysis of socio-economic phenomena and problems in one or more professional areas, taking into account the risks and possible socio-economic consequences;</i></li> <li><i>- Be able to think abstractly, apply analysis and synthesis to identify key characteristics of economic systems at different levels, as well as the behavior of their subjects.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Optimization Methods and Models	
<b>Restrictions</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The discipline «Socially responsible marketing» grounds on the next disciplines as “History of Economics and Economic Thought”, “Economic Theory”, “Management”.</i></p>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <ol style="list-style-type: none"> <li><i>1. Economic system. Graphical method of linear optimization problems (LIM).</i></li> <li><i>2. Simplex method of solving evil.</i></li> <li><i>3. The theory of duality in EVIL. Basic properties.</i></li> <li><i>4. Economic interpretation of the main and conjugate evil.</i></li> <li><i>5. Problems of transport type (ZTT).</i></li> <li><i>6. Improving the freight plan.</i></li> <li><i>7. STT with the wrong balance.</i></li> <li><i>8. Integer optimization problems.</i></li> <li><i>9. Method of two-sided integer approximations.</i></li> <li><i>10. Statement of economic problems of nonlinear optimization (EIE).</i></li> <li><i>11. Economic formulation and formalization of problems with fractional-linear objective function.</i></li> <li><i>12. The method of Lagrange multipliers for solving external evaluation.</i></li> <li><i>13. The essence of dynamic programming.</i></li> <li><i>14. Stochastic optimization.</i></li> <li><i>15. Quadratic programming.</i></li> <li><i>16. Gradient methods for solving external evaluation.</i></li> <li><i>17. Basic concepts of game theory.</i></li> <li><i>18. Reduction of the matrix game to the problem of linear optimization.</i></li> </ol>
<b>Rationale</b>	<p><i>The purpose of the discipline is to form in students a system of theoretical knowledge and practical skills on the basics of mathematical apparatus, basic methods of quantitative measurement of randomness of factors influencing any process, the principles of mathematical statistics used in planning, organizing and managing production, evaluation product quality, systematic analysis of economic structures and technological processes, skills of mathematical research of applied problems, in particular the construction of economic and mathematical models.</i></p>
<b>Learning outcomes</b>	<p><i>After mastering the discipline, students must demonstrate the following learning outcomes:</i></p> <ul style="list-style-type: none"> <li><i>- methodologies and tools for building different types of economic and mathematical models;</i></li> <li><i>- means of using mathematical modeling to solve economic problems.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course, students should be able to demonstrate:</i></p> <ul style="list-style-type: none"> <li><i>- apply appropriate economic and mathematical methods and models to solve economic problems;</i></li> <li><i>- apply the acquired theoretical knowledge to solve practical problems and meaningfully interpret the results.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

## Theory of Probability and Mathematical Statistics

<b>Restrictions</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Mathematical analysis and probability theory</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 The discipline is based on the discipline "Mathematics for Economists"</i>
<b>Scope of the course</b>	<i>The content of the discipline</i> <i>Topic 1 Event. Probability of the event.</i> <i>Topic 2 The use of combinatorics formulas in the classical scheme</i> <i>Topic 3 Conditional probability of the event. Independence of events</i> <i>Topic 4 The formula of total probability</i> <i>Topic 5 Bayesian formulas</i> <i>Topic 6 Discrete random variables</i> <i>Topic 7 Continuous random variables</i> <i>Topic 8 Random vectors</i> <i>Topic 9 Functions of random variables</i> <i>Topic 10 Mathematical expectation of a random variable</i> <i>Topic 11 The variance of a random variable</i> <i>Topic 12 Numerical characteristics of the relationship of random variables</i> <i>Topic 13 The law of large numbers</i> <i>Topic 14 Limit theorems of probability theory</i> <i>Topic 17 Generalization and presentation of data</i> <i>Topic 18 Numerical estimates of distribution parameters</i>
<b>Rationale</b>	<i>The purpose of the discipline is to provide students with knowledge and practical skills to build simplified models of the studied economic phenomena.</i>
<b>Learning outcomes</b>	<i>In his practice, the economist deals with many uncertainties, both fundamental and unprincipled, ie related to the incompleteness of information. One approach to the study of such uncertainties is to reduce the phenomena under consideration to their simplified models.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course, students should be able to demonstrate:</i> <ul style="list-style-type: none"> <li><i>- apply appropriate economic and mathematical methods and models to solve economic problems;</i></li> <li><i>- apply the acquired theoretical knowledge to solve practical problems and meaningfully interpret the results;</i></li> <li><i>- be able to use data, provide arguments, critically evaluate logic and draw conclusions from scientific and analytical texts on economics;</i></li> <li><i>- perform interdisciplinary analysis of socio-economic phenomena and problems in one or more professional areas, taking into account the risks and possible socio-economic consequences;</i></li> <li><i>- be able to think abstractly, apply analysis and synthesis to identify key characteristics of economic systems of different levels, as well as the behavior of their subjects;</i></li> <li><i>- show skills of independent work, demonstrate critical, creative, self-critical thinking.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Finances	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The course is based on the knowledge acquired by students while studying the disciplines "Macroeconomics", "Microeconomics", "History of Economics and Economic Thought", "Fundamentals of Economic Theory".</i></p>
<b>Scope of the course</b>	<p><i>Lectures are aimed to cover the following topics:</i></p> <p><i>Topic 1. The essence of finance, their functions and role</i></p> <p><i>Topic 2. Genesis and evolution of finance</i></p> <p><i>Topic 3. Financial law and financial policy</i></p> <p><i>Topic 4. Financial system management</i></p> <p><i>Topic 5. Finance of business entities</i></p> <p><i>Topic 6. Taxes. The tax system</i></p> <p><i>Topic 7. The budget in the economic system of the state. State budget revenues and expenditures.</i></p> <p><i>Topic 8. Local finances</i></p> <p><i>Topic 9. State social insurance</i></p> <p><i>Topic 10. Public credit and public debt</i></p> <p><i>Topic 11. Financial market</i></p>
<b>Rationale</b>	<i>The purpose of studying the discipline is the formation of students' abilities: to identify knowledge and understanding of the problems of state finance, the basics of the functioning of modern finance at the macro level; explain economic processes and phenomena on the basis of theoretical models of management of centralized and decentralized funds of state funds.</i>
<b>Learning outcomes</b>	<i>The purpose of the discipline is to form students' abilities: financial terminology; basic concepts of finance; the economic essence of public finance; public finance functions; structures of the financial system of the state; features of functioning of separate spheres and links of financial system; composition of financial resources of the state; types of financial policy of the state; elements of the financial mechanism and methods of its functioning; economic essence and functions of taxes; tax classification; principles of building the tax system of the state; socio-economic essence of the state budget; the structure of the budget system and the budget system of the state; budget process; the essence of national trust funds and their purpose; the economic essence of public credit, its form; principles of public debt management; the essence and role of regional finance in economic development; economic essence of state insurance, its functions; content and structure of the financial market; essence of international finance.</i>
<b>Competencies and skills</b>	<i>After mastering the discipline, students must demonstrate the following results teaching: analyze the functioning and development of economic entities in the financial market, calculate the relevant indicators that characterize the effectiveness of their activities; to carry out financial planning of enterprise activity; identify sources and understand the methodology for determining and methods of obtaining financial data, collect and analyze the necessary information, calculate economic and social indicators; perform interdisciplinary analysis of socio-economic phenomena and problems in the financial sphere.</i>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Logic	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Philosophy</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1. The subject and meaning of logic</i></p> <p><i>Topic 2. Principles of dialectical logic</i></p> <p><i>Topic 3. Laws of logic</i></p> <p><i>Topic 4. The concept as an elementary form of thinking</i></p> <p><i>Topic 5. Judgments</i></p> <p><i>Topic 6. Inference</i></p> <p><i>Topic 7. A simple categorical syllogism</i></p> <p><i>Topic 8. Hypothesis, analogy, induction</i></p> <p><i>Topic 9. Proof and refutation</i></p> <p><i>Topic 10. Methods of inductive research</i></p> <p><i>Topic 11. The nature of thinking</i></p> <p><i>Topic 12. Complex inferences</i></p>
<b>Rationale</b>	<p><i>The main purpose of the discipline «Logic» is the formation of the ability to solve complex specialized problems and practical problems of applied physics and nanomaterials, which involves the application of theories and methods of physics, mathematics and engineering and is characterized by complexity and uncertainty, which involves studying and applying the laws of logic: the law of identity, the exclusion of contradictions, the exclusion of the third, sufficient grounds and detailed acquaintance with the rules of construction and methods of effective use in the process of thinking such logical forms as concepts, judgments, inferences. Forms of thinking are considered not only as a tool for learning about the world, but also as a means of improving the effectiveness of communication.</i></p>
<b>Learning outcomes</b>	<p><i>Program learning outcome:</i></p> <ul style="list-style-type: none"> <li><i>- Present the results of research and development to specialists and non-specialists, argue their own position.</i></li> <li><i>- Know the goals of sustainable development and the opportunities of their professional field to achieve them, including in Ukraine.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>After mastering the discipline, students must demonstrate the following results teaching: to reconcile own thinking with the laws of logic; competently form concepts and give them the correct definitions; analyze reasoning in terms of compliance with their rules of logic; use the rules of constructing formal-logical theories to express scientific results; correctly prove and disprove; avoid formal contradictions; correctly formulate and prove hypotheses; isolate sophisms and paralogisms and find logical errors; use the rules of scientific induction to construct generalizations.</i></p>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Philosophy	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Philosophy</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1.1. Philosophy as a theoretical basis of consciousness, scientific knowledge and worldview.</i></p> <p><i>Topic 1.2. Classical philosophy: directions, schools, representatives.</i></p> <p><i>Topic 1.3. Non-classical philosophy: directions, schools, representatives.</i></p> <p><i>Topic 2.1. Philosophical meaning of the problem of existence.</i></p> <p><i>Topic 2.2. The specifics of human existence.</i></p> <p><i>Topic 2.3. Philosophical concept of consciousness.</i></p> <p><i>Topic 2.4. Philosophical foundations of cognition.</i></p> <p><i>Topic 2. 5. Philosophical understanding of social life.</i></p>
<b>Rationale</b>	<p><i>The purpose of studying the discipline is to form the ability to solve complex specialized problems and practical problems in various spheres of social activity, including professional practice, which are characterized by complexity and uncertainty of conditions, involving the use of general philosophical methodology, development of critical thinking and scientific worldview. as a theoretical (systematized) relation of the subject to the existing from the standpoint of the proper (necessary).</i></p>
<b>Learning outcomes</b>	<p><i>The course acquaints students with the history of the origin and development of philosophical thought, the main philosophical problems that will help determine the meaning and value of human life, their place in the modern information society, navigate social and political processes, form an idea of the scientific picture of the world. development of human consciousness, acquire and develop communication skills.</i></p>
<b>Competencies and skills</b>	<p><i>After mastering the discipline, students must demonstrate the following results teaching:</i></p> <ul style="list-style-type: none"> <li><i>- Ability to abstract thinking, analysis and synthesis</i></li> <li><i>- Ability to apply knowledge in practical situations</i></li> <li><i>- Ability to learn and master modern knowledge</i></li> <li><i>- Ability to generate new ideas (creativity)</i></li> <li><i>- Ability to be critical and self-critical</i></li> <li><i>- Ability to act on ethical considerations</i></li> <li><i>- Ability to act socially responsibly and consciously</i></li> <li><i>- Ability to preserve and multiply moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technology, use different types and forms of physical activity for active recreation and a healthy lifestyle</i></li> <li><i>- The ability to understand the social nature of human existence, its historicity, basic life values of the individual, the global problems of today.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



Statistics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economics and entrepreneurship</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i> <i>The course is based on the knowledge acquired by students while studying the disciplines "Mathematics for economists", "Informatics"</i>
<b>Scope of the course</b>	<i>In the lectures will aim to cover the following topics:</i> <i>Section I. Theory of Statistics: Topic 1.2. Statistics: concept, subject, method, organization. Topic 1.2. Statistical observation. Compilation and grouping of statistical data. Statistical distribution series. Topic 1.3. System of statistical indicators: absolute and relative values, average values, indicators of variation. Topic 1.4. Selective observation. Topic 1.5. Statistical study of the dynamics of socio-economic phenomena. Topic 1.6. Statistical study of the relationship between socio-economic phenomena. Topic 1.7. Index method in statistical research.</i> <i>Section II. Socio-economic statistics: Topic 2.1. Methodological bases of economic and social statistics. System of national accounts. Topic 2.2. Statistics of national wealth. Topic 2.3. Product statistics. Topic 2.4. Statistics of production costs and prices. Topic 2.5. Labor statistics. Topic 2.6. Population statistics and living standards.</i>
<b>Rationale</b>	<i>The purpose of the discipline is to form the ability to abstract thinking, analysis and synthesis; apply knowledge in practical situations; to search, process and analyze information from various sources.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <i>- theoretical and applied aspects of application of methods of statistical analysis of socio-economic phenomena and processes;</i> <i>- scientific principles of organization of statistics in Ukraine and outside it;</i> <i>- features of using the results of statistical research in economic activity.</i>
<b>Competencies and skills</b>	<i>The course is aimed at developing students' skills apply analytical and methodological tools to substantiate proposals and management decisions by various economic agents (individuals, households, enterprises and public authorities), identify sources and understand the methodology for determining and methods of obtaining socio-economic data, collect and analyze necessary information, calculate economic and social indicators.</i>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Econometrics	
<b>Restrictions (specialty for which the course is offered)</b>	051 Economy / 0311 Economics
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	2
<b>Number of ECTS credits</b>	5
<b>Language of study</b>	English
<b>Department</b>	Economic cybernetics
<b>Assumed knowledge and prerequisites</b>	English B2 The course is based on the knowledge acquired by students while studying the disciplines Mathematics for economists; Economic theory; Optimization methods and models.
<b>Scope of the course</b>	In the lectures will aim to cover the following topics: 1. Subject, purpose and tasks of econometrics. 2. Determination of estimates of parameters of empirical regression functions that simulate a monotonic process. 3. Prerequisites for the use of MNCs. 4. Estimation of the closeness and significance of the relationship between variables in the one-factor regression function. 5. The phenomenon of multicollinearity in multiple regression. 7. Construction of a general econometric model. 9. Assess the closeness and significance of the relationship between variables in multiple regression. 10. Construction of a model with autocorrelated residues. 11. The concept of homo- and heteroskedasticity. 12. Forecast for the model. 13. Construction of an econometric model based on a system of simultaneous structural equations (SOSR). 14. NMNC, 2MNC and 3MNC in estimating the parameters of econometric models, which are described using systems of equations. 15. Method of instrumental variables. 16. Models of distributed lag. 17. Distributed lag models.
<b>Rationale</b>	The purpose of the discipline is to form in students a system of theoretical knowledge and practical skills on the basics of mathematical apparatus, basic methods of quantitative measurement of randomness of factors influencing any process, the principles of mathematical statistics used in planning, organizing and managing production, evaluation product quality
<b>Learning outcomes</b>	Expected learning outcomes include: - ability to apply economic and mathematical methods and models to solve economic problems; - ability to predict on the basis of standard theoretical and econometric models of socio-economic processes.
<b>Competencies and skills</b>	The course is aimed at developing students' skills: - understand the principles of economic science, the peculiarities of the functioning of economic systems; - explain the models of socio-economic phenomena in terms of fundamental principles and knowledge based on an understanding of the main directions of development of economics; - Apply appropriate economic and mathematical methods and models to solve economic problems; - Use information and communication technologies to solve socio-economic problems, prepare and present analytical reports.
<b>Instructional Materials</b>	Syllabus, textbook
<b>Mode of delivery</b>	lectures/workshops/tutorials
<b>End-of-semester control</b>	Exam



International Economic Law	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Law</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 The course is based on the knowledge acquired by students while studying the disciplines International Economic Relations.</i>
<b>Scope of the course</b>	<i>In the lectures will aim to cover the following topics: Topic 1.1. International economic law and the system of international economic relations Topic 1.2. Sources of international economic law Topic 1.3. Subjects of international economic law and international economic relations Topic 2.1. Economic use of territory in international economic law Topic 2.2. Economic integration of states into international economic law Topic 2.3. Dispute settlement in international economic law Topic 2.4. International legal responsibility in international economic law Topic 3.1. International trade law Topic 3.2. International financial law Topic 3.3. International investment law Topic 3.4. The law of international economic assistance Topic 3.5. International labor (migration) law Topic 3.6. Trends in the development of international economic law</i>
<b>Rationale</b>	<i>The purpose of the course is to form abilities: - ability to realize their rights and responsibilities as a member of society, to realize the values of civil (democratic) society and the need for its sustainable development, the rule of law, human and civil rights and freedoms in Ukraine; - ability to apply knowledge in practical situations, in particular in the field of international economic assistance; - ability to learn and master modern knowledge, in particular for international legal regulation of IEA; - ability to act on the basis of ethical considerations (motives) in the field of legal regulation of the IEA.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: - data analysis methodologies using probability theory and mathematical statistics, focusing on modern areas of legal regulation of international economic regulation; - communications management; - patterns and trends in the development of international monetary and financial relations, in particular applying the system of international law and order in the world financial system.</i>
<b>Competencies and skills</b>	<i>The course is aimed at developing students' skills: - determine the mechanisms for collecting taxes, fees and other obligatory payments in accordance with current legislation, in particular in matters of international law; - calculate national taxes and fees and form a tax base using modern concepts of international economic law.</i>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Psychology	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Psychology and pedagogy</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>In the lectures will aim to cover the following topics:</i></p> <p><i>The content of the discipline</i></p> <p><i>Section 1. Subject and methods of psychology</i></p> <p><i>Section 2. Mental processes</i></p> <p><i>Section 3. Psychology of personality</i></p> <p><i>Section 4. Psychology of the group. Communication and interpersonal relationships</i></p>
<b>Rationale</b>	<p><i>The purpose of the discipline is to form students' abilities:</i></p> <ul style="list-style-type: none"> <li><i>- evaluate their own cognitive processes; psychological states and feelings in order to ensure effective and safe activities;</i></li> <li><i>- organize their own activities as part of collective activities;</i></li> <li><i>- to carry out psychological analysis of complex situations of interaction "personality-society", "personality-social group", "personality-personality";</i></li> <li><i>- use knowledge, deepen it and develop critical thinking;</i></li> <li><i>- reflect personal knowledge.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- features of cognitive, emotional and volitional, motivational spheres of mental life;</i></li> <li><i>- the ratio of natural and social factors in the development of the psyche;</i></li> <li><i>- forms and patterns of interpersonal interaction.</i></li> <li><i>- evaluate the level of development of own cognitive processes (feelings, perception, imagination, memory, thinking, speech, attention) and emotional-volitional processes (emotions, feelings, will) using appropriate methodological tools (test methods) and established criteria;</i></li> <li><i>- to assess the characteristics of their own mental states and feelings the level of satisfaction with the conditions, nature and results of professional and domestic activities;</i></li> <li><i>- use techniques for the development of volitional, communicative personality traits, manifestations of character traits;</i></li> <li><i>- analyze their own activities as part of a collective activity.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>The course is aimed at developing students' skills:</i></p> <ul style="list-style-type: none"> <li><i>- apply the acquired knowledge to analyze the psychological essence of various manifestations of behavior and activities of the individual;</i></li> <li><i>- apply methods for determining mental states and personality traits;</i></li> <li><i>- to assess the characteristics of their own mental states and feelings the level of satisfaction with the conditions, nature and results of professional and domestic activities;</i></li> <li><i>- use techniques for the development of volitional, communicative personality traits, manifestations of character traits.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Science of Law	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Law</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 The course is based on the knowledge acquired by students while studying the disciplines International economic law.</i>
<b>Scope of the course</b>	<p><i>In the lectures will aim to cover the following topics:</i></p> <p><i>Topic 1. Fundamentals of the theory of the state</i></p> <p><i>Topic 2. The general concept of law</i></p> <p><i>Topic 3. Norms of law</i></p> <p><i>Topic 4. Sources of law</i></p> <p><i>Topic 5. The system of law</i></p> <p><i>Topic 6. Implementation of law</i></p> <p><i>Topic 7. The concept of law and order. Offenses and legal liability</i></p> <p><i>Topic 8. The concept of civil law and civil relations</i></p> <p><i>Topic 9. Subjects of civil law</i></p> <p><i>Topic 10. Civil law agreements. Representation in civil law</i></p> <p><i>Topic 11. Obligatory law</i></p> <p><i>Topic 12. Fundamentals of family law of Ukraine</i></p> <p><i>Topic 13. Characteristics of labor relations</i></p> <p><i>Topic 14. Termination of employment</i></p> <p><i>Topic 15. Legal regulation of working hours and leisure time</i></p> <p><i>Topic 16. Labor discipline, disciplinary and material responsibility</i></p> <p><i>Topic 17. Legal regulation of labor disputes</i></p> <p><i>Topic 18. Administrative liability and other measures of administrative coercion</i></p>
<b>Rationale</b>	<i>The main goal is to form a system of knowledge of constitutional, family, labor, civil, criminal. administrative law.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- knowledge of their rights and responsibilities as a member of society, awareness of the values of civil society, the rule of law, human and civil rights and freedoms;</i></li> <li><i>- ability to describe the content of functional areas of the organization, including in the field of management and administration of industrial enterprises;</i></li> <li><i>- ability to assess the legal, social and economic consequences of the organization, including;</i></li> <li><i>- ability to demonstrate the ability to act socially responsible and socially consciously on the basis of ethical considerations (motives), respect for diversity and interculturalism.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>The course is aimed at developing students' skills:</i></p> <ul style="list-style-type: none"> <li><i>- ability to realize their rights and responsibilities as a member of society, to realize the values of civil (democratic) society and the need for its sustainable development, the rule of law, human and civil rights and freedoms in Ukraine;</i></li> <li><i>- ability to act socially responsibly and consciously;</i></li> <li><i>- ability to analyze and structure the problems of the organization, to form sound decisions;</i></li> <li><i>- understand the principles and norms of law and use them in professional activities.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

International Business	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise management</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The course is based on the knowledge acquired by students while studying the disciplines "Business Economics", "Political Economy", "Fundamentals of Economic Theory", "Macroeconomics", "Microeconomics".</i></p>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1. The essence of international business</i></p> <p><i>Topic 2. The main stages of international business development</i></p> <p><i>Topic 3. International business entities</i></p> <p><i>Topic 4. Types of international business</i></p> <p><i>Topic 5. Globalization</i></p> <p><i>Topic 6. Free economic zones and offshore zones</i></p> <p><i>Topic 7. International marketing complex</i></p> <p><i>Topic 8. Transnational Companies (TNCs)</i></p> <p><i>Topic 9. Franchising as a type of international business.</i></p> <p><i>Topic 10. International scientific and technical cooperation of industrial disasters.</i></p>
<b>Rationale</b>	<i>The purpose of studying the discipline "Fundamentals of International Business" is to form in students modern economic thinking and a system of special knowledge on the problems of international business development related to global influences.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- the essence of changes in the global economic environment;</i></li> <li><i>- features of behavior of international business structures in the global economic environment;</i></li> <li><i>- principles of formation of business behavior of companies in the global economic space;</i></li> <li><i>- indicators that determine the peculiarities of business behavior of international business structures in the global economic space.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- systematically analyze the international business environment, highlight globalization factors and global forms of development;</i></li> <li><i>- identify changes in the development of the international business environment;</i></li> <li><i>- to choose the optimal directions of development of international business structures for the corresponding changes in the global environment.</i></li> </ul>
<b>Instructional Materials</b>	<i>1. Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/10/1-En.-International-business-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/10/1-En.-International-business-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Customs Activity	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 The course is based on the knowledge acquired by students while studying the disciplines "National Economy", "Business Economics".</i>
<b>Scope of the course</b>	<i>This course aims to introduce and discuss a number of questions about customs business. In the lectures will aim to cover the following topics: 1. Customs business, sources of customs, customs policy. 2. The concept, content and structure of the customs regime. 3. Customs clearance of foreign economic transactions. 4. Customs payments. 5. The Harmonized Commodity Description and Coding Systems. 6. International state transportation of goods under customs control. Goods prohibited for import, export and transit. 7. The World Customs Organization (WCO). 8. Customs offenses. Smuggling. 9. Foreign experience in customs clearance.</i>
<b>Rationale</b>	<i>The training component promotes the development of professional experience in the operation of business, trade, stock exchange, logistics and customs structures, to achieve economic results.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: - calculate the customs value of goods; - identify and analyze the key characteristics of the customs system, assess their relationship with the national and world economies; - select and apply economic-mathematical and statistical methods for analysis, forecasting and optimization of phenomena and processes in the customs system; - apply methods of calculating taxes and mandatory payments and the procedure for their payment by enterprises of all forms of ownership and individuals; - demonstrate skills in compiling customs reports.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: - have the basic categories and concepts; - have a method of interaction between companies and the state at the foreign economic level; - select and justify the best methods of state customs and tariff policy; - conduct a systematic analysis of professional situations; - to analyze economic phenomena and processes in the field of state customs and tariff policy; - use the results of economic research in practice; - master the methods of customs clearance of export-import operations; - master the skills of customs control.</i>
<b>Instructional Materials</b>	<i>1. Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Custom-Business-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Custom-Business-2021-2022.docx</a> 2. Textbook - Customs business: lecture notes [Electronic Resource]: Teaching manual for the students Specialty 051 "Economics" / T. V. Ivanova; Igor Sikorsky Kyiv Polytechnic institute. – Kyiv : Igor Sikorsky Kyiv Polytechnic institute, 2021. – 160 p. <a href="https://ela.kpi.ua/handle/123456789/39767">https://ela.kpi.ua/handle/123456789/39767</a>.</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Foreign Language for Professional Purposes	
<b>Restrictions</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3/4</i>
<b>ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>English language</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <ol style="list-style-type: none"> <li><i>1. Presentation skills.</i></li> <li><i>2. Logistics</i></li> <li><i>3. Innovation</i></li> <li><i>4. Reviewing performance</i></li> <li><i>5. Takeovers and Mergers</i></li> <li><i>6. Managing a Project</i></li> <li><i>7. Teamwork</i></li> <li><i>8. Research paper</i></li> <li><i>9. Brands.</i></li> <li><i>10. Investment</i></li> </ol>
<b>Rationale</b>	<i>The purpose of the course is the formation of foreign language communicative competence, which is the standard for the preparation of bachelors. At this level, students are able to communicate effectively in typical educational and professional situations in accordance with the norms and cultural traditions of specialists in a particular field.</i>
<b>Learning outcomes</b>	<i>In the conditions of expansion of the international cooperation, realization of the international agreements and programs, there is a question of formation at future experts of foreign language communicative competence as a component of their professional competence.</i>
<b>Competencies and skills</b>	<i>This discipline is important for future professionals to study as it provides them with the necessary level of knowledge, skills and abilities of foreign language professional communication and ensures effective use of foreign language terminology in international cooperation taking into account the peculiarities of communication within the needs of the profession. The discipline covers the basic needs of document management, business correspondence and production negotiations in a foreign language.</i>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



International Accounts and Currency Operations	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>3,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International economy</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 The course is based on the knowledge acquired by students while studying the disciplines "Regional Economy", "National Economy"</i>
<b>Scope of the course</b>	<i>The scope of the course includes SECTION 1. FOREIGN EXCHANGE MARKET AND FOREIGN EXCHANGE TRANSACTIONS SECTION 2. INTERNATIONAL FORMS OF PAYMENTS SECTION 3. FOREIGN CURRENCY DEPOSITS AND FOREIGN EXCHANGE RISK MANAGEMENT SECTION 4. BANK GUARANTEE IN FINANCING FOREIGN TRADE AGREEMENTS SECTION 5. OPENING OF FOREIGN CURRENCY ACCOUNTS AND REGULATION OF FOREIGN CURRENCY TRANSACTIONS</i>
<b>Rationale</b>	<i>The purpose of the discipline "International Settlements and Foreign Exchange Transactions" is to form students' skills in the practice of performing international bank settlements and conducting foreign exchange transactions.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include knowledge:</i> <ul style="list-style-type: none"> <li>- mechanisms and tools for regulating the foreign exchange market;</li> <li>- basic principles of formation of the international currency market;</li> <li>- practical bases of quotation of foreign and national currency;</li> <li>- the main forms of lending, both abroad and in Ukraine;</li> <li>- places, roles, functions and tasks of international credit and financial institutions;</li> <li>- methodologies for organizing foreign exchange transactions by commercial banks.</li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>- to analyze the activities of currency regulation both as a whole and on individual grounds;</li> <li>- determine the impact of the exchange rate on export-import operations of the country;</li> <li>- to form skills of calculation of parity ratio of exchange rates, cross-rates, forward rates;</li> <li>- compare the costs of alternative methods of international borrowing to finance international settlements;</li> <li>- to determine the international form of settlements corresponding to the conditions of foreign economic activity;</li> <li>- use different methods of currency risk insurance;</li> <li>- to determine the regulatory priorities for the formation of modern international monetary policy;</li> <li>- substantiate the choice of foreign exchange transactions in the implementation of international economic activity by enterprises, firms and other legal entities or individuals.</li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Systems Technology	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International economy</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 The course is based on the knowledge acquired by students while studying the disciplines "Regional Economy", "National Economy"</i>
<b>Scope of the course</b>	<i>The scope of the course includes Topic 1. Technology of pig iron production. Topic 2. Steel production technology. Topic 3. Classification and properties of cast iron and steel Topic 4. Technology of production of non-ferrous metals. Topic 5: Technologies of heat treatment of metals and alloys Topic 6. Technologies for obtaining blanks by plastic deformation Topic 7. Production of blanks by casting and processing them in detail Topic 8. Technological processes of obtaining one-piece connections Topic 9. Technologies of machining of machine parts Topic 10. Physico-chemical methods of processing parts. Topic 11. Technological processes of production of building materials Topic 12. Technological processes of the woodworking industry</i>
<b>Rationale</b>	<i>The purpose of the course is to form in future specialists the concept of social production in relation to technological processes and equipment used in various industries, which differ in technological processes, material and production base, tools, professional staff and more.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include knowledge:</i> <ul style="list-style-type: none"> <li><i>- knowledge of the holistic perception of the functioning of the industrial complex;</i></li> <li><i>- knowledge of the general provisions of the technological process;</i></li> <li><i>- orientation of future practical activity of students on effective management;</i></li> <li><i>- knowledge of the basic physical and chemical essence of the phenomena which occur at reception and processing of raw materials and materials;</i></li> <li><i>- knowledge of the most common technologies and equipment in the manufacture of products.</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li><i>- ability to conduct a comprehensive analysis of the technological process of manufacturing products;</i></li> <li><i>- ability to determine and compare indicators of manufacturability;</i></li> <li><i>- ability to identify reserves in the technological process;</i></li> <li><i>- ability to determine the economic efficiency of the introduction into production of new technological developments, inventions, etc.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



ACCOUNTING IN FOREIGN COUNTRIES	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B1, B2 The course is based on the knowledge acquired by students while studying the disciplines "Fundamentals of Economic Theory".</i>
<b>Scope of the course</b>	<i>In the process of studying this course, the following topics will be considered: Topic 1. Common principles and accounting systems. Topic 2. Financial statements, its content and interpretation. Topic 3. Cash accounting. Topic 4. Accounting for settlements with debtors. Topic 5. Accounting for inventories. Topic 6. Accounting for long-term assets. Topic 7. Accounting for financial investments and consolidated reporting. Topic 8. Accounting for short-term liabilities. Topic 9. Accounting for long-term liabilities. Topic 10. Accounting for equity and profit distribution in corporations. Topic 11. Fundamentals of management accounting.</i>
<b>Rationale</b>	<i>The purpose of the discipline is to develop students' skills to comprehensively understand the essence of the accounting process of the economic activities of companies of various forms of ownership, taking into account the norms of International Financial Reporting Standards and the specifics of the accounting process in different countries.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>- methodology for accounting for assets, equity and liabilities in accordance with International Accounting and Financial Reporting Standards;</li> <li>- features of the organization of the accounting process in foreign companies;</li> <li>- the essence of accounting methods and procedures related to the accumulation, analysis, systematization and storage of accounting information, considering the legislation of foreign countries;</li> <li>- methodology for the preparation and analysis of the company's financial reporting forms in accordance with International Financial Reporting Standards and considering the specifics of individual countries;</li> <li>- features of the legal regulation of international economic relations arising between business entities;</li> <li>- the basics of the methodology of taxation of income of legal entities and individuals in foreign countries.</li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>- draw up accounting entries, considering the peculiarities of accounting in foreign countries;</li> <li>- use the methodology of accounting for inventories using various methods,</li> <li>- organize accounting of the company's financial investments using the cost method, methods of participation in capital and the method of consolidation;</li> <li>- prepare consolidated financial statements;</li> <li>- draw up and analyse forms of financial statements in accordance with international financial reporting standards and considering the specifics of a particular country;</li> <li>- use the methodology of management accounting.</li> </ul>
<b>Instructional Materials</b>	<i>1. Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Accounting-in-foreign-countries-2021-2022.pdf">http://ied.kpi.ua/wp-content/uploads/2021/08/1-En.-Accounting-in-foreign-countries-2021-2022.pdf</a> 2. <a href="https://ela.kpi.ua/handle/123456789/41139">https://ela.kpi.ua/handle/123456789/41139</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Life Safety and Civil Defence	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Labor protection, industrial and civil safety</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes the study of the following issues:</i></p> <p><i>Section 1. Life safety as a basic concept of sustainable development</i></p> <p><i>Section 2. Occupational safety as a guarantee of health and efficiency</i></p> <p><i>Section 3. Civil protection of the population and territories</i></p>
<b>Rationale</b>	<p><i>The purpose of the discipline is to form in higher education students the appropriate competencies to carry out professional activities in the specialty with mandatory compliance with safety requirements and labor protection standards, using the latest scientific and technological progress and international experience in safety, life, health and efficiency. ; formation of students' responsibility for personal and collective security in everyday conditions and during emergencies and martial law, taking into account the peculiarities of future professional activity in the primary position.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include knowledge about legislative, normative-legal, socio-economic, engineering-technical and sanitary-hygienic bases of life safety, labor protection and civil protection. Particular attention is paid to sanitary and hygienic requirements for working with computer equipment and the rights, responsibilities and behavior of the population in conditions of special and martial law.</i></p>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- act socially responsibly and socially consciously on the basis of ethical principles of marketing, respect for cultural diversity and values of civil society with respect for individual rights and freedoms;</i></li> <li><i>- to demonstrate responsibility in relation to moral, cultural, scientific values and achievements of society in professional marketing activities.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

INTERNATIONAL FINANCIAL SYSTEM 2	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>2,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 Course is based on the knowledge acquired by students while studying the disciplines "Economic Theory", "Macroeconomics", "Money and Credit", "Finance", "Financial Market", "Enterprise Finance", "International Economics".</i>
<b>Scope of the course</b>	<i>The scope of the course includes the study of the following issues: Topic 1. The system of international finance. Topic 2. The evolution of the world monetary system. Topic 3. The world financial market and its structure. Topic 4. Currency markets and currency transactions. Topic 5. Features of the European market. Topic 6. International investment market. Topic 7. International credit market and lending technologies. Topic 8. Finance of multinational corporations Topic 9. International settlements and balance of payments. Topic 10. Regulation of international monetary and financial relations. Topic 11. Debt in the system of international finance. Topic 12. Ukraine in the global financial market.</i>
<b>Rationale</b>	<i>The training component promotes the development of professional experience in to form students' abilities in financial analysis and practice, mastering professional knowledge and skills in the field of international finance and using the acquired knowledge, skills to develop tactics and strategies of state and company behavior in the international financial environment.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>– <i>the essence of the main categories of international finance;</i></li> <li>– <i>features of the functioning of the world financial market and its structure;</i></li> <li>– <i>methods of conducting foreign exchange transactions in the financial market;</i></li> <li>– <i>features of the functioning of the European market, namely: the eurocurrency market, capital market, bond market, euro currency market, gold market;</i></li> <li>– <i>development of lending technologies in the international credit market and credit syndication procedures: export and commercial loans;</i></li> <li>– <i>the essence of international balances and methods of calculating the balance of payments;</i></li> <li>– <i>regulation of international monetary and financial relations and cooperation of Ukraine with foreign donors on a bilateral and multilateral basis in the global financial market, etc.</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>– <i>choose the appropriate form of international settlements in the conduct of export-import operations;</i></li> <li>– <i>develop and make financial decisions related to operations in international financial markets, and in particular in the foreign exchange market in conditions of risk and uncertainty;</i></li> <li>– <i>have theoretical and practical aspects of international lending;</i></li> <li>– <i>analyze information and participate in the development of the company's financial strategy, be able to manage currency and credit risks;</i></li> <li>– <i>choose the necessary types of foreign exchange transactions in foreign trade agreements.</i></li> </ul>
<b>Instructional Materials</b>	<i>1. Syllabus: <a href="http://ied.kpi.ua/uk/archives/4084">http://ied.kpi.ua/uk/archives/4084</a> 2. <a href="https://classroom.google.com/u/1/c/MjI2ODU5NTQxMDgz">https://classroom.google.com/u/1/c/MjI2ODU5NTQxMDgz</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Logistics of International Transportations	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>3,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International economy</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i> <i>The course is based on the knowledge acquired by students while studying the disciplines "National Economy", "Economic Analysis of International Business".</i>
<b>Scope of the course</b>	<i>Topic 1. Logistics in the organization of international transport.</i> <i>Topic 2. The concept and methodological apparatus of logistics</i> <i>Topic 3. Objects of logistics management.</i> <i>Topic 4. Logistics operations and flow management in international activities.</i> <i>Topic 5. Concepts of logistics.</i> <i>Topic 6. Formation of the logistics system</i> <i>Topic 7. Procurement logistics</i> <i>Topic 8. Procurement logistics and placing orders</i> <i>Topic 9. Logistics of material flows in the field of production</i> <i>Topic 10. Logistic approach to the management of material flows in the field of circulation</i> <i>Topic 11. Inventory management in the logistics system</i> <i>Topic 12. Composition in logistics</i> <i>Topic 13. Transport logistics</i> <i>Topic 14. Integration of warehousing and transportation.</i> <i>Topic 15. Logistics in customer service</i> <i>Topic 16. Information logistics in Industry 4.0.</i> <i>Topic 17. Logistics of mediation in international business.</i> <i>Topic 18. Efficiency of logistics and the use of logistics in international activities</i>
<b>Rationale</b>	<i>The purpose of the discipline is the discipline of formation of future specialists in international economics of modern economic and managerial and logical-mathematical thinking and the system of knowledge about the general patterns of development of transport and logistics.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include knowledge: theoretical foundations of logistics systems management; general principles and patterns of integrated management of material, information, financial and other flows; principles of creation and functioning of logistics systems, optimal management of international logistics processes; methods of identifying logistics costs and assessing the level of efficiency of the logistics system; regulatory framework for the management of logistics systems at the national and international levels.</i>
<b>Competencies and skills</b>	<i>Skills:</i> <i>to form logistical problems and to choose methods of their solution; analyze the results obtained; to carry out segmentation of suppliers and consumers of logistics services taking into account the possibility of using hardware, software products, principles of Industry 4.0; to form transport orders and optimize them; provide proposals for improving transport and material flows in the company in the global dimension.</i>
<b>Instructional Materials</b>	<i>Syllabus</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Financial Activity of Enterprise	
<b>Restrictions</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>4</i>
<b>ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B1, B2. Prerequisite for the study of the discipline are normative disciplines: "Economic Theory", "Microeconomics", "Macroeconomics", "Business Economics", "Finance".</i>
<b>Scope of the course</b>	<i>The content of the discipline Topic 1. 1. Enterprise finance: essence, functions Topic 1.2. Cash settlements of enterprises Topic 1.3. Formation and distribution of profits Topic 1.4. Taxation of enterprises Topic 2.1. Financial aspects of the use of fixed assets and other non-current assets. Topic 2.2. Management of working capital of the enterprise. Topic 2.3. Financial planning at the enterprise. Topic 2.4. Financial analysis of enterprises. Topic 2.5. Investment activity of the enterprise.</i>
<b>Rationale</b>	<i>The purpose of the discipline is the formation of students' abilities: a comprehensive understanding of the essence of the financial mechanism of enterprises of different forms of ownership; analyze specific economic situations and solve practical problems related to the financial activities of the enterprise and affect the subjects of financial relations strategic and managerial decisions; aggregate information, calculate generalized indicators of the financial condition of the enterprise and perform their economic interpretation.</i>
<b>Learning outcomes</b>	<i>According to the requirements of the educational component, students after mastering the credit module must demonstrate the following learning outcomes:</i> <ul style="list-style-type: none"> <li>- the content of the main financial categories and indicators of the financial condition of the enterprise;</li> <li>- Features of the organization of corporate finance in Ukraine and at the international level;</li> <li>- enterprise processes related to the formation, distribution and use of funds.</li> </ul>
<b>Competencies and skills</b>	<i>According to the requirements of the educational component, students after mastering the credit module must demonstrate the following learning outcomes:</i> <ul style="list-style-type: none"> <li>- will have a method of conducting a financial analysis of the enterprise;</li> <li>- masters the skills of data processing of accounting and financial reporting;</li> <li>- will gain skills of financial analysis of the enterprise, will be able to calculate and determine the specific economic content of indicators of the financial condition of the enterprise;</li> <li>- will be able to solve specific practical tasks for the formation and distribution of enterprise profits;</li> <li>- to solve economic situations that arise in the process of taxation of enterprises;</li> <li>- will be able to conduct financial planning of the enterprise.</li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Functional-cost Analysis	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The course is based on the knowledge acquired by students while studying the disciplines "Business Economics", "Enterprise Finance", "Management", "Feasibility study of economic decisions", "International Economics", "Organization of production"</i></p>
<b>Scope of the course</b>	<p><i>In the lectures will aim to cover the following topics:</i></p> <p><i>Topic 1. The concept of functional-cost analysis</i></p> <p><i>Topic 2. Functional approach to production systems</i></p> <p><i>Topic 3. Organization of the FVA system</i></p> <p><i>Topic 4. Cost accounting in the FVA system</i></p> <p><i>Topic 5. The structure of costs in the FVA system</i></p> <p><i>Topic 6. Cost management</i></p> <p><i>Topic 7. Application of non-financial indicators in FVA</i></p> <p><i>Topic 8. Differentiated management of business processes in the enterprise</i></p>
<b>Rationale</b>	<i>The purpose of the discipline - to master the theoretical knowledge of functional and cost analysis of various objects, tools, methods of analysis in terms of different cost accounting systems.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- the essence and necessity of functional-cost analysis;</i></li> <li><i>- features of application of different methods of functional-cost analysis;</i></li> <li><i>- regularities of evolution of cost accounting systems of different levels and to reveal possibilities of application of FVA on their basis;</i></li> <li><i>- features of functional-cost analysis in relation to various objects;</i></li> <li><i>- systems of financial and non-financial indicators used in the framework of functional-cost analysis.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- collect, process, analyze the information necessary for the FVA;</i></li> <li><i>- identify potential objects of functional-cost analysis and formulate its objectives;</i></li> <li><i>- to be guided in the basic forms of realization of the functional-cost analysis;</i></li> <li><i>- focus on the classification of costs on various grounds;</i></li> <li><i>- be able to conduct functional-cost analysis in relation to various objects;</i></li> <li><i>- determine the role of functional-cost analysis in the cost management system;</i></li> <li><i>- to focus on methodological approaches to the implementation of functional-cost analysis.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-Economic-analysis-of-international-business.-Functional-and-cost-analysis-2021-2022.docx">http://ied.kpi.ua/wp-content/uploads/2021/09/1-En.-Economic-analysis-of-international-business.-Functional-and-cost-analysis-2021-2022.docx</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



International Economic Law	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Law</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>English B2</i></p> <p><i>The course is based on the knowledge acquired by students while studying the disciplines Jurisprudence, International Economic Relations, International Economic Activity of Ukraine.</i></p>
<b>Scope of the course</b>	<p><i>In the lectures will aim to cover the following topics:</i></p> <p><i>Topic 1.1. International economic law and the system of international economic relations</i></p> <p><i>Topic 1.2. Sources of international economic law</i></p> <p><i>Topic 1.3. Subjects of international economic law and international economic relations</i></p> <p><i>Topic 2.1. Economic use of territory in international economic law</i></p> <p><i>Topic 2.2. Economic integration of states into international economic law</i></p> <p><i>Topic 2.3. Dispute settlement in international economic law</i></p> <p><i>Topic 2.4. International legal responsibility in international economic law</i></p> <p><i>Topic 3.1. International trade law</i></p> <p><i>Topic 3.2. International financial law</i></p> <p><i>Topic 3.3. International investment law</i></p> <p><i>Topic 3.4. The law of international economic assistance</i></p> <p><i>Topic 3.5. International labor (migration) law</i></p> <p><i>Topic 3.6. Trends in the development of international economic law</i></p>
<b>Rationale</b>	<p><i>The purpose of the course is to form:</i></p> <ul style="list-style-type: none"> <li><i>- ability to realize their rights and responsibilities as a member of society, to realize the values of civil (democratic) society and the need for its sustainable development, the rule of law, human and civil rights and freedoms in Ukraine;</i></li> <li><i>- ability to apply knowledge in practical situations, in particular in the field of international economic assistance;</i></li> <li><i>- ability to learn and master modern knowledge, in particular for international legal regulation of IEA;</i></li> <li><i>- ability to act on the basis of ethical considerations (motives) in the field of legal regulation of the IEA.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- data analysis methodologies using probability theory and mathematical statistics, focusing on modern areas of legal regulation of international economic regulation;</i></li> <li><i>- communications management; ethics of business communication; Ukrainian language in the application of the system of international economic relations;</i></li> <li><i>- patterns and trends in the development of international monetary and financial relations, in particular applying the system of international law and order in the world financial system.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>The course is aimed at developing students' skills:</i></p> <ul style="list-style-type: none"> <li><i>- determine the mechanisms for collecting taxes, fees and other obligatory payments in accordance with current legislation, in particular in matters of international law;</i></li> <li><i>- calculate national taxes and fees and form a tax base using modern concepts of international economic law.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, textbook</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Startup-Projects Development	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1. Startup as a form of innovative business.</i></p> <p><i>Topic 2. Formation and development of a business idea and a startup product.</i></p> <p><i>Topic 3. Marketing of startups.</i></p> <p><i>Topic 4. Business modeling of a startup.</i></p> <p><i>Topic 5. Organization of startups from team to enterprise.</i></p> <p><i>Topic 6. Management of investment support of a startup.</i></p> <p><i>Topic 7. Startup business planning.</i></p> <p><i>Topic 8. Legal features of startups.</i></p> <p><i>Topic 9. Scaling and strategizing startups.</i></p>
<b>Rationale</b>	<i>The purpose of the course is to provide students with knowledge on the specifics of development and project management in the field of innovative products, starting from the idea and ending with a project ready for commercialization, taking into account the characteristics of the industrial market and industrial consumer</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <p><i>Formulate, analyze and synthesize solutions to scientific and practical problems.</i></p> <p><i>Develop, justify and make effective decisions on the development of socio-economic systems and management of economic entities.</i></p> <p><i>Develop socio-economic projects and a system of integrated actions for their implementation, taking into account their goals, expected socio-economic consequences, risks, legislative, resource and other constraints.</i></p> <p><i>Evaluate the results of their own work, demonstrate leadership skills and ability to manage staff and work in a team.</i></p> <p><i>Collect, process and analyze statistical data, scientific and analytical materials needed to solve complex economic problems.</i></p>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <p><i>Make effective decisions under uncertain conditions and requirements that require the application of new approaches, methods and tools of socio-economic research.</i></p> <p><i>Apply modern information technologies and specialized software in socio-economic research and in the management of socio-economic systems.</i></p> <p><i>Identify and critically assess the state and trends of socio-economic development, form and analyze models of economic systems and processes.</i></p> <p><i>Develop scenarios and strategies for the development of socio-economic systems.</i></p>
<b>Instructional Materials</b>	<i>Syllabus - <a href="http://ied.kpi.ua/wp-content/uploads/2021/10/1-En.-Development-of-Startup-Projects-2021-2022.pdf">http://ied.kpi.ua/wp-content/uploads/2021/10/1-En.-Development-of-Startup-Projects-2021-2022.pdf</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



Methods of Decision-Making in the Context of Globalization	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>2,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic Cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline:</i></p> <p><i>Methods for determining the system of preferences of the Decision Maker. Utility function and loss function. Jensen's inequality. Allais paradox and von Neumann-Morgenstern theorem. Parametric and non-parametric situations, schemes, models of decision-making in economics. Uncertainty in the decision-making system. Information about the unknown. Complete uncertainty. Wald's criterion. Savage's criterion. Hurwitz criterion. Laplace criterion. Statistical methods of decision making. Observations and strategies in decision making. Bayesian risk and Bayesian decision. Observation of an unknown parameter in decision making systems. Construction of crucial functions. Neumann-Pearson lemma. Theoretical and methodological foundations of network planning: A method of evaluating and revising plans. Pareto principle for solving multicriteria problems. Algorithm for finding the Pareto set. Unstructured decision problems: A method of analyzing the hierarchies of Thomas L. Saati. Criteria for converting criteria: determining the coefficients of importance of criteria by the method of hierarchy analysis.</i></p>
<b>Rationale</b>	<i>The purpose of the course is to give students knowledge about methods of solving warehouse management problems; methodologies and tools for organizing the process of developing effective solutions taking into account the characteristics of the market and consumption.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <p><i>The study of the credit module allows to master the means and methods of substantiation of proposals and management decisions by various economic agents (individuals, households, enterprises and public authorities).</i></p>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- knowledge of modern methods of forming sound decisions in different conditions in complex organizational systems;</i></li> <li><i>- skills to justify economic decisions at the level of the market entity with the use of modern management principles, approaches, methods, techniques;</i></li> <li><i>- apply the acquired theoretical knowledge to solve practical problems of the international economy and meaningfully interpret the results.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, tutorials</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

## Risk Forecasting in International Economic Activity

<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic Cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i> <i>Discipline is based on the theoretical and methodological basis of the discipline: economic theory, macroeconomics, microeconomics, finance, management, economic and mathematical methods and models</i>
<b>Scope of the course</b>	<i>The content of the discipline</i> <i>1 Basic definitions of risk. Stages and basic principles of risk forecasting. Quantitative assessment of economic risk. Expert forecasting. The main ideas of decision-making technology by a team of experts.</i> <i>2 Fundamentals of arithmetic of intervally given data</i> <i>3 Technology of interval generalization of decision-making models by a team of experts in conditions of risk</i> <i>4 General strategy for solving problems of systemic interaction or systemic counteraction of coalitions. Principles of practical actions of coalitions. The principle of risk minimization</i> <i>5 Risk forecasting in management decisions. Methods of reducing the risk of economic activity.</i> <i>6 Methods for finding the optimal interval solution of a system of linear equations with interval coefficients</i> <i>7 Minimization of economic risks. Risk analysis of investment projects.</i> <i>8 Minimizing the risk of personnel decisions</i> <i>9 Interval generalization of personnel decision-making models in terms of risk</i>
<b>Rationale</b>	<i>The purpose of the discipline is: to apply scientific, analytical, methodological tools for managing economic activity; use modern information technologies and economic-mathematical methods and models for the study of economic and social processes; assess possible risks, socio-economic consequences of management decisions.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <i>- methods of application of modern economic-mathematical and information technologies for risk management of economic activity in a market economy,</i> <i>- conceptual provisions for assessing the possible risks and consequences of management decisions in a market economy.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <i>- select and use the necessary scientific, methodological and analytical tools to manage economic activity,</i> <i>- substantiate decisions in conditions of uncertainty that require the use of new approaches and economic-mathematical modeling and forecasting,</i> <i>- apply modern information technologies in socio-economic research,</i> <i>- assess the possible risks, socio-economic consequences of management decisions.</i>
<b>Instructional Materials</b>	<i>syllabus, additional learning materials</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Integrated Corporate Structures in International Business	
Restrictions (specialty for which the course is offered)	<i>051 Economy / 0311 Economics</i>
Educational level	<i>Second level (Master's degree)</i>
Year of study	<i>1</i>
Number of ECTS credits	<i>3,5</i>
Language of study	<i>English</i>
Department	<i>Management Enterprise</i>
Assumed knowledge and prerequisites	<i>English B1, B2</i> <i>The course is based on the knowledge acquired by students while studying the disciplines "Project Management", "Risk Management in a Market Economy", "Global Economy".</i>
Scope of the course	<i>The content of the discipline</i> <i>Topic 1.1. Genesis of formation and features of theoretical understanding of corporate economy.</i> <i>Topic 1.2. Integrated corporate business structures as leading subjects of the corporate economy.</i> <i>Topic 1.3. State regulation of corporations.</i> <i>Topic 2.1 Corporate governance. Features of the organization of the internal ICS management system.</i> <i>Topic 2.2 Corporate social responsibility as a modern form of regulating the relationship between ICS and key stakeholders.</i> <i>Topic 2.3 Financial subsystem of ICS management.</i> <i>Topic 2.4 Organization of innovative activities of ICS.</i> <i>Topic 2.5 International regulation of corporate economies. TNCs and strategic alliances.</i>
Rationale	<i>The purpose of the discipline is: the ability to formulate professional tasks in the field of economics, to choose the appropriate areas and appropriate methods for their solution, taking into account available resources; ability to substantiate management decisions on the effective development of business entities; ability to plan and develop projects in the field of economy, to carry out their informational, methodical, material, financial and personnel support.</i>
Learning outcomes	<i>Expected learning outcomes include knowledge of:</i> <i>- The essence of corporate forms of organization of economic activity, patterns of their development and transformation, taking into account available resources.</i> <i>- Management systems of corporate forms of organization of economic activity.</i> <i>- Methods and forms of organization of financial and economic activities of integrated corporate structures.</i>
Competencies and skills	<i>Upon successful completion of the course, students should be able to:</i> <i>- To formulate new hypotheses and scientific problems in the field of economics, to choose appropriate directions and appropriate methods for their solution, taking into account the available resources.</i> <i>- To substantiate management decisions on effective development of business entities.</i> <i>- Organize the development and implementation of projects in the field, taking into account information, methodological, material, financial and personnel support.</i>
Instructional Materials	<i>Syllabus: <a href="http://ied.kpi.ua/uk/archives/4088">http://ied.kpi.ua/uk/archives/4088</a></i> <i>Lecture material, learning materials, reference book:</i> <i><a href="https://classroom.google.com/c/NDA3MjMxNjE0NTY3?cjc=hj6j5k7">https://classroom.google.com/c/NDA3MjMxNjE0NTY3?cjc=hj6j5k7</a></i>
Mode of delivery	<i>lectures/workshops/tutorials</i>
End-of-semester control	<i>Exam</i>

## Workshop on Professional Communication in Foreign Language

<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The scope of the course:</i></p> <ol style="list-style-type: none"> <li><i>1. Being International</i></li> <li><i>2. Training. New marketing strategies</i></li> <li><i>3. Partnership within industry</i></li> <li><i>4. Negotiating new market</i></li> <li><i>5. Energy Industry</i></li> <li><i>6. Employment market</i></li> <li><i>7. Employment trends. Resolving the conflicts.</i></li> <li><i>8. Business ethics. Managing Meetings</i></li> <li><i>9. Science and Society</i></li> </ol>
<b>Rationale</b>	<i>The purpose of the course involves the formation of students' professionally oriented foreign language competences listening, speaking, reading, writing and translating / mediating.</i>
<b>Learning outcomes</b>	<i>The study of the discipline will allow the student to form the following program learning outcomes - To use the methods of interpersonal communication in the course of solving collective problems, negotiations, scientific discussions in the field.</i>
<b>Competencies and skills</b>	<i>Students learn to transfer and use knowledge from other disciplines, build instructions or negotiations in English without compromising content and with business ethics. Thus, at the end of the course, future professionals acquire a level that allows them to freely perform professional duties both within their own country and in terms of international cooperation and stay abroad in an English-speaking environment.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook)</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

International Scientific and Technical Cooperation	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	Department of International Economics.
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i> <i>The discipline is taught after studying the disciplines " Economic Measurement of Sustainable Development", " Global Economy".</i>
<b>Scope of the course</b>	<i>The content of the discipline</i> <i>1. Theory and modeling of international scientific and technical cooperation</i> <i>2. Modeling of processes of international scientific and technical cooperation</i> <i>3. Economic security in the field of scientific and technical cooperation</i> <i>4. Forecasting and planning of scientific and technical development</i> <i>5. Formation and implementation of strategies for scientific and technological development</i> <i>6. Staffing of scientific and technological progress</i> <i>7. Financing of international scientific and technical cooperation</i> <i>8. International trade in scientific and technical developments</i> <i>9. Forms and methods of integration in the scientific and technical sphere</i>
<b>Rationale</b>	<i>The purpose is to form a system of knowledge on international scientific and technical cooperation, conditions of its operation, variety of forms and methods, ability to conduct foreign economic activity in international markets, among business entities of different nationalities, in the field of exchange of goods, the movement of factors of production and the formation of international economic and scientific and technical, innovation policy of the state.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: main provisions of the economic mechanism of international scientific and technical activities; purpose and main characteristics of elements of international cooperation; methods of analysis of the effectiveness of economic activity in the field of international scientific and technical cooperation; theoretical aspects and patterns of international trade, the movement of factors of production, monetary and financial mechanism, international economic integration; main provisions of the economic mechanism of activity of enterprises of different state affiliation in the field of international scientific and technical cooperation; methods of analysis of international scientific and technical, innovative activity of the enterprise, the country as a whole</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to apply their knowledge in practice for successful management of a unit, enterprise, association of enterprises; have methods for calculating the main indicators of international scientific and technical cooperation of the enterprise and the national economy as a whole.</i>
<b>Instructional Materials</b>	<i>Syllabus, tutorials</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

## Management of International Competitiveness

<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	Department of International Economics.
<b>Assumed knowledge and prerequisites</b>	<i>English B2 The discipline is taught after studying the disciplines " Economic Measurement of Sustainable Development", " Global Economy".</i>
<b>Scope of the course</b>	<i>The content of the discipline 1. Competition in a market economy 2. Factors for ensuring the international competitiveness of enterprises 3. Strategies for international competitiveness of enterprises 4. Tools for managing the international competitiveness of enterprises 5. Pricing policy of the enterprise in a competitive environment 6. Economic law as a means of regulating competition at the national and international levels 7. Competitiveness in the context of globalization</i>
<b>Rationale</b>	<i>The purpose of the discipline is to form in students a system of theoretical knowledge and practical skills in international competitiveness of both domestic and foreign enterprises, in order to successfully assess their position in domestic and global markets and develop their competitive advantages.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: categorical apparatus of management of international competitiveness of economic objects; theoretical foundations of competitive relations, including places of competition in the market economy; the essence of competitiveness of goods, works and services on the world market; methods of analysis and assessment of the level of international competitiveness.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to identify tools for regulating competition at the national and international levels; to analyze the peculiarities of achieving the competitiveness of domestic economic entities in the context of globalization of political and economic processes; identify factors to ensure the international competitiveness of economic entities.</i>
<b>Instructional Materials</b>	<i>Syllabus, tutorials</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>



Philosophical Principles of Scientific Activity	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Third level (PhD)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>6</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Philosophy</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <ol style="list-style-type: none"> <li><i>1. The genesis of science and the philosophical justification of the scientific worldview.</i></li> <li><i>2. Science as a holistic phenomenon and general scientific philosophical concept of scientific worldview.</i></li> <li><i>3. Worldview principles of research and innovation and the solution of significant scientific and technological problems taking into account economic, political, socio-cultural, environmental and legal aspects.</i></li> <li><i>4. Philosophical understanding of the development of science, its ideological role and impact on modern social processes.</i></li> <li><i>5. Ethics - the philosophical science of morality in relation to scientific and professional ethics.</i></li> <li><i>6. Norms and principles of scientific ethics, legislation in the field of responsibility for professional decisions in legal, social and environmental context.</i></li> <li><i>7. Ethical culture of the scientist and adherence to the principles of academic integrity in research and innovation.</i></li> <li><i>8. Philosophical epistemology and epistemology: the main components and stages of development</i></li> <li><i>9. Features of cognitive activity in modern science</i></li> <li><i>10. Philosophical and anthropological and cognitive foundations of cognitive activity</i></li> </ol>
<b>Rationale</b>	<p><i>The purpose of the discipline is the formation of higher education in the following competencies:</i></p> <ul style="list-style-type: none"> <li><i>- be able to apply knowledge of the basics of analysis and synthesis in various subject areas, critical understanding and solving research problems</i></li> <li><i>- understand the philosophical concepts of the scientific worldview, the role of science, explain its impact on social processes.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Ability to search, process and analyze information from various sources.</i></li> <li><i>- Ability to work in an international context.</i></li> <li><i>- Ability to perform original research, to achieve scientific results that create new knowledge in economics and related interdisciplinary areas and can be published in leading scientific journals in economics and related fields.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- know the methodology of scientific research in the subject area and modern methods of planning and setting up experiments;</i></li> <li><i>- follow the rules of academic integrity.</i></li> <li><i>- know and follow the basic principles of academic integrity in scientific and educational (pedagogical) activities.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, additional learning materials</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

Foreign Language for Scientific Activity	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Third level (PhD)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>6</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <ol style="list-style-type: none"> <li><i>1. Critical thinking in science and technology</i></li> <li><i>2. Managing invention and innovation</i></li> <li><i>3. Issues in current work environment</i></li> <li><i>4. The role of Information Technologies in modern education and business</i></li> <li><i>5. Science education and cultural diversity</i></li> <li><i>6. Internationalization of higher education</i></li> <li><i>7. Marketing, consumers and technology</i></li> <li><i>8. Law and Science</i></li> <li><i>9. Interpersonal communication and relationships</i></li> <li><i>10. The importance of science communication</i></li> <li><i>11. Academic posters</i></li> </ol>
<b>Rationale</b>	<i>The purpose of the discipline is the ability to communicate in a foreign language to a sufficient extent to present and discuss the results of their scientific work orally and in writing, as well as for a full understanding of foreign scientific texts in the specialty.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- understand the main of lectures, talks and reports and other forms of academic / professional presentation, complex both in content and linguistically; make notes of important details;</i></li> <li><i>- make a clear, systematic presentation, emphasizing important details and using relevant supporting information; spontaneously deviate from the prepared text and follow the interesting thoughts expressed by the audience, often demonstrating remarkable smoothness and ease of expression;</i></li> <li><i>- receive information, ideas and points of view from highly specialized sources within their own field of research; understand articles and scientific reports on contemporary issues in which the authors have a certain position or point of view.</i></li> <li><i>- synthesize information and arguments from various sources; write clear, well-structured descriptions of complex topics, annotations, argumentative essays, literature reviews, emphasizing the relevant main issues, maintaining the point of view for a long time with supporting details and relevant examples.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- be able to use modern methods and technologies of scientific communication in Ukrainian and foreign languages.</i></li> <li><i>- read and understand foreign texts in the specialty.</i></li> <li><i>- freely present and discuss with specialists and non-specialists the results of research, scientific and applied problems of the field in state and foreign languages, qualified to reflect the results of research in scientific publications in leading international scientific journals.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, additional learning materials</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>



Neoclassical Models of Economic Processes	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Third level (PhD)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economic Cybernetics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 The course precedes the study of disciplines: "Change Management and Business Transformation", "World Economy"</i>
<b>Scope of the course</b>	<p><i>The content of the discipline</i></p> <p><i>Topic 1. Algorithmic models in economics.</i></p> <p><i>Topic 2. Rating and management in the economy.</i></p> <p><i>Topic 3. Models of behavior of producers, consumers and models of their interaction.</i></p> <p><i>Topic 4. Dynamic nonlinear models of macroeconomics.</i></p> <p><i>Topic 5. Tasks to maximize production and minimize the costs of the firm.</i></p> <p><i>Topic 6. Aggregate models of market economy.</i></p> <p><i>Topic 7. Models of Walrasian type. The condition for the existence of equilibrium according to Walras.</i></p> <p><i>Topic 8. Models of behavioral economics. Tastes and priorities. Moral danger and hyperbolized discounting</i></p> <p><i>Topic 9. The use of modern software products for the numerical implementation of models, analysis and forecasting of socio - economic systems.</i></p>
<b>Rationale</b>	<p><i>The purpose of the discipline is:</i></p> <p><i>ability to search, process and analyze information from various sources;</i></p> <p><i>ability to conduct research at the appropriate level;</i></p> <p><i>ability to formalize problems in the field of economics in the form of economic and mathematical models;</i></p> <p><i>substantiate economic decisions based on understanding the laws of economic.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- conceptual foundations of the theory of rational choice and economic growth;</i></li> <li><i>- methodologies of socio-economic forecasting and programming of economic development;</i></li> <li><i>- methods of selection and substantiation of levers of influence on economic processes in the conditions of market economy;</i></li> <li><i>- tools for creating neoclassical models for building the economic potential of economic entities in transition economic systems;</i></li> <li><i>- modern software products for analysis and forecasting of socio-economic systems.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- to determine the numerical and qualitative characteristics of the behavior of economic agents for their rational activities;</i></li> <li><i>- to formalize the problems of the theory of rational choice and economic growth, to formulate their mathematical formulation and to analyze the obtained models;</i></li> <li><i>- to develop and use neoclassical models of economic growth for different economic entities in a transformational economy.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, additional learning materials</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

## Change Management and Business Transformation

<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Third level (PhD)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Theoretical and applied economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 The course precedes the study of disciplines: "International Economics", "Macroeconomics", "History of Economic Doctrines", "Higher Mathematics", "Finance"</i>
<b>Scope of the course</b>	<i>The content of the discipline Topic 1. Conceptual foundations of change management Topic 2. Adaptive models of change management Topic 3. Traditional and modern methods of change management. Topic 4. Retrospective review of changes and transformations of business in Ukraine. Topic 5. Transitive changes and their impact on business transformation. Topic 6. Features of modern transformations in the economic environment of domestic enterprises. Topic 7. Theoretical paradigm of development and implementation of adaptive models in the enterprise in different conditions (in the context of globalization, convergence, neo-industrialization, post-industrialization).</i>
<b>Rationale</b>	<i>The purpose of teaching the credit module is to form in graduate students fundamental knowledge on the organization of the change management process, development and implementation of adaptive models in enterprises and determine the possible consequences of their implementation (business transformation).</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: identify the nature of changes and the nature of their occurrence; determine the most optimal methods of change management in the enterprise; understand the peculiarities of the functioning of enterprises in conditions of continuous change; develop and implement adaptive models for leveling the effects of negative factors on the enterprise; predict the possible consequences of exogenous and endogenous changes on business transformation.</i>
<b>Competencies and skills</b>	<i>The discipline provides students with the necessary amount of knowledge about the basic concepts of change management; life cycle models; exogenous and endogenous factors (organizational pathologies) that determine the need for change; principles of change, change management models, which provides an opportunity to form an idea of the stages and directions of work in carrying out changes; types and kinds of organizational changes.</i>
<b>Instructional Materials</b>	<i>Syllabus, additional learning materials</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Theory of Analysis of Economic Systems	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Third level (PhD)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Economics and entrepreneurship</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i> <i>The course precedes the study of disciplines: "World Economy", "Modern Models and Mechanisms of Economic Development" and "Economic and Mathematical Modeling of Resource Allocation in the Context of Globalization".</i>
<b>Scope of the course</b>	<i>The content of the discipline</i> <i>Topic 1. The essence of the economic system and its structure</i> <i>Topic 2. Characteristics of property in the economic system</i> <i>Topic 3. Criteria and parameters for comparing economic systems</i> <i>Topic 4. Forecasting the dynamics of economic systems</i> <i>Topic 5. Methods and models for forecasting the development of economic systems</i> <i>Topic 6. The role and directions of analysis of the national economy as an economic system</i> <i>Topic 7. Methodology and methods of analysis of the national economy as an economic system</i> <i>Topic 8. Analysis of the development of the industry as an economic system</i> <i>Topic 9. Financial analysis of the economic system at the enterprise level using modeling tools</i>
<b>Rationale</b>	<i>The purpose of teaching the discipline is to form a system of knowledge on the theoretical and practical aspects of using the methodological apparatus and tools for assessing the effectiveness of economic systems and their individual elements.</i>
<b>Learning outcomes</b>	<i>Discipline "Theory of analysis of economic systems" refers to those disciplines that are designed to provide fundamental training in economics and management, to form a system of knowledge on theoretical and practical aspects of using the methodological apparatus and tools to determine the current and future state of the economic system as a macro-, and at the micro level.</i>
<b>Competencies and skills</b>	<i>The discipline provides students with the necessary amount of knowledge:</i> <ul style="list-style-type: none"> <li><i>- know the basic theoretical provisions and key concepts of formation and functioning of the economic system, modern directions of its development;</i></li> <li><i>- know the basic economic and social indicators that characterize certain parameters of comparison of economic systems;</i></li> <li><i>- apply basic models and methods of analysis of economic phenomena and processes;</i></li> <li><i>- use methods of calculating key economic indicators;</i></li> <li><i>- to analyze the functioning and development of economic entities, a particular industry, the state;</i></li> <li><i>- identify problems of economic nature in the process of analyzing specific situations at the macro and micro levels, suggest ways to solve them and evaluate the expected results;</i></li> <li><i>- apply the acquired theoretical knowledge to solve practical problems and meaningfully interpret the results.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, additional learning materials</i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

## 161 Chemical engineering and processes

Chemistry of Plant Polymers	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Chemical engineering and processes</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Teacher</b>	<i>Valerii Barbash, professor, v.barbash@kpi.ua</i>
<b>Department</b>	<i>Ecology and Plant Polymers Technology</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, basic knowledge of general and inorganic chemistry, organic and analytical chemistry, biology and ecology</i>
<b>Scope of the course</b>	<i>The scope of the course includes the study of the chemical composition of coniferous and deciduous wood, non-wood plant materials; properties of the main components of plant raw materials - cellulose, lignin, hemicellulose, resins, fats and waxes, as well as minerals; classification and methods of obtaining macromolecular compounds; structure, chemical composition and properties of lignin; chemistry of processes of delignification of plant raw materials.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in basic knowledge necessary for professional management of technological processes of chemical processing of plant raw materials. This knowledge is needed to develop new and modernize existing technologies for the rational use of plant polymers in the production of cellulose-containing consumer goods.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- knowledge of the basic principles of chemistry of plant polymers to understand their structure and patterns of their chemical transformations in modern thermochemical processes;</i></li> <li><i>- knowledge of classification and properties of plant polymers, pulp products, cellulose and products of their processing;</i></li> <li><i>- ability to conduct a comparative analysis of the main components of different representatives of plant raw materials to select rational environmentally friendly methods of processing plant materials into cellulose-containing products.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- use the basic principles of chemistry of plant polymers to predict the quality of cellulose, paper and cardboard, intermediate and final products of chemical technology for processing plant materials;</i></li> <li><i>- use knowledge of the conformation and supramolecular structure of cellulose and hemicellulose to choose ways to process them into cellulose-containing products for general use;</i></li> <li><i>- determine the directions of processing of the main components of plant raw materials to obtain pulp, cellulose, its derivatives and other cellulose-containing products;</i></li> <li><i>- substantiate the mechanism of chemical transformations of main components of plant raw materials in the processes of delignification and other thermochemical processes.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts etc.)</i>
<b>Mode of delivery</b>	<i>lectures, workshops, laboratory work</i>
<b>End-of-semester control</b>	<i>Test</i>

Scientific Work on Theme of Master Thesis	
<b>Restrictions (specialty for which the course is offered)</b>	<i>051 Economy / 0311 Economics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of International Economics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. The discipline has an interdisciplinary nature and integrates knowledge from other educational and scientific fields. According to the structural and logical scheme of the training program, this discipline is closely related to other disciplines: Interdisciplinary links: "Fundamentals of Economic Theory", "International Innovation", "International Economics", "International Investment Activity", "International Strategies for Economic Development", "Feasibility Study of Economic Decisions".</i>
<b>Scope of the course</b>	<i>The scope of the course includes students' acquisition of basic skills of research work, in the process of which they would be able to set scientific tasks, plan their implementation, organize the collection and processing of information, as well as create conditions for generating new ideas.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in organization, planning and implementation of research work on economic problems; correct and effective use of the available information base for conducting economic research.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: a wide range of theoretical and methodological techniques for conducting economic research on various aspects of activity; increase of professional knowledge and professional requirements to scientific substantiation of conclusions, generalizations and practical recommendations; a holistic view of science as a system of knowledge and tools of knowledge of deep economic processes; about features of search and processing of the information, registration of results of scientific researches, diploma works, master's dissertations, professional reports, etc.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able: to learn the essence of general scientific and specific scientific methods, principles of research of market relations, phenomena and processes; to set priorities when conducting economic research, to plan resources for their conduct; to give guidelines for the implementation of research results in the practice of economic activity of enterprises and organizations.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book) <a href="http://ied.kpi.ua/wp-content/uploads/2021/09/2-Ua.-Osnovy-naukovyh-doslidzhen-v-ekonomitsi-2021-2022.doc">http://ied.kpi.ua/wp-content/uploads/2021/09/2-Ua.-Osnovy-naukovyh-doslidzhen-v-ekonomitsi-2021-2022.doc</a></i>
<b>Mode of delivery</b>	<i>lectures/workshops/tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

## Environmental Protection Organisation and Management

<b>Restrictions (specialty for which the course is offered)</b>	<i>Chemical engineering and processes</i>
<b>Educational level</b>	<i>Bachelor's degree</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>6</i>
<b>Language of study</b>	<i>English</i>
<b>Teacher</b>	<i>Inna Trus, associate professor, inna.trus.m@gmail.com</i>
<b>Department</b>	<i>Ecology and Plant Polymers Technology</i>
<b>Assumed knowledge and prerequisites</b>	<i>English</i>
<b>Scope of the course</b>	<i>The scope of the course includes theoretical foundations of management, the main directions of ecological policy of the state, international experience in environmental management.</i>
<b>Rationale</b>	<i>At the present stage, socio-economic development leads to increased anthropogenic impact on the environment, which reduces its ability to self-healing. In addition, there are clear signs of ecological crisis, which are manifested in the degradation of the environment. Therefore, it is important to find the optimal interaction between the environment and meet the basic needs of society. Taking into account the social, economic and environmental interests of society is ensured through the environmental policy of the state, which is implemented through the system of environmental management. The Department ensures the implementation of legislation, control over compliance with environmental safety requirements, carrying out comprehensive measures aimed at the rational use of natural resources, achieving coordination of actions of state and public bodies in the field of environmental protection.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– knowledge of tools and mechanisms for environmental management at the local, regional, national and international levels, taking into account the program of sustainable development at all levels;</i></li> <li><i>– be able to assess the impact of basic environmental laws on management decisions;</i></li> <li><i>– to adapt international management experience in the practice of environmental activities of rational use of natural resources;</i></li> <li><i>– to define ecological problems of Ukraine and to solve them in the context of strategy of ecological policy of the state</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– Use the basic principles and composition of environmental management;</i></li> <li><i>– inform the public about the state of environmental safety and sustainable use of nature;</i></li> <li><i>– formulate requirements for personnel management and use in practice the principles of personnel selection management;</i></li> <li><i>– interact with participation in the management of environmental actions and / or environmental projects.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes, presentations, reference book)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Exam</i>



Toxicology	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Chemical engineering and processes</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	3
<b>Number of ECTS credits</b>	5
<b>Language of study</b>	English
<b>Teacher</b>	Valeriya Vember, associate professor, vvember@gmail.com
<b>Department</b>	<i>Ecology and Plant Polymers Technology</i>
<b>Assumed knowledge and prerequisites</b>	<i>Toxicology course studying based on knowledge of biology, general ecology, inorganic, organic and analytical chemistry</i>
<b>Scope of the course</b>	<i>The main directions of toxicology, peculiarities of the various environment pollutants influence on living organisms and ecosystems as a whole</i>
<b>Rationale</b>	<i>Understanding the basics of toxicology becomes especially important for the period of intensification of anthropogenic pollution, because it allows you to manage environmental risks, avoid dangerous situations and poisonings. Toxicology provides critically important information and knowledge that can be used to make the balanced decisions about personal safety, homeostasis of natural ecosystems and to promote the concept of sustainable development in a global scale</i>
<b>Learning outcomes</b>	<i>To find out the impact of certain groups of pollutants on living organisms, to master the methods of toxicological calculations and to learn to assess the degree of toxicological risk.</i>
<b>Competencies and skills</b>	<i>After mastering the "Toxicology" discipline students will acquire competencies:</i> <ul style="list-style-type: none"> <li><i>– tracking the movement of xenobiotics in ecosystems along trophic chains;</i></li> <li><i>– assessment the toxicity degree of various substances and media;</i></li> <li><i>– determination of the class of toxicity and danger of chemical pollutants according to the parameters of toxicometry.</i></li> </ul>
<b>Instructional Materials</b>	<i>A course of lectures that can be taught remotely</i>
<b>Mode of delivery</b>	<i>Lectures, practical and laboratory classes</i>
<b>End-of-semester control</b>	<i>Exam</i>

## Analytical Chemistry - I. Qualitative Analysis

<b>Restrictions (specialty for which the course is offered)</b>	<i>Chemical engineering and processes</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Teacher</b>	<i>Oleksandr Khokhotva, associate professor, khokhotva@bigmir.net</i>
<b>Department</b>	<i>Ecology and Plant Polymers Technology</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Completion of educational component "Inorganic Chemistry", "Physics", "Mathematics"</i>
<b>Scope of the course</b>	<i>The scope of the course includes</i> <ul style="list-style-type: none"> <li><i>– basic laws of chemistry used in analytical chemistry;</i></li> <li><i>– logical connection between methods of analytical chemistry and chemical properties of molecules and ions;</i></li> <li><i>– general provisions of the basics of chemical methods of analysis;</i></li> <li><i>– extensive laboratory practice in qualitative chemical analysis of kations and anions.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in principles and methods of chemical analysis, promoting the achievement of a more in-depth understanding of chemical processes and the laws of their course.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li><i>– study of theoretical bases of chemical methods of analysis in the control of human objects and the environment;</i></li> <li><i>– scientific substantiation of general approaches in the selection and development of methods for determining the chemical composition of substances, their concentration, separation and identification.</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li><i>– prepare necessary materials and reagents for analysis;</i></li> <li><i>– perform qualitative analysis of simple objects of man-made and natural origin;</i></li> <li><i>– perform calculations of analysis results.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book)</i>
<b>Mode of delivery</b>	<i>lectures, laboratory practices</i>
<b>End-of-semester control</b>	<i>Exam</i>



## Analytical Chemistry - II. Quantitative Analysis

<b>Restrictions (specialty for which the course is offered)</b>	<i>Chemical engineering and processes</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Teacher</b>	<i>Oleksandr Khokhotva, associate professor, khokhotva@bigmir.net</i>
<b>Department</b>	<i>Ecology and Plant Polymers Technology</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Completion of educational component "Inorganic Chemistry", "Physics", "Mathematics"</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes</i></p> <ul style="list-style-type: none"> <li><i>– the theoretical foundations and practical skill in quantitative (gravimetric, titrimetric) chemical analysis;</i></li> <li><i>– acquaintance with the rules of work with chemical utensils and analytical scales;</i></li> <li><i>– study of preparation methods of compounds for analysis;</i></li> <li><i>– the basic principles of analytical research;</i></li> <li><i>– study of methods of analytical evaluation of analysis results.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in the theoretical foundations of quantitative chemical analysis and mastering the practical skills of its implementation. The students will learn the theoretical basis of modern analytical chemistry, the main stages of analytical research, the features of different methods for determining chemical ingredients in the environment.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– to run qualitative control in solving of environmental problems;</i></li> <li><i>– to perform quantitative analysis of simple objects of man-made and natural origin;</i></li> <li><i>– the ability to work with laboratory equipment.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– to perform quantitative analysis of simple objects of man-made and natural origin;</i></li> <li><i>– to perform calculations of the composition of the system, the amount of substance of the reacting compounds for the development of technological processes</i></li> <li><i>– the ability to work with laboratory equipment</i></li> <li><i>– using the theoretical provisions of analytical chemistry and reference data, calculate the necessary parameters (masses of substances, volumes of solutions, concentrations of components) for preparation of working solutions (titrants, buffers, indicators) for the purpose of their standardization;</i></li> <li><i>– to evaluate the possibilities of analysis methods and reasonably choose a method for a specific practical analysis;</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book)</i>
<b>Mode of delivery</b>	<i>lectures, laboratory practices</i>
<b>End-of-semester control</b>	<i>Exam</i>

## 035 Philology

Practical Course in English. Level: Vantage II	
<b>Lecturer</b>	<i>Iryna Stasiuk</i>
<b>Restrictions</b>	<i>At least B2 level of English</i>
<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>1 (2)</i>
<b>Number of ECTS credits</b>	<i>10</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Practical Course in English. Level: Vantage I") Digital competence (Microsoft Word, Microsoft PowerPoint, Google Classroom)</i>
<b>The scope of the course</b>	<i>The scope of the course includes such topics as types of houses, rooms, appliances and furniture, modern trends and fads, lifestyles and families, holiday objects and souvenirs, holiday experiences and complaints.</i>
<b>Rationale</b>	<i>The course is focused on communicative skills and competences which enable students to use the language in different forms, genres and communicative registers (formal, informal, and semi-formal). The educational component contributes to the development of cross-cultural communication competence in both everyday communication and professional environment.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: competence in using the language in different sociocultural circumstances; knowledge of requirements for different types of texts: essays, letters, reviews etc.; competence in understanding the standard language in audio recordings as well as in speech; competence in understanding explicit and implicit meaning of authentic texts of various genres; competence in expressing student's own ideas in speech and in a written form on various prepared and unprepared topics.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: adhere to moral, ethical, and cultural norms; communicate freely in English regarding professional and cultural issues, use these communication skills to organize efficient cross-cultural communication; create both oral and written texts of different genres and styles in English; use English to resolve communicative tasks in different circumstances.</i>
<b>Instructional Materials:</b>	<i>Syllabus, learning materials (textbook, reference book, video lectures, podcasts)</i>
<b>Mode of delivery:</b>	<i>Seminars</i>
<b>End-of-semester control:</b>	<i>Exam</i>

## Introduction to Romano-Germanic linguistics: Latin

<b>Lecturer</b>	<i>PhD in Philology, Associate Professor, Iryna Borbenchuk</i>
<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>The language to be studied is Classical Latin</i>
<b>The scope of the course</b>	<i>The scope of the course includes authentic Latin readings — curated from the works of Cicero, Vergil, and other major Roman authors of classical literature, drama, and poetry, as well as inscriptions, artifacts, and even authentic graffiti—that demonstrate the ancient Romans' everyday use of Latin: Latin as a living language.</i>
<b>Rationale</b>	<i>The study of Latin provides students with a key to the literature, history and culture of the Graeco-Roman world. Through the study of a variety of original texts, including both historical and philosophical writing, students acquire knowledge and appreciation of ancient life and culture. Understanding of the form and structure of Latin, and the ability to apply this knowledge, can also improve students' skills in English and other languages.</i>
<b>Learning outcomes</b>	<p><i>The expected learning outcomes include the abilities to:</i></p> <ul style="list-style-type: none"> <li><i>- increase the erudition and cultural competence of future professionals through an in-depth study of Latin, focused on European standards of classical education;</i></li> <li><i>- promote the conscious assimilation and competent use of the lexical and grammatical system of the Latin language;</i></li> <li><i>- develop the ability to read, translate and analyze original ancient and medieval works, adapted texts of mythological and historical content.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- understand Latin texts;</i></li> <li><i>- understand how Latin works at the levels of grammar and syntax;</i></li> <li><i>- make connections between Latin and English or other languages;</i></li> <li><i>- identify stylistic conventions of Latin texts and understand their literary effects;</i></li> <li><i>- understand the ideas underlying Latin texts and their relationship to social, cultural, historical and religious context;</i></li> <li><i>- develop general cognitive, analytical and learning skills.</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (textbook, reference book, video)</i>
<b>Mode of delivery:</b>	<i>seminars</i>
<b>End-of-semester control:</b>	<i>exam</i>

Introduction to Romano-Germanic Linguistics: History of English	
<b>Lecturer</b>	<i>PhD in Philology, Associate Professor, Valentyna Marchenko</i>
<b>Educational level</b>	<i>First (Bachelor)</i>
<b>Term</b>	<i>2 spring</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>The scope of the course</b>	<i>The scope of the course includes the formation of students' ability to analyze the historical changes in phonetics, morphology, syntax, word formation of the English language throughout the Old English, Middle English and New English periods; to analyze the borrowings from different languages in Old English, Middle English and New English; to trace the historical events that influenced the development of the English language; to read and translate historical English resources.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in understanding the principles of historical development of English and the laws of its functioning at different stages of Old English, Middle English and New English periods.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <i>– Ability to synchronous and diachronic analysis of the deep structures of the literary text in comparison with real communicative situations and historical events.</i> <i>– Analyze language units, determine their interaction and characterize language phenomena and processes that determine them.</i> <i>– Understand the main directions and trends of classical linguistic research, the patterns of language development.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <i>– to understand the structure and theoretical foundations of philological science.</i> <i>–to understand the principles of language organization, its nature, functions, levels and structural typology of the world's languages.</i> <i>–to use knowledge of the history of English in professional activity.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, reference book, video lectures, YouTube videos etc)</i>
<b>Mode of delivery</b>	<i>lectures (seminars / workshops / tutorials)</i>
<b>End-of-semester control</b>	<i>credit</i>

Contrastive Grammar: Morphology	
<b>Restrictions</b>	<i>B2</i>
<b>Educational level</b>	<i>First (Bachelor)</i>
<b>Term</b>	<i>1 autumn</i>
<b>Number of ECTS credits</b>	<i>6,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>The scope of the course</b>	<p><i>The scope of the course includes the formation of students' ability:</i></p> <ul style="list-style-type: none"> <li><i>- to be aware of the principles and means of grammatical expression of the notional parts of speech, namely: the categorical paradigms of English nouns, adjectives, adverbs, pronouns, numerals and verbs;</i></li> <li><i>- to carry out a contrastive analysis of these categories of the notional parts of speech within the students' native language and English, distinguishing isomorphic and allomorphic features;</i></li> <li><i>- to recognize and use the studied grammatical structures in communication.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in understanding the principles of English grammar and regularities of its functioning in oral and written communication.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include the ability to:</i></p> <ul style="list-style-type: none"> <li><i>- analyze the notional parts of speech, define their interaction as well as characterize language phenomena and processes that determine their specific functioning in English as compared with those of the students' native language;</i></li> <li><i>- understand the main trends of present-day grammar of English, the patterns of language functioning.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– understand the grammatical characteristics of the notional parts of speech of the English language;</i></li> <li><i>– understand the principles of the English language organization, its grammatical structure, grammatical categories and their use in communication;</i></li> <li><i>– apply the acquired knowledge and skills in receptive and productive types of speech activity as well as use them to solve problems in various areas of further professional activities.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, reference book, video lectures, YouTube videos etc)</i>
<b>Mode of delivery</b>	<i>seminars / workshops / tutorials</i>
<b>End-of-semester control</b>	<i>exam</i>

Contrastive Grammar: Syntax	
<b>Restrictions</b>	<i>B2</i>
<b>Educational level</b>	<i>First (Bachelor)</i>
<b>Term</b>	<i>2 spring</i>
<b>Number of ECTS credits</b>	<i>3,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>The scope of the course</b>	<p><i>The scope of the course includes the formation of students' ability:</i></p> <ul style="list-style-type: none"> <li><i>- to be aware of the principles and means of grammatical expression of the non-finite forms of verbs in English, i.e. to know the paradigms of the infinitive, gerund, participle, as well as syntactic constructions typical of simple and composite sentences of English;</i></li> <li><i>- to carry out a contrastive analysis of the grammatical categories of the non-finite forms of the verb within the students' native language and English, distinguishing isomorphic and allomorphic features;</i></li> <li><i>- to recognize and use the studied grammatical structures in oral and written communication.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in understanding the principles of English grammar and regularities of its functioning in oral and written communication.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include the ability to:</i></p> <ul style="list-style-type: none"> <li><i>- analyze the non-finite forms of the verb, define their interaction as well as characterize processes that determine their specific functioning in English as compared with those of the students' native language;</i></li> <li><i>- understand the current trends in present-day English syntax, basic approaches to its analysis and typical syntactic structures of the language functioning.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– understand the grammatical characteristics of the non-finite forms of the verb in the English language;</i></li> <li><i>– understand the principles of the English language syntactic organization, its neutral and emphatic patterns, and their use in communication;</i></li> <li><i>– apply the acquired knowledge and skills in receptive and productive types of speech activity as well as use them to solve problems in various areas of further professional activities.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, reference book, video lectures)</i>
<b>Mode of delivery</b>	<i>seminars / workshops / tutorials</i>
<b>End-of-semester control</b>	<i>exam</i>

## Practical Course in English. Level: Vantage Profound II

<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>2 (4)</i>
<b>Number of ECTS credits</b>	<i>7,75</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B1, computer skills (Microsoft Word, Microsoft PowerPoint)</i>
<b>The scope of the course</b>	<p><i>The scope of the course is to:</i></p> <ul style="list-style-type: none"> <li><i>- continue studying English in accordance with the conditions of speech communication, the communicative situation, taking into account the addressee and the nature of the partners interaction;</i></li> <li><i>- use the vocabulary;</i></li> <li><i>- use instantly a standard word from long-term memory depending on the specific speech task as well as to include this word into the speech continuum;</i></li> <li><i>- manage knowledge about the sound, graphic form of the lexical unit; the principle of word formation, spelling rules; semantics of words, etc.</i></li> </ul>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in</i></p> <ul style="list-style-type: none"> <li><i>- the use of knowledge about the language system and the rules of its functioning in the process of professional communication;</i></li> <li><i>- taking into account cultural, individual and role differences in the process of professional activities;</i></li> <li><i>- application of the basic conceptual knowledge for the implementation of successful interpersonal and intercultural communication in a wide range of situations of formal and informal interaction with native speakers.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- ability to adhere to moral, ethical and cultural norms, academic principles of integrity and code of professional ethics, increasing the achievements of society;</i></li> <li><i>- ability to communicate freely on professional issues with specialists and non-specialists orally and in writing, use them to organize effective intercultural communication;</i></li> <li><i>- ability to cooperate with colleagues, representatives of other cultures and religions, supporters of different political views, etc.;</i></li> <li><i>- ability to create oral and written texts of various genres and styles of English;</i></li> <li><i>- ability to use English, orally and in writing, in different genre and style varieties to solve communicative problems in various spheres of life;</i></li> <li><i>- ability to conduct business communication orally and in writing, edit, abstract and annotate various genre texts in English.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- identify inconsistencies of facts, inadequacy of information, ambiguity in statements of the speaker in colloquial and academic speech;</i></li> <li><i>- understand the records of normative speech, which occurs in public, professional or academic life and determine the views, attitudes, worldviews of the speaker elements of argumentation;</i></li> <li><i>- work with texts, highlighting detailed information that may contain digital and graphic elements;</i></li> <li><i>- work with complex and large texts in order to search and produce specific information;</i></li> <li><i>- participate in interviews and discussions, adequately responding to the changes of the planned conversation, spontaneously generating questions and answering them;</i></li> <li><i>- to develop individual subtopics and complete the relevant conclusion in the process of description and presentation of complex phenomena;</i></li> <li><i>- produce clear, detailed texts of different genres (memos, messages, announcements, articles on a given topic, etc.), using the means of communication to combine utterances into a clear, logically structured discourse;</i></li> <li><i>- write texts on a given topic, emphasizing appropriate starting points, setting out and proving the point of view, using additional points, reasons and relevant examples, logical conclusions, etc.</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (textbook, reference book, etc)</i>
<b>Mode of delivery:</b>	<i>workshops / tutorials</i>
<b>control:</b>	<i>Exam</i>



Practical Course in English. Level: Vantage Profound II	
<b>Lecturer</b>	<i>Candidate of Philology, PhD, Senior Lecturer, Vitalia Aleksenko</i>
<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>4 (8)</i>
<b>Number of ECTS credits</b>	<i>7,7</i>
<b>Language</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English C1 (Completion of educational component "Translation and editing of professional texts. Translation of commercial documents")</i>
<b>The scope of the course</b>	<p><i>The scope of the course is to:</i></p> <ul style="list-style-type: none"> <li><i>- continue studying English in accordance with the conditions of speech communication, the situation of communication, taking into account the addressee and the nature of the interaction of partners;</i></li> <li><i>- use the vocabulary;</i></li> <li><i>- use a word from a long-term memory depending on the specific speech task and including this word in speech continuum;</i></li> <li><i>- acquire knowledge about the sound, graphic form of the lexical unit; the principles of word formation, spelling rules and semantics of words.</i></li> </ul>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in</i></p> <ul style="list-style-type: none"> <li><i>- the language system and the rules of its functioning in the process of professional communication;</i></li> <li><i>- cultural, individual and role differences in the process of professional activity;</i></li> <li><i>- the application of the knowledge for successful interpersonal and intercultural communication in a wide range of situations of formal and informal interaction with native speakers.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- knowledge of linguistic-stylistic and communicative-pragmatic features of written and oral scientific and technical texts;</i></li> <li><i>- knowledge of metacognitive strategies which are based on the ability to analyze their mental and speech activity and which ensure the implementation of cognitive principles of planning, control, evaluation and adjustment of the process of mastering foreign language communicative competence;</i></li> <li><i>- knowledge of lexical and grammatical material in accordance with the topics defined in the work programme;</i></li> </ul> <p><i>ability:</i></p> <ul style="list-style-type: none"> <li><i>- to use direct strategies: mnemonic, cognitive and compensatory;</i></li> <li><i>- to be aware of and adhere to moral and ethical norms and universal values in the process of intercultural communication;</i></li> <li><i>- to understand easily and participate in complex interactions between other people leading a group conversation / discussion, even on abstract, complex unfamiliar topics, easy to hold debates, even on abstract, complex, unfamiliar topics.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- participate freely in the interview, presenting and developing the subject of discussion freely, without any support, well understanding all the remarks;</i></li> <li><i>- have a wide range of vocabulary that allows students to overcome difficult places by paraphrasing and using other alternative strategies, the search for which is barely noticeable to the listener;</i></li> <li><i>- understand audio and video materials, in which a significant amount of slang vocabulary and idiomatic expressions and phrases are used;</i></li> <li><i>- write clear, coherent and detailed descriptions and fictional texts in a confident, personal natural style that corresponds to the level of the imaginary reader;</i></li> <li><i>- use a methodology of academic writing, which involves the ability to write academic texts of various genres, united by the structure of construction and composition of the text, style of presentation (journalistic or scientific), which have a high degree of information concentration and perform descriptive, constructive functions.</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (textbook, reference book, etc)</i>
<b>Mode of delivery:</b>	<i>workshops / tutorials</i>
<b>control:</b>	<i>Exam</i>

Contrastive Lexicology of the English and Ukrainian Languages	
<b>Lecturer</b>	<i>PhD in Philology, associate professor, Olena Tkachyk</i>
<b>Restrictions</b>	<i>B2</i>
<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>2 (4)</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>The educational component "Contrastive Lexicology" aims at the formation of students' ability to identify typological features in the lexical systems of the English and Ukrainian languages, to understand the nature of lexical phenomena and the principles of lexical organization of compared languages in terms of its structure, patterns of functioning and development.</i>
<b>The scope of the course</b>	<p><i>The scope of the course includes:</i></p> <ul style="list-style-type: none"> <li><i>• Understanding of intra-systemic lexical connections and application of linguistic methods to the analysis of the studied lexical phenomena.</i></li> <li><i>• Knowledge of the etymological composition of the English and Ukrainian languages and degree of assimilation of borrowings in the compared languages.</i></li> <li><i>• Understanding of modern word-formation processes and tendencies in English.</i></li> <li><i>• Identification of semantic derivation processes and types of meaning of lexical units within synchronic and diachronic approaches.</i></li> <li><i>• Identification of the semantic class that a lexeme belongs to (homonyms, paronyms, synonyms, antonyms) in the compared languages.</i></li> <li><i>• Defining the typology of a phraseological stock of the English and Ukrainian languages.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in typological peculiarities of the English and Ukrainian lexical systems.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>• knowledge and understanding of the basic concepts, theories and ideas of the chosen philological specialty, ability to apply them in professional activities;</i></li> <li><i>• analysis of language units and language phenomena, defining their interaction and processes that determine them;</i></li> <li><i>• understanding the specificity of functioning and stratification of the lexical system of English, main directions and trends of linguistic research;</i></li> <li><i>• comparison of different units of language and speech in order to identify key information in the original text.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to have the following skills:</i></p> <ul style="list-style-type: none"> <li><i>• to understand the structure of philological science and its theoretical foundations.</i></li> <li><i>• to understand the principles of language organization, its nature, functions, levels and structure.</i></li> </ul> <p><i>Ability to use in professional activities knowledge of the theory and history of the languages studied.</i></p> <p><i>Ability to sociolinguistic, linguocultural and comparative typological analysis of linguistic phenomena.</i></p> <p><i>Ability to operate freely with special terminology for solving professional problems.</i></p> <p><i>Ability to collect and analyze, systematize and interpret linguistic facts, translate professional texts.</i></p>
<b>Instructional Materials:</b>	<i>Syllabus, learning materials</i>
<b>Mode of delivery:</b>	<i>Lectures and seminars</i>
<b>End-of-semester control:</b>	<i>Exam</i>

## Practical Course in English. Level: Effective Operational Proficiency I

<b>Lecturer</b>	<i>PhD in Pedagogics, Senior Lecturer, Olha Vaschylo</i>
<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>3 (5)</i>
<b>Number of ECTS credits</b>	<i>7</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>Completion of the educational component "Practical Course in English. Level: Effective Operational Proficiency I" contributes to the acquisition of knowledge and prerequisites on:</i></p> <ul style="list-style-type: none"> <li><i>- usage of the discourse markers of coherence in the texts of academic and social life;</i></li> <li><i>- genre and stylistic peculiarities of different types of written and oral discourse units;</i></li> <li><i>- lexical and grammatical material according to the subject matter specified in the syllabus;</i></li> <li><i>- strategies as a way of receiving, retaining and usage of the information to solve professional tasks within the spheres of academic and everyday communication;</i></li> <li><i>- reasons that lead to the fossilization of the pronunciation and methods to overcome it,</i></li> <li><i>- fundamentals of the phonostylistics as a prerequisite of the effective foreign language competence formation.</i></li> </ul>
<b>The scope of the course</b>	<i>The course aims at the formation of the competences in five types of the speech activities at a sufficient level on the topics defined by the program; usage of the acquired competences efficiently and aptly in communication and translation practices; interpreting the information, received during the comprehension, reading and writing without any difficulties.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in enriching the professional word-stock, forming the skills of work with texts, dictionaries, extra materials, skills of using the correct pronunciation, professional lexis and grammar structures aptly in the situations of the future profession.</i>
<b>Learning outcomes</b>	<p><i>The expected learning outcomes include the abilities to:</i></p> <ul style="list-style-type: none"> <li><i>- work with authentic audio materials and written texts;</i></li> <li><i>- use different translation approaches while translating the texts of a social, political and academic genres;</i></li> <li><i>- communicate fluently, demonstrating a wide range of grammar structures and connectors, a variety of vocabulary;</i></li> <li><i>- work with information technologies, electronic and Internet resources to perform the tasks;</i></li> <li><i>- reflect on the phonetic aspects of the speech thus improving the phonetic competence.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- produce clear, detailed texts of various genres (official letters, resume, essay, presentations), considering the style and lexico-grammatical features intrinsic to the texts of these genres;</i></li> <li><i>- use basic means of cohesion and coherence to create a clear, logically-structured discourse;</i></li> <li><i>- express personal opinion/attitude to facts and events, using the elements of argumentation, providing critical assessment and giving relevant examples;</i></li> <li><i>- perform detailed translation of written texts of social and political genre, taking into account the specifics of the terms, clichés, abbreviations translation and the stylistic and pragmatic features of the texts;</i></li> <li><i>- search for relevant information from a wide range of texts of a social, political and technical nature;</i></li> <li><i>- take part in discussions, providing arguments "for" and "against"</i></li> <li><i>- conduct a well-structured presentation, reach the expanded points of view;</i></li> <li><i>- comprehend and exchange relevant information of academic and political nature.</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (student's book an workbook, reference book, video, audio, podcasts)</i>
<b>Mode of delivery:</b>	<i>workshops</i>
<b>control:</b>	<i>Exam</i>

Contrastive Typology: Contrastive Stylistics	
<b>Restrictions</b>	<i>Knowledge of English at B2 level</i>
<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>3 (6)</i>
<b>Number of ECTS credits</b>	<i>2,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of the English Language</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Contrastive Typology: Contrastive Lexicology").</i>
<b>The scope of the course</b>	<i>The scope of the course includes phonetic, graphical, morphological levels of functional stylistics, stylistic classification of vocabulary, stylistic semasiology and syntax.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in stylistic text analysis as a prerequisite of text translation.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: knowledge of the place of stylistics in the system of linguistic sciences, its distinguishing features and types, expressive resources of English.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>- <i>differentiate functional styles on the basis of their specific features;</i></li> <li>- <i>determine tenor and mode of text ;</i></li> <li>- <i>distinguish stylistic devices and specify their functions in the texts to be translated;</i></li> <li>- <i>compare stylistic potential of expressive resources of English and the native language.</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (textbooks, video lectures, bank of presentations, assignments for practical work and control</i>
<b>Mode of delivery:</b>	<i>lectures / workshops</i>
<b>End-of-semester control:</b>	<i>Credit</i>

Practical Course in English. Level: Mastery 1	
<b>Lecturer</b>	<i>Olha Ishchenko</i>
<b>Restrictions</b>	<i>Visual impairment</i>
<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>4 (7)</i>
<b>Number of ECTS credits</b>	<i>5,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Linguistics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English C1 (Completion of educational component "Practical Course in English. Level: Effective Operational. Proficiency 2"); Microsoft word, Microsoft PowerPoint skills</i>
<b>The scope of the course</b>	<i>This is a modular secondary-level course for learners of the English language at proficiency level. The course combines active English learning with a variety of lively topics presented in 4 theme-based units (Getting Your Message Across, Transportation, Man in Education, Media and Advertising) ;systematic development of four language skills through realistic challenging tasks, practicing and activating all essential vocabulary, a varied range of stimulating listening and reading tasks, writing analysis, grammar sections covering advanced grammar points, practice in exam-style exercises for the Proficiency exam</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in communicative competence at profociency level, cross-cultural communication and business etiquette</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes:</i></p> <ul style="list-style-type: none"> <li><i>-use variety vocabulary items to express one's opinion spontaneously, fluently and precisely</i></li> <li><i>-summarise information from different spoken and written sources, reconstructing arguments and accounts in coherent presentation</i></li> <li><i>-understand a wide range of complex text and recognise implicit meaning</i></li> <li><i>- plan and write a text of 300-350 words in an appropriate style</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>-Critical thinking: analyse problems by differentiating facts from opinions, using evidence and sound reasoning to specify multiple solutions and their consequences</i></li> <li><i>-Self-awareness and Interpersonal skills: apply self-assessment and reflection strategies to educational, career, work, community, interpersonal pathways</i></li> <li><i>-Ethics: practice standards of personal and professional integrity; applying ethical principles in submission of all university work</i></li> <li><i>-Cultural diversity: respectfully engage with other cultures</i></li> <li><i>-Technical competence: utilize the appropriate technology effectively for informational, professional, academic and personal needs</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (textbook, reference book, podcasts, etc)</i>
<b>Mode of delivery:</b>	<i>workshops</i>
<b>End-of-semester control:</b>	<i>Exam</i>

## Practical Course in English. Level: Mastery II

<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	4 (8)
<b>Number of ECTS credits</b>	1,5
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English C1, Computer skills (Microsoft Word, Microsoft PowerPoint)</i>
<b>The scope of the course</b>	<p><i>The scope of the course is to:</i></p> <ul style="list-style-type: none"> <li>- <i>perceive and continue foreign language speech in accordance with the conditions of speech communication, the situation of communication, taking into account the address and the nature of the interaction of partners;</i></li> <li>- <i>use the language vocabulary;</i></li> <li>- <i>use instantly a standard word from long-term memory depending on the specific speech task and include this word in the speech chain;</i></li> <li>- <i>manage knowledge about the sound, graphic form of the lexical unit; the principle of word formation, spelling rules; semantics of words.</i></li> </ul>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in</i></p> <ul style="list-style-type: none"> <li>- <i>use of knowledge about the language system and the rules of its functioning in the process of professional communication;</i></li> <li>- <i>taking into account cultural, individual and role differences in the process of professional activity in order to avoid discrimination;</i></li> <li>- <i>application of the base of conceptual knowledge for the implementation of successful interpersonal and intercultural communication in a wide range of situations of formal and informal interaction with native speakers.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li>- <i>knowledge of linguistic-stylistic and communicative-pragmatic features of written and oral scientific and technical texts;</i></li> <li>- <i>knowledge of metacognitive strategies which are based on the ability to analyze their mental and speech activity and which ensure the implementation of cognitive principles of planning, control, evaluation and adjustment of the process of mastering foreign language communicative competence;</i></li> <li>- <i>knowledge of lexical and grammatical material in accordance with the topics defined in the work programme;</i></li> </ul> <p><i>ability:</i></p> <ul style="list-style-type: none"> <li>- <i>ability to use direct strategies: mnemonic, cognitive and compensatory;</i></li> <li>- <i>awareness of and adhere to moral and ethical norms and universal values in the process of intercultural communication;</i></li> <li>- <i>ability to understand easily and participate in complex interactions between other people leading a group conversation / discussion, even on abstract, complex unfamiliar topics, easy to hold debates, even on abstract, complex, unfamiliar topics.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>- <i>participate freely in the interview, on the one hand or on the other, presenting and developing the subject of discussion freely, without any support, well understanding all the remarks;</i></li> <li>- <i>have a wide range of vocabulary that allows you to overcome difficult places by paraphrasing and using other alternative strategies, the search for which is barely noticeable to the listener;</i></li> <li>- <i>understand audio and video materials, in which a significant amount of slang vocabulary and idiomatic expressions and phrases are used;</i></li> <li>- <i>write clear, coherent and detailed descriptions and fictional texts in a confident, personal natural style that corresponds to the level of the imaginary reader;</i></li> <li>- <i>have a methodology of academic writing, which involves the ability to write academic texts of various genres, united by a common subordination to certain requirements for the structure of construction and composition of the text, style of presentation (journalistic or scientific), which have a high degree of information concentration and perform descriptive, constructive functions.</i></li> </ul>
<b>Materials:</b>	<i>syllabus, learning materials (textbook, reference book, etc)</i>
<b>Mode of delivery</b>	<i>workshops / tutorials</i>
<b>control:</b>	<i>Exam</i>



## Contrastive Phonetics

<b>Lecturer</b>	<i>Habilitated Doctor of Philology, Professor, Alla Kalyta</i>
<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>4 (7)</i>
<b>Number of ECTS credits</b>	<i>6</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>The scope of the course</b>	<p><i>The scope of the course includes the study of Modern English in the context of:</i></p> <ul style="list-style-type: none"> <li>• <i>its sound structure;</i></li> <li>• <i>isomorphic and allomorphic features of segmental and suprasegmental levels of contrasted languages;</i></li> <li>• <i>phonostylistic and phonosemantic specifics of phonetic units in contrasted languages;</i></li> <li>• <i>features of the interfered English speech;</i></li> <li>• <i>the norms of oral intercultural communication and adequate use of phonetic means in the texts of different styles, genres and registers as well as in accordance with the communicative situation.</i></li> </ul>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in (1) the phonological systems and phenomena of native and foreign languages; (2) the culture of oral speech; (3) the role of phonetic and non-verbal means in speech and professional practice of a linguist; (4) phonetic inconsistencies between foreign and native languages at segmental and suprasegmental levels necessary to overcome barriers in intercultural communication.</i></p> <p><i>The study of the discipline will help:- eliminate typical mistakes and errors in the English pronunciation of non-native speakers of English as well as acquaint with the ways of overcoming these mistakes and errors;</i></p> <ul style="list-style-type: none"> <li>- <i>form the skills of a correct use of word and utterance stress as well as of the utterance and text segmentation in contrasted languages;</i></li> <li>- <i>foresee scenarios and models of the speakers' communicative and socio-cultural behavior.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include the learners' ability to:</i></p> <ul style="list-style-type: none"> <li>- <i>to carry out the comparative analysis of phonetic units and phenomena of foreign and native languages;</i></li> <li>- <i>recognize the intonation of spoken texts of different functional styles and genres;</i></li> <li>- <i>produce and perceive emotional speech, as well as the utterances' emotional-and-pragmatic potential - diagnose and correct pronunciation mistakes and errors in non-native English speech; - use intonation patterns and their variations in the process of expressing the utterance meaning; - interpret the role of phonetic means in differentiating the meaning of dialogic and monologue speech;- overcome phonetic interference of non-native speakers of English by identifying similarities and differences between both languages; - make generalizations about the phonetic features of present-day English pronunciation; - use the phonological base of the English language during professional activities.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>- <i>adhere to moral, ethical and cultural norms, principles of academic integrity and the code of professional ethics, as well as increase the achievements of society.</i></li> <li>- <i>communicate freely on professional issues with specialists and non-specialists in English, to use them for the organization of effective intercultural communication.</i></li> <li>- <i>organize the process of the learners' self-education.</i></li> <li>- <i>cooperate with colleagues, representatives of other cultures and religions, supporters of different political views, etc.</i></li> <li>- <i>analyze language units, determine their interaction and characterize language phenomena and processes that determine them.</i></li> <li>- <i>understand the specificity of functioning of different languages, basic directions and approaches to the linguistic research, mechanisms of the language development in the context of modern linguistic cultures.</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts, etc)</i>
<b>Mode of delivery:</b>	<i>lectures (seminars / workshops / tutorials)</i>
<b>control:</b>	<i>Credit</i>



Practical Grammar of the English Language	
<b>Lecturer</b>	Valeriya Havrylenko
<b>Educational level</b>	First (Bachelor)
<b>Year of study</b>	2, 3
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Department of theory, practice and translation of the English language
<b>Assumed knowledge and prerequisites</b>	B2 level of English
<b>The scope of course</b>	<i>The aim of the course is to improve knowledge and understanding of the grammar structure of the modern English language, in particular – the peculiarities of parts of speech functioning in language. The course also envisages the practicing of application of various tense forms in active and in passive voices, changes of direct speech into indirect one and vice versa, the peculiarities of sequence of tenses, and the peculiarities of different moods usage. Special attention is paid to current tendencies and changes in English grammar, syntax and punctuation, as these are of a great importance in translation activity.</i>
<b>Rationale</b>	<i>These subject deepens and systematizes knowledge of English, being complementary in obtaining the skillset necessary for being a high quality translator or interpreter, as only deep understanding of the language's inner workings grants the ability to convey the translated messages, both oral and written, in a proper manner.</i>
<b>Learning outcomes</b>	<p><i>Learning outcomes:</i></p> <ul style="list-style-type: none"> <li>- <i>Being able to analyze language units, define their interaction modes and characterize linguistic phenomena and processes, which define them;</i></li> <li>- <i>Contrast different language and speech units with the view of finding key information in the original texts;</i></li> <li>- <i>collect, analyze, systematize and interpret language and speech facts and use them accordingly in order to solve various difficult tasks in specific areas of professional activities and/or education.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>This discipline ensures the acquisition of the following competencies:</i></p> <ul style="list-style-type: none"> <li>- <i>ability to understand and use the principle of language organization, language's nature, its functions, levels and structural typology of the world's languages;</i></li> <li>- <i>ability to apply sociolinguistic, lingvo-cultural and contrastive-and-typological analyses to language phenomena;</i></li> </ul>
<b>Instructional materials:</b> syllabus of the discipline, set of educational and curricular materials	
<b>Mode of delivery:</b> Seminars	
<b>End of semester control:</b> credit	

History of Translation	
<b>Restrictions</b>	
<b>Educational level</b>	<i>First (Bachelor's)</i>
<b>Year of study (semester)</b>	<i>2/3 (3/5)</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of instruction</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (according to the CEFR)</i>
<b>The scope of the course</b>	<i>The course covers a range of topics related to the advent of translation as means of cross-cultural communication, its influence on spreading of ideas and scientific knowledge across the globe, its impact on local communities in terms of religion, ideology, politics etc. The cornerstone of the educational component is the idea of translator's visibility in the process of shaping world's history.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in translation studies.</i>
<b>Learning outcomes</b>	<i>By the end of the programme students will have developed: a deeper knowledge and understanding of the concepts of translation fidelity and transparency, as well as the key translation theories at different stages of their development; the skill of collecting, analysing and critically interpreting information within the scope of the subject; and the ability to engage and effectively participate in scholarly debate.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: understand the key development stages of translation studies and its milestones; analyse the major domains and core principles of translation in the broad scope of historical contexts; and grasp the core social and cultural values of their profession.</i>
<b>Instructional materials</b>	<i>Syllabus, reference books, authentic texts.</i>
<b>Mode of delivery</b>	<i>Seminars</i>
<b>End-of-semester control</b>	<i>Credit</i>

Sociocultural Variations in English Oral Speech	
<b>Lecturer</b>	<i>Habilitated Doctor of Philology, Professor, Larysa Taranenko</i>
<b>Educational level</b>	<i>First (Bachelor)</i>
<b>Term</b>	<i>4/6 spring</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of the Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>The scope of the course</b>	<p><i>The scope of the course includes the formation of students' ability to correctly decode and produce socially marked verbal and nonverbal means of present-day English that can help solve problems of everyday and professional communication.</i></p> <p><i>The students acquire the knowledge about sociocultural variability of present-day English on verbal, phonemic and accentual levels; the main differences between the national varieties of English; typical features of regional varieties of the English language. Attention is given to the formation of students' skills of speech interpretation taking into account such socio-cultural factors as national and social identity of interlocutors, the nature of their relationships, gender, national and cultural specifics of the communicative situation, etc.</i></p>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in understanding the principles of present-day English.</i></p> <p><i>The study of this discipline will serve to develop the students' skills to adequately perceive and produce dialogue and monologue speech in different communicative situations in accordance with the norm of English and taking into account socio-cultural factors that influence the variability of its verbal and nonverbal organization. This course will also acquaint students with current trends and processes in English pronunciation as well as with those phenomena that cause its variability.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– ability to perform the analysis of the deep structures of the literary text in comparison with real communicative situations.</i></li> <li><i>– Analyze language units, determine their interaction and characterize language phenomena and processes that determine them.</i></li> <li><i>– Understand the main directions and trends of classical linguistic research, the patterns of language development.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– understand the principles of language organization and its functions in various social spheres of human life;</i></li> <li><i>– use knowledge of sociocultural variations of English in professional activities;</i></li> <li><i>– analyze dialectal and social varieties of English as well as describe sociolinguistic situation at different periods of the language development;</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, reference book, video lectures, YouTube videos, etc.)</i>
<b>Mode of delivery</b>	<i>seminars / workshops / tutorials</i>
<b>End-of-semester control</b>	<i>credit</i>

## Speech Etiquette as a Component of Translator's Sociocultural Competence

<b>Lecturer</b>	<i>Habilitation Doctor of Philology, Professor, Alla Kalyta</i>
<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>4 (7)</i>
<b>Number of ECTS credits</b>	<i>6</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>The scope of the course</b>	<p><i>The scope of the course includes the study of Modern English within the context of the norms of intercultural oral communication based on the knowledge about:</i></p> <ul style="list-style-type: none"> <li><i>the system of a communicative culture and its history;</i></li> <li><i>a set of elements of speech etiquette that regulate the communicative behavior of native speakers of Ukrainian and English;</i></li> <li><i>rhetorical, stylistic and linguistic norms, techniques and strategies typical of different communicative situations.</i></li> </ul> <p><i>Particular attention is given to the choice of speech etiquette elements depending on the communicative situation and socio-cultural factors (such as the speaker's gender, education, origin, employment, etc.).</i></p>
<b>Rationale</b>	<p><i>The study of this discipline will serve:</i></p> <ul style="list-style-type: none"> <li><i>the development of students' culture of oral English;</i></li> <li><i>formation of the skills of using verbal and nonverbal means in communication and professional practice of the translator,</i></li> <li><i>correct interpretation of the speech content in various communicative situations</i></li> </ul> <p><i>This discipline will also help the students predict scenarios and models of communication by way analyzing the interlocutors' socio-cultural behavior.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include the learners' ability to:</i></p> <ul style="list-style-type: none"> <li><i>analyze dialectal and social varieties of the studied languages,</i></li> <li><i>describe sociolinguistic situations;</i></li> <li><i>organize business and intercultural oral communication;</i></li> <li><i>comprehend the communicative activity as the realization of language functions in various social spheres of human activities.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- adhere to moral, ethical and cultural norms, principles of academic integrity and the code of professional ethics, as well as increase the achievements of society.</i></li> <li><i>- communicate freely on professional issues with specialists and non-specialists in English, to use them for the organization of effective intercultural communication.</i></li> <li><i>- organize the process of the learners' self-education.</i></li> <li><i>- cooperate with colleagues, representatives of other cultures and religions, supporters of different political views, etc.</i></li> <li><i>- analyze language units, determine their interaction and characterize language phenomena and processes that determine them.</i></li> <li><i>- understand the specificity of functioning of different languages, basic directions and approaches to the linguistic research, mechanisms of the language development in the context of modern linguistic cultures.</i></li> </ul>
<b>Instructional materials:</b>	<i>syllabus, learning materials (textbook, video lectures, podcasts, etc)</i>
<b>Mode of delivery:</b>	<i>seminars / workshops / tutorials</i>
<b>End-of-semester control:</b>	<i>Credit</i>

## Phonostylistics and Practical English Phonetic Studies

<b>Lecturer</b>	<i>Habilitated Doctor of Philology, Professor, Larysa Taranenko</i>
<b>Educational level</b>	<i>First (Bachelor)</i>
<b>Term</b>	<i>5 autumn</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of the Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>The scope of the course</b>	<p><i>The scope of the course includes the formation of students' ability to:</i></p> <ul style="list-style-type: none"> <li><i>• analyze phonostylistic and phonosemantic features of English speech;</i></li> <li><i>• use the phonetic means organizing the texts of different styles, genres and registers and in accordance with the situation and sphere of communication;</i></li> <li><i>• be aware of the role of intonation in expression of the speaker's various emotions and feelings;</i></li> <li><i>• understand the influence of extralinguistic factors on the choice of phonetic means of speech in various communicative situations.</i></li> </ul>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in understanding the principles of present-day English.</i></p> <p><i>The study of this discipline will serve to the correct use of intonation patterns and their variations in expressing the meaning as well as emotional and pragmatic potentials of texts of different styles, genres and registers. It will further develop the students' English speaking culture in formal and informal communicative situations;</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include ability to:</i></p> <ul style="list-style-type: none"> <li><i>– analyze language units, determine their interaction and characterize language phenomena and processes that determine them.</i></li> <li><i>– understand the main directions and trends of linguistic research, the patterns of language use.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– understand the principles of language organization and its functions in various social spheres of human life;</i></li> <li><i>– use knowledge of phonostylistic variations of English in professional activities;</i></li> <li><i>– analyze stylistic varieties of English;</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, reference book, video lectures, YouTube videos, etc.)</i>
<b>Mode of delivery</b>	<i>seminars / workshops / tutorials</i>
<b>End-of-semester control</b>	<i>credit</i>

Copywriting in Advertisement and PR	
<b>Lecturer</b>	<i>PhD in Philology, Associate Professor, Iryna Borbenchuk</i>
<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>8</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<p><i>The educational component contributes to the acquisition of knowledge and prerequisites on:</i></p> <ul style="list-style-type: none"> <li><i>- proven methods of convincing copywriting and effective headline;</i></li> <li><i>- ability to write copy (words used on web pages, ads, promotional materials, etc.)</i></li> <li><i>- genre and stylistic peculiarities of different types of written and oral discourse units.</i></li> </ul>
<b>The scope of the course</b>	<i>The scope of the course includes basic principles, techniques and technologies of copywriting; requirements for writing advertising and PR-texts; techniques of sloganism and naming.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in advertising text, writing slogans, developing advertising design, writing commercial and presentation texts for publication and public speaking.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- have an excellent grammar of Ukrainian and English to write texts of different genres;</i></li> <li><i>- explore small delicate details of the subject, highlight the most important benefits and features;</i></li> <li><i>- the ability to synthesize large amounts of information into a convenient and easily digestible package;</i></li> <li><i>- the ability to touch the subconscious of the audience, realizing that they like it, and to write creatively and convincingly.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- support moral and ethical and cultural norms, principles and codes of cultural norms, to increase the wealth of society;</i></li> <li><i>- analyze language units, determine their interaction and characterize language phenomena and processes that cause them:</i></li> <li><i>- know and understand the basic concepts, theories and concepts of the chosen philological specialization, be able to apply them in professional activities.</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (textbook, reference book, video, audio, podcasts)</i>
<b>Mode of delivery:</b>	<i>Seminars, workshops</i>
<b>End-of-semester control:</b>	<i>Credit</i>

## PEDAGOGY OF HIGHER EDUCATION AND METHODIC PRINCIPLES OF TEACHING FOREIGN LANGUAGES AND TRANSLATION

<b>Lecturer</b>	<i>PhD in Pedagogics, Professor, Svitlana Kolomiyets</i>
<b>Educational level</b>	<i>second (Master's degree)</i>
<b>Year of study, semester</b>	<i>1 (fall)</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of the English Language</i>
<b>Assumed knowledge and prerequisites</b>	<i>English C 1 (Completion of the educational component "Psychology")</i>
<b>The scope of the course</b>	<i>The scope of the course includes principles and content of the Pedagogy of Higher School, transformation of Ukrainian system of higher education in terms of Bologna process, principles, aims, content and methods of teaching English.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in developing learners' language competences, enabling them to function effectively in culturally diverse academic and professional environments.</i>
<b>Learning outcomes</b>	<p><i>The expected learning outcomes include:</i></p> <ol style="list-style-type: none"> <li><i>1. Knowledge of the principles and content of higher education, methods and techniques of forming communicative English language competence.</i></li> <li><i>2. Abilities:</i> <ul style="list-style-type: none"> <li><i>- to plan and monitor the learning process in teaching English;</i></li> <li><i>- to organize the needed class room activities in on-line and off line modes to provide developing learners' skills in reading and listening comprehension, spoken and written interaction, spoken and written production, as well as in intercultural mediation.</i></li> </ul> </li> </ol>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- develop students' skills and knowledge in English to enable them to communicate effectively in their academic and professional environments;</i></li> <li><i>- further develop the full range of their cognitive abilities;</i></li> <li><i>- foster students' capacity for autonomous learning;</i></li> <li><i>- assess students' progress in a variety of control types and methods.</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (textbooks, video lectures, bank of presentations and assignments for practical work and control/selfcontrol)</i>
<b>Mode of delivery:</b>	<i>lectures / workshops</i>
<b>End-of-semester control:</b>	<i>credit</i>



CAT Tools for Specialized Translation	
<b>Lecturer</b>	<i>PhD in Pedagogics, Associate Professor, Iana Tikan</i>
<b>Educational level</b>	<i>Second (Master)</i>
<b>Year of study</b>	<i>1 (fall)</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of The Theory, Practice and Translation of the English Language</i>
<b>Assumed knowledge and prerequisites</b>	<i>English C1</i>
<b>The scope of the course</b>	<p><i>The scope of the course includes:</i></p> <ul style="list-style-type: none"> <li><i>different types and principles of computer translation, systems of automated and machine translation, translation memory systems (SDL Trados 2019, Translation Memories).</i></li> <li><i>CAT tools for computer-assisted translation.</i></li> <li><i>Translation quality assurance and control tools (Xbench, Verifica),</i></li> <li><i>electronic dictionaries and terminology databases, information resources for the translator.</i></li> <li><i>electronic translator systems: information, translation, communication. Automated translator workstation.</i></li> </ul>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in performing complex translation tasks and translation projects using computer technology and specialized software.</i></p> <p><i>The students will gain expertise in using information and communication technologies in professional activities, in particular, for performing specific translation tasks with the help of automated translation systems, specialized software (SDL Trados, Translation Memory).</i></p> <p><i>The course will serve to improve the students' skills of written translation and editing of specialized texts for performing translation activities at a high professional level, taking into account present-day translation market demands.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Apply modern methods and information technologies for effective translation, teaching, research and innovation activities.</i></li> <li><i>- Collect and systematize linguistic and speech facts, interpret and translate specialized texts of different styles and genres.</i></li> <li><i>- the ability to apply different translation strategies, methods, and techniques in different types of translation.</i></li> <li><i>- adequate written translation and editing of specialized texts from various fields using information technologies and automated translation systems.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- Implement a systematic approach to the organization and effective performance of professional, research and innovation activities using modern information and communication technologies.</i></li> <li><i>- Apply linguo-creative thinking to implement communication and translation strategies.</i></li> <li><i>- Apply theoretical knowledge in translation studies, the specifics of certain specialized text types and translation techniques, methods, etc. to conduct effective professional activities.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts, etc)</i>
<b>Mode of delivery</b>	<i>Workshops using Information communication technologies and specialized Software (SDL Trados, Translation Memory).</i>
<b>End-of-semester control</b>	<i>credit</i>

CORPUS LINGUISTICS	
<b>Lecturer</b>	<i>PhD in Philology, Associate prof. Olena Tkachyk</i>
<b>Restrictions</b>	<i>B2</i>
<b>Educational level</b>	<i>Second (Master's degree)</i>
<b>Year of study, semester</b>	<i>1 (fall)</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>The educational component of "Corpus Linguistics" aims at the formation of students' ability to effectively use the methods of corpus analysis in theoretical and practical application in linguistics and translation</i>
<b>The scope of the course</b>	<p><i>The scope of the course includes:</i></p> <ul style="list-style-type: none"> <li><i>• understanding the range of application and opportunities that corpus linguistics gives to automatize the scientific research, linguistic text analysis and translation studies;</i></li> <li><i>• knowledge of the history of corpus linguistics, its object of research and methodology;</i></li> <li><i>• understanding of the main notions of corpus linguistics, types of corpora and standards of their creation;</i></li> <li><i>• identification of the functional peculiarities of the existing modern corpora of English and its variants, German, Ukrainian and other languages;</i></li> <li><i>• ability to apply the search methods (concordances and corpus managers) to existing corpora and ability to create your own corpus according to the aim of individual research</i></li> <li><i>• ability to use quick, automatic methods of corpus linguistics (find collocations, colligations, clusters, m-grams, keywords, positive and negative word frequencies, type-token ratio, etc.) to unlimited scope of linguistic material and to interpret the acquired results</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in automatic linguistic analysis of unlimited number of texts.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>• knowledge and understanding of the basic concepts, theories and concepts of the chosen philological specialty, ability to apply them in professional activities;</i></li> <li><i>• analysis of language units and language phenomena, defining their interaction and processes that determine them;</i></li> <li><i>• understanding the specificity of the studied language functioning, the main directions and trends of linguistic research, the patterns of language in the context of modern linguistic cultures.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to have the following skills:</i></p> <ul style="list-style-type: none"> <li><i>• to understand the structure of the course "Corpus Linguistics" and its theoretical foundations;</i></li> <li><i>• to understand the principles of the English language organization, its nature, functions, levels and structural characteristics;</i></li> <li><i>• to use in professional activities knowledge of the theory and practical analysis of the languages studied.</i></li> <li><i>• to operate freely with special terminology for solving professional problems.</i></li> <li><i>• to collect and analyze, systematize and interpret linguistic facts, translate professional texts.</i></li> </ul>
<b>Instructional Materials:</b>	<i>Syllabus, learning materials, computer and software</i>
<b>Mode of delivery:</b>	<i>Lectures and seminars</i>
<b>End-of-semester control:</b>	<i>Credit</i>

ANCIENT THEMES IN EUROPEAN LITERATURE	
<b>Lecturer</b>	<i>PhD in Philology, Associate Professor, Iryna Borbenchuk</i>
<b>Educational level</b>	Master's
<b>Year of study, semester</b>	<i>Fall</i>
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>Completion of the educational component "Introduction to Roman-and-Germanic Linguistics: Latin; History of the World Literature"</i>
<b>The scope of the course</b>	<i>The scope of the course includes the principles of comparative studies, concepts of the world literature, traditional plots and images, various literary translations.</i>
<b>Rationale</b>	<i>This course is oriented at the disclosure of the relationship between literature and history throughout Europe in order for students to understand the foundations of Western culture. The educational component contributes to the development of professional expertise in comparative literary studies (traditional plots and images), literature analysis, analysis of literary texts and phenomena.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- the course focuses on twentieth-century literary theories in the context of comparative studies, providing the students with an overall view of the theoretical discussion of literature from about 1920s up to the present;</i></li> <li><i>- understanding of the fundamental principles of human existence, nature, society;</i></li> <li><i>- the use of the acquired philological knowledge to solve professional problems;</i></li> <li><i>- taking part in scientific philological research.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- use narrative techniques, such as dialogue, description, reflection, and multiple plot lines, to develop experience, events, and/or characters;</i></li> <li><i>- define the meaning of words and phrases as they are used in the text, including figurative and connotative meanings;</i></li> <li><i>- work in groups to define the idea, audience, and message in order to find a solution to a problem;</i></li> <li><i>- discuss a variety of information perspectives and ideas in an analytical way while searching for the solution to a problem;</i></li> <li><i>- write informative texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (textbook, literary texts, video)</i>
<b>Mode of delivery:</b>	<i>seminars</i>
<b>End-of-semester control:</b>	<i>credit</i>

## ROLE OF PHONETIC DEVICES IN TRANSLATING TEXTS OF DIFFERENT GENRES

<b>Lecturer</b>	<i>Habilitated Doctor of Philology, Professor, Larysa Taranenko</i>
<b>Educational level</b>	<i>Second (Master)</i>
<b>Term</b>	<i>Fall</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of the Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English C1</i>
<b>The scope of the course</b>	<i>The scope of the course includes highlighting the communicative and pragmatic potential of segmental and suprasegmental phonetic means in English texts of various genres with an aim to define optimal ways and strategies to preserve them in Ukrainian translation.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in differentiating phonostylistic and phonosemantic features of phonetic units functioning in texts of different genres, which should be taken into account when translating them into Ukrainian.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include ability to:</i> <i>– analyze language units, determine their interaction and characterize language phenomena and processes that define them.</i> <i>– understand the main directions in translation studies, the strategies and ways of translation.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <i>– perform pre-translation analysis of the text, which involves a sequence of logical operations in order to ensure the equivalence and adequacy of translation;</i> <i>- translate various texts, in particular professional, in compliance with all types of regulatory requirements;</i> <i>- apply the principles of systematic organization of natural languages and patterns of their functioning in professional translation and research work.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, reference book, video lectures, YouTube videos, etc.)</i>
<b>Mode of delivery</b>	<i>seminars / workshops / tutorials</i>
<b>End-of-semester control</b>	<i>credit</i>

SUGGESTION IN ORAL COMMUNICATION	
<b>Lecturer</b>	<i>Habilitated Doctor of Philology, Professor, Larysa Taranenko</i>
<b>Educational level</b>	<i>Second (Master)</i>
<b>Term</b>	<i>spring</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of the Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English C1</i>
<b>The scope of the course</b>	<i>The scope of the course includes communicative and pragmatic potential of verbal and nonverbal means realizing a suggestive subliminal influence in English dialogue speech with an application of present-day scientific knowledge of cognitive studies, pragmatics, socio-and psycholinguistics as well as that of the theory of intercultural communication.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in performing a comprehensive analysis of verbal and nonverbal means interaction that ensures a subliminal effect in the course of a communicative process, as well as can help recognize verbal and nonverbal markers of a suggestive message in a dialogue speech.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include the ability to:</i> <ul style="list-style-type: none"> <li>– analyze language units, determine their interaction and characterize language phenomena and processes that define them;</li> <li>– initiate, regulate and analyze intercultural communicative interaction, predict the consequences of communicants' actions and their linguistic representation;</li> <li>- demonstrate an appropriate level of proficiency in English for written and oral communication, in particular in situations of professional and scientific communication.</li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>- apply the principles of systematic organization of natural languages and patterns of their functioning in professional translation and research;</li> <li>- clearly and coherently express an opinion, to use the knowledge of speech technique;</li> <li>- use the expressive and argumentative language means to achieve the desired pragmatic and subliminal suggestive result;</li> <li>– apply the principles of systematic organization of natural languages and patterns of their functioning in research work.</li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, reference book, video lectures, YouTube videos, etc.)</i>
<b>Mode of delivery</b>	<i>seminars / workshops / tutorials</i>
<b>End-of-semester control</b>	<i>credit</i>

SOCIOLINGUISTICS	
<b>Lecturer</b>	<i>Svitlana Fedorenko, Habilitated Doctor of Educational Sciences, Professor</i>
<b>Educational level</b>	<i>Second (Master)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>The scope of the educational component</b>	<i>The scope of the educational component includes: the basics of sociolinguistics as a discipline that considers the conditionality of the language functioning by social factors, which, first of all, embrace the features of social and cultural life of people and specific conditions of communication, in order to form the necessary competencies for the successful professional activities in the future.</i>
<b>Rationale</b>	<i>The educational component contributes to providing students with knowledge about the content of basic concepts of sociology, and the essence of language functions as a means of communication, sociolinguistic typology of language forms, concepts of language policy, language situation, language contacts, the impact of social factors on language development; developing students' skills of sociolinguistic analysis of language phenomena and the ability to apply methods of sociolinguistic research in solving specific applied problem.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include the ability to:</i></p> <ul style="list-style-type: none"> <li>- <i>understand the processes in society, which at the present stage affect the insight into the basic concepts and phenomena covered by the discipline;</i></li> <li>- <i>correctly diagnose socio-linguistic concepts, independently develop language policy on the basis of collected sociolinguistic data, be able to apply methods of sociolinguistic research;</i></li> <li>- <i>highlight trends in language development, practically applying acquired knowledge from the educational component when writing term papers, master's theses, performing multimedia presentations.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the educational component, students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>- <i>identify sociolinguistic features of texts of different genres; to carry out communicative-pragmatic analysis of the text in the process of translation of various genre texts; to compare the linguistic phenomena within the framework of a sociolinguistic aspect;</i></li> <li>- <i>use language as a means of speech and mental activity, taking into account the peculiarities of basic phonological, grammatical, lexical and syntactic forms, categories and relations in sociolinguistic analysis of language and features of their functioning in accordance with the sphere of communication and language register;</i></li> <li>- <i>search, systematize and critically analyze information from various sources;</i></li> <li>- <i>plan and conduct comprehensive research, within the interdisciplinary fields including, on the basis of a systematic scientific worldview using current information and communication technologies;</i></li> <li>- <i>use communicative strategies of scientific discourse from the standpoint of intentional and cognitive approaches for the effective implementation of goals in the study;</i></li> <li>- <i>develop research strategies, including self-monitoring and self-assessment strategies and research self-improvement strategies;</i></li> <li>- <i>plan, organize professional, scientific-innovative, translation and teaching activities, in particular in situations that require new strategic approaches.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, learning materials (textbook, reference book, video lectures, podcasts, etc.)</i>
<b>Mode of delivery</b>	<i>Seminars / workshops / tutorials</i>
<b>End-of-semester control</b>	<i>credit</i>



PUBLIC SPEAKING	
<b>Lecturer</b>	<i>PhD in Pedagogics, Associate Professor, Iryna Voloshchuk</i>
<b>Educational level</b>	<i>Second (Master's degree)</i>
<b>Year of study, semester</b>	<i>1 (2)</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English.</i>
<b>Assumed knowledge and prerequisites</b>	<i>English C1 (Completion of educational component "Proficient English")</i>
<b>The scope of the course</b>	<p><i>The scope of the course includes:</i></p> <ul style="list-style-type: none"> <li>- <i>argumentative and logical presentation of one's own idea, concept, opinion, views;</i></li> <li>- <i>clear definition of the topic to be discussed with the help of rhetorical techniques;</i></li> <li>- <i>reasoning based on the thesis and antithesis; arguments and rebuttals; logical arrangement of arguments, their reasoning and evidences (demonstration), conclusion about the truth / probability of the thesis (antithesis) about the lack of arguments in the informative or persuasive speech.</i></li> <li>- <i>tactics to refute the arguments of opponents and to form their own rhetorical tactics on different types of the responses;</i></li> <li>- <i>linguistic and pragmatic analyses of public speakers in order for students to model their own speech behavior during discussion, highlighting the main types of arguments, principles of argumentation and methods of delivery.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in organizing and presenting students' ideas in public. The course aims at building in students main principles of effective speech delivery and fighting nervousness of public speaking.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include formation of:</i></p> <ul style="list-style-type: none"> <li>- <i>informative, descriptive, narrative and persuasive techniques of rhetoric in public speaking.</i></li> <li>- <i>the ability to reflex and evaluate students' own educational and public activity and strategy of self-development to build professional portfolio in the scope of public speaking;</i></li> <li>- <i>the ability to identify specific lines of reasoning and problematization as well as the ways to solve them in the process of narration;</i></li> <li>- <i>the skills to apply knowledge of expressive and logical means of speech and stylistic devices to achieve the planned pragmatic result and successful communication;</i></li> <li>- <i>the skills to analyze and edit the texts of charismatic speakers: the main types of arguments, principles of argumentation and methods of their communicative enthusiasm.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>- <i>produce the acquired rhetorical art in Business Environment, Debates, Academic Environment, etc. using reasoning and argumentations;</i></li> <li>- <i>apply theoretical knowledge of the theory of language communication and translation for their own public speaking skills;</i></li> <li>- <i>narrate, give arguments and defend students' own ideas, concepts, opinions in the situations of professional and scientific communication;</i></li> <li>- <i>effectively present the results of students' research in English.</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (textbook, reference book, presentation)</i>
<b>Mode of delivery:</b>	<i>tutorials</i>
<b>End-of-semester control:</b>	<i>credit</i>



ICT IN TEACHING ENGLISH FOR SPECIFIC PURPOSES	
<b>Lecturer</b>	<i>Habilitated Doctor of Pedagogics, professor Zoia Kornieva</i>
<b>Educational level</b>	<i>Second (Master's degree)</i>
<b>Term</b>	<i>1 (2)</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English C1</i>
<b>The scope of the course</b>	<i>The scope of the course includes the study of the notion of ICT in diachrony and synchrony, classification of present-day ICTs, areas of their application, ICT as a tool for developing educational materials for an English teacher, means of electronic communication in teaching ESP, virtual learning environments in teaching ESP, methods of forming professionally oriented English-language competence mediated by ICT, ICT in testing the level of the English professionally oriented communicative competence formation as well as basics of information security.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in understanding: (1) terminological apparatus of modern methods of teaching foreign languages; (2) innovative methods, forms and ways of organizing teaching of English; (3) methodological culture, methodical reflection, critical thinking.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include the ability: - to solve complex problems and problems of organization and carrying out teaching at higher educational institutions mediated by ICT; - to design and arrange the content of teaching, to make a rational choice of ways to organize activities using ICT.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to apply modern teaching methods and technologies, in particular ICT, for the successful and effective functioning as foreign language teachers at higher educational institutions.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts, etc)</i>
<b>Mode of delivery</b>	<i>seminars / workshops / tutorials</i>
<b>End-of-semester control</b>	<i>credit</i>

## STEREOTYPES OF SPEECH BEHAVIOUR IN TYPICAL COMMUNICATIVE SITUATIONS

<b>Lecturer</b>	<i>Habilitated Doctor of Philology, Professor, Alla Kalyta</i>
<b>Educational level</b>	<i>Second (Master)</i>
<b>Term</b>	<i>spring</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of the Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English C1</i>
<b>The scope of the course</b>	<i>The course is aimed at teaching the students to use language within the norms of intercultural communication on the basis of the knowledge about: the system of communication culture and its history; a set of factors that regulate speech behaviour of English speakers in stereotypical situations; stylistic and linguistic norms, techniques and strategies used in stereotypical situations; psychological, pragmatic, gender and linguistic features of speech in stereotypical situations; etiquette speech situations.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of students' adequate speech behaviour in stereotypical situations; reaching their communicative intentions in various spheres and communicative situations due to the knowledge of phonetic and lexico-grammatical norms of English speech etiquette; the formation of skills in the use of verbal and nonverbal means in everyday speech and professional translator's practice; interpretation of speech content in various stereotypical communicative situations. This discipline will allow students to predict scenarios and models of communication by analysing sociocultural behaviour of interlocutors and taking into account psychological, linguistic and pragmatic features of individuals' speech behaviour in stereotypical speech situations.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include the ability to:</i> <ul style="list-style-type: none"> <li>– analyze language units, determine their interaction and characterize language phenomena and processes that define them;</li> <li>– initiate, regulate and analyze intercultural communicative interaction, predict the consequences of communicants' actions and their linguistic representation;</li> <li>- demonstrate an appropriate level of proficiency in English for written and oral communication, in particular in situations of professional and scientific communication.</li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>- apply the principles of systematic organization of natural languages and patterns of their functioning in professional translation and research;</li> <li>- clearly and coherently express an opinion, to use the knowledge of speech technique;</li> <li>- use the expressive and argumentative language means to achieve the desired pragmatic and subliminal suggestive result;</li> <li>– apply the principles of systematic organization of natural languages and patterns of their functioning in research work.</li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, reference book, video lectures, YouTube videos, etc.)</i>
<b>Mode of delivery</b>	<i>seminars / workshops / tutorials</i>
<b>End-of-semester control</b>	<i>credit</i>

Academic Writing and Scientific Communication in English	
<b>Lecturer</b>	
<b>Educational level</b>	<i>Third (PhD)</i>
<b>Year of study (semester)</b>	<i>1 (1, 2)</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of instruction</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English, Faculty of Linguistics</i>
<b>Assumed knowledge and prerequisites</b>	<i>English C1 (according to the CEFR)</i>
<b>The scope of the course</b>	<p><i>The course entails an array of practical activities primarily aimed at developing writing skills for academic purposes.</i></p> <p><i>Students will master their skills in writing academic texts in different genres; efficiently deliver presentations at academic conferences and participate in scholarly debate; communicate in academic environment.</i></p>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in translation studies.</i>
<b>Learning outcomes</b>	<p><i>By the end of the course students will have developed the abilities to:</i></p> <ul style="list-style-type: none"> <li><i>- perform linguo-creative activities in the domain of research and innovation;</i></li> <li><i>- apply communicative strategies of scientific discourse from the vantage point of intentional, pragmatic and cognitive approaches to effectively achieve the intended outcomes within the scope of research;</i></li> <li><i>- present the results of work in the form of completed scientific and research developments (publications, reports, presentations, etc.);</i></li> <li><i>- put in communicative strategies of scientific discourse, translation and academic writing to ensure the continuous development of philological science, conducting research in close connection with the international scientific community.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course the PhD students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- confidently present and discuss the research results, as well as fundamental and applied problems in Philology, with both professionals in the field and nonprofessionals, in English — orally and in writing: produce and edit texts of different genres according to the contemporary standard requirements (research article, essay, regular presentation, conference presentation, public popular science lecture, academic lecture, etc.); efficiently report the research outcomes in research articles and publish them in Ukrainian and foreign academic journals;</i></li> <li><i>- comply with the provisions of academic ethics, as well as legal and social norms, when performing professional and innovative research activities;</i></li> <li><i>- comply with the provisions of academic integrity.</i></li> </ul>
<b>Instructional materials</b>	<i>Syllabus, reference books, authentic materials.</i>
<b>Mode of delivery</b>	<i>Seminars, tutorials</i>
<b>End-of-semester control</b>	<i>Exam</i>

Energetic approach to the study of communication processes	
<b>Lecturer</b>	<i>Alla Kalyta</i>
<b>Educational level</b>	<i>Third (Doctor of Philosophy)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of theory, practice and translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>Proficiency in English at C1 level</i>
<b>The scope of the course</b>	<p><i>The scope of the course includes the study of (1) energetics of written and oral materialization of speech; (2) energetics of the interlocutors' instinctive neuromuscular activity; (3) energetics of psychophysiological processes of the individual's speech generation and acts of thinking during communication.</i></p> <p><i>Particular attention is paid to the methodological prerequisites for the study of speech energetics; new methods and methodology of experimental research of speech energetics; prospects for the speech energetics research.</i></p>
<b>Rationale</b>	<i>The educational component contributes to the development of a comprehensive methodology of modern interdisciplinary philological research. This discipline will allow the researcher to prognosticate scenarios and models of communication by graphically constructing psycho-energy-grams of the speakers' communicative behavior in stereotypical speech situations, taking into account the dynamics of changes in the utterances psycho-energetic potential.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- the advanced conceptual and methodological knowledge in philology and at the boundaries of other linguistic and non-linguistic disciplines as well as the research skills sufficient to conduct scientific theoretical and applied research at the level of the latest world achievements, gaining new knowledge and / or innovation.</i></li> <li><i>- the ability to plan and perform theoretical and / or experimental research in philology and related interdisciplinary areas using professional tools, methods and approaches; critically analyze the results of their own research and the achievements of other scientists in the context of modern knowledge.</i></li> <li><i>- the ability to use methodological tools of different fields of knowledge to implement the tasks of innovative interdisciplinary research.</i></li> <li><i>- the ability to carry out scientific analysis of language, speech, literary and translated material, interpret and structure it taking into account the classical and latest methodological principles, formulate generalizations based on independently processed data.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course the PhD students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- use the in-depth knowledge in the field of philology, understanding theoretical and practical problems, history and the current state of scientific philological knowledge, to master the terminology of the scientific field;</i></li> <li><i>- analyze philological phenomena in the field of fundamental philological principles and knowledge, classical and modern research approaches;</i></li> <li><i>- perform linguo-creative activity in the field of science and innovation;</i></li> <li><i>- carry out the comprehensive analysis of linguocognitive and sociocultural processes, to model and foresee the trends in the development of linguistic, extralinguistic and communicative phenomena;</i></li> <li><i>- perform the innovative application of methods of other branches of knowledge for realizing the tasks of interdisciplinary philological research.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts, etc.)</i>
<b>Mode of delivery</b>	<i>lectures (seminars / workshops / tutorials)</i>
<b>End-of-semester control</b>	<i>credit</i>

## COGNITIVE POETICS: SCOPE OF RESEARCH

<b>Lecturer</b>	<i>D.Sc., Prof. Vorobyova Olga P.</i>
<b>Educational level</b>	<i>Third (Doctor of Philosophy)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Completion of master courses in General Linguistics, Stylistics, Theory of Translation, Cognitive linguistics, Methodology of Linguistic Research or their equivalents, PhD course of Academic writing.</i>
<b>The scope of the course</b>	<i>The scope of the course includes the main issues of Cognitive studies at the intersection of Linguistic poetics, Linguistic conceptology, Cognitive stylistics, Possible worlds semantics and Intermediality poetics. The elective addresses historiography of Poetics and its problematics, key personalities and schools of East-European, West-European and Transatlantic poetics, Cognitive in particular. It focuses upon basic assumptions of Cognitive poetics as cognitive oriented studies of literary text as well as the main vectors of their elaboration. The course gives much attention to the status and inventory of concepts and conceptual tropes (metaphors, metonymies, metaphonimies). It highlights the key points of Conceptual integration (blending) theory jointly with the Mental spaces theory and the conception of possible worlds. The course zeroes in on the phenomenon of iconicity in literary discourse as related to manifestations of emotional resonance and literary symbolism from a cognitive perspective. The course concludes with a current survey of intermediality in literary text.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in comprehensive cognitive poetological analysis of literary texts, grounded in the combination of its various techniques together with more traditional techniques of stylistic, semiotic and narrative analyses.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li>- <i>Mastering the knowledge of the evolution of poetics (in terms of its mereological model) and the development of Cognitive poetics viewed from various scholarly and individual perspectives.</i></li> <li>- <i>Demonstrating critical knowledge of the state of art in contemporary cognitive studies of literary text (Cognitive poetics, Cognitive stylistics, Cognitive rhetoric, etc.) in their similarities and differences.</i></li> <li>- <i>The ability to explain basic principles (embodied understanding, analogous reasoning, etc.) and the key terms of Cognitive poetics (concept and anticoncept, literary concept, conceptual tropes, mental spaces, conceptual integration, possible worlds, iconicity, etc.).</i></li> <li>- <i>Having a general idea of new areas associated with Cognitive poetics/ stylistics (Multimodal poetics/ stylistics, Mobile stylistics, intermedial studies, etc.).</i></li> <li>- <i>Mastering the techniques of cognitive and emotive poetological literary text analyses used separately and in their combinations, along with traditional techniques of stylistic analysis and literary text interpretation, as well as demonstrating advanced skills of accomplishing such analyses.</i></li> <li>- <i>The ability to incorporate gains of Cognitive poetics into one's own research with regard to its multidisciplinary context.</i></li> <li>- <i>Being able to extrapolate the materials and ideas of the course in one's research in progress.</i></li> <li>- <i>Demonstrating efficiency in preparing individual and group presentations as well as accomplishing other tasks related to the content of the course.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course PhD students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>- <i>Fully realize the role of systematic knowledge in the area of Cognitive studies of literary text, grounded in mastering various fields of Philology, novel scholarly paradigms, cognitive-discursive including, and the methodology of philological research.</i></li> <li>- <i>Formulate scholarly problems within the framework of Cognitive poetics, develop relevant working hypotheses for one's own research through the lens of Cognitive poetics/ stylistics, which envisages reinterpretation of the acquired knowledge of the field as well as generating new multidisciplinary knowledge.</i></li> <li>- <i>Define the methodology of cognitive studies of literary text and discourse, updating the techniques of their analysis and interpretation.</i></li> <li>- <i>Independently select, digest, systematize and critically analyze the data pertaining to Cognitive poetics in its progress in Ukraine and beyond.</i></li> <li>- <i>Generate new creative ideas related to the field of cognitive studies of literary text as well as multimodal and intermedial studies.</i></li> <li>- <i>Carry out analytical and experimental activities in the area of Cognitive studies of literary text and adjacent fields of cognitively-oriented research, to plan experiments and prognosticate their results.</i></li> <li>- <i>Efficiently use computer and multimedia technologies in preparing presentations and projects in Cognitive poetics.</i></li> <li>- <i>Browse academic research databases for information search in the field of Cognitive poetics and adjacent disciplines.</i></li> <li>- <i>Communicate crossculturally, maintaining international academic connections and argumenting PhD students' scholarly ideas to various audiences in English, while following the canons of public communication.</i></li> </ul>
<b>Instructional materials</b>	<i>syllabus, learning materials (monographic studies, journal papers, PPT presentations, video lectures, etc.)</i>
<b>Mode of delivery</b>	<i>interactive lectures (seminars / workshops / tutorials)</i>
<b>End-of-semester control</b>	<i>credit</i>

Multimodality of Modern Mass Media Space	
<b>Lecturer</b>	<i>Larysa Taranenko</i>
<b>Educational level</b>	<i>Third (Doctor of Philosophy)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of theory, practice and translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>Proficiency in English at C1 level</i>
<b>The scope of the course</b>	<i>The scope of the course includes the study of communicative and pragmatic potential of verbal, nonverbal and paraverbal means' interplay in the modern English-language mass media space viewed within the framework of the scientific knowledge of multimodal, visual, para- and graphic linguistics. The course also offers the substantiation of the terminological and conceptual apparatus of these linguistic approaches.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of skills to perform a comprehensive analysis of the verbal, nonverbal and paraverbal means' interaction in modern English-language mass media at the graphomorphemic, lexical, syntactic and textual levels, as well as to decipher and interpret multimodal stylistic functional resources of written communication.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include the applicants' ability to:</i> <ul style="list-style-type: none"> <li>- <i>analyze language units, define and characterize language phenomena and processes that determine them;</i></li> <li>- <i>carry out the study of semiotic resources of the mass media communicative space and foresee their potential possibility to take part in the language game;</i></li> <li>- <i>demonstrate multimodal literacy (visual, graphic, informational, etc.) in decoding modern English-language mass media texts;</i></li> <li>- <i>initiate, regulate and analyze intercultural communicative interaction considering the specifics of modern mass media space.</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course the PhD students are expected to be able to:</i> <ul style="list-style-type: none"> <li>- <i>apply the principles of systematic organization of natural languages and patterns of their functioning in translation and research activities;</i></li> <li>- <i>correctly decode the pragmatic potential of multimodal resources of modern English-language mass media;</i></li> <li>- <i>have the command of expressive and logical multimodal language means as well as to use them to achieve the desired pragmatic result in the process of mass media communication.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts, etc.)</i>
<b>Mode of delivery</b>	<i>lectures (seminars / workshops / tutorials)</i>
<b>End-of-semester control</b>	<i>credit</i>



## Non-Verbal Means of Communication: Nominative and Pragmatic Aspects

<b>Lecturer</b>	<i>Larysa Taranenko</i>
<b>Educational level</b>	<i>Third (Doctor of Philosophy)</i>
<b>Year of study</b>	<i>1, 2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of theory, practice and translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>Proficiency in English at C1 level</i>
<b>The scope of the course</b>	<i>The scope of the course includes the study of pragmatic and nominative potentials of the non-verbal components of communication, actualized in different types and kinds of discourses, as well as the role the nonverbal means play in the formation of a communicative style and the speech portrait of a language personality.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of the skills to define the specificity of functioning and pragmatic effect of nonverbal means of communication in everyday, institutional and political types of discourses, to classify and single out the nonverbal components as universal, national or individual markers of communication, and to define their role in shaping the speaker's communicative image.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include the applicants' ability to:</i> <ul style="list-style-type: none"> <li>- <i>analyze language units' interaction in terms of characteristics of the phenomena and processes that determine a definite type of interaction;</i></li> <li>- <i>define the typology of non-verbal means of communication and the features of their functioning in different types and kinds of discourses;</i></li> <li>- <i>correctly decode nominative and pragmatic potentials of the non-verbal means of communication, actualized in everyday, institutional and political forms of present-day English discourse;</i></li> <li>- <i>initiate, regulate and analyze intercultural communicative interaction taking into account the specificity of nonverbal communication.</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course PhD students are expected to be able to:</i> <ul style="list-style-type: none"> <li>- <i>apply the principles of the language systematic organization and patterns of its functioning in professional translation and research activities;</i></li> <li>- <i>correctly decode the nominative and pragmatic potential of nonverbal means of modern English;</i></li> <li>- <i>master non-verbal resources of the English language and use them to achieve the planned pragmatic result of an interpersonal communication.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts, etc.)</i>
<b>Mode of delivery</b>	<i>lectures (seminars / workshops / tutorials)</i>
<b>End-of-semester control</b>	<i>credit</i>



Psychoenergetic and Communicative-Pragmatic Aspects of Language Functioning	
Lecturer	Larysa Taranenko
Educational level	Third (Doctor of Philosophy)
Year of study	2
Number of ECTS credits	4
Language of study	English
Department	Department of theory, practice and translation of English
Assumed knowledge and prerequisites	Proficiency in English at C1 level
The scope of the course	<p>The scope of the course includes the study of the communicative-pragmatic potential of all language means interaction within the framework of the innovative functional-energetic approach to the study of speech phenomena as a new interdisciplinary concept of linguistic research. The course is aimed at analyzing the connection of speech phenomena with cognitive processes occurring in the speakers' psyche.</p> <p>The categorical apparatus and methodological tools of psycho-energetic and pragmatic aspects of oral speech research are also substantiated.</p>
Rationale	<p>The educational component contributes to the development of the skills</p> <ul style="list-style-type: none"> <li>• to conduct a comprehensive study of the interaction of emotional, pragmatic, semantic and structural factors of the language means' functioning in oral communication, taking into account their impact on the listener;</li> <li>• to substantiate the specifics of the connection between the speaker's language picture of the world and his/her speech organization;</li> <li>• to study the cognitive aspect of the language means' functioning in the process of generating and decoding the meaning of oral communication.</li> </ul>
Learning outcomes	<p>Expected learning outcomes include the applicants' ability to:</p> <ul style="list-style-type: none"> <li>- conduct scientific theoretical and applied research at the level of the latest world achievements to gain new knowledge and / or perform innovative research;</li> <li>- plan and carry out experimental research in philology and related interdisciplinary areas using professional tools, methods and approaches, critically analyze the results of their own research and the achievements of other scientists in the context of present-day knowledge.</li> <li>- use methodological tools of different fields of knowledge to implement the tasks of innovative interdisciplinary research;</li> <li>- use the knowledge of translation studies, linguocognitive, pragmatic, sociocultural and psycholinguistic paradigms to optimize intercultural interaction.</li> </ul>
Competencies and skills	<p>Upon successful completion of the course PhD students are expected to be able to:</p> <ul style="list-style-type: none"> <li>- apply the principles of the language systematic organization and patterns of its functioning in professional translation and research activities;</li> <li>- correctly decode the nominative and pragmatic potential of the language means of various communicative situations.</li> </ul>
Instructional Materials	syllabus, learning materials (textbook, reference book, video lectures, podcasts, etc.)
Mode of delivery	lectures (seminars / workshops / tutorials)
End-of-semester control	credit

Psycholinguistics	
<b>Lecturer</b>	<i>Nataliia Sayenko</i>
<b>Educational level</b>	<i>Third (Doctor of Philosophy)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department #1 of the English language of a technical orientation</i>
<b>Assumed knowledge and prerequisites</b>	<i>Proficiency in English at C1 level</i>
<b>The scope of the course</b>	<i>The scope of the course includes the study of basic principles of psycholinguistics as a science of mental processes related to the use of language. The course is aimed at studying speech activity (its nature, structure, dynamics of development, functioning, elementary structure); psycholinguistic analysis of speech communication; cognitive patterns of speech structures and processes; psycholinguistics of interpersonal communication; formation and actualization of speech activities as an individual communicative ability; development of cognitive abilities.</i>
<b>Rationale</b>	<p><i>The educational component contributes to understanding of:</i></p> <ul style="list-style-type: none"> <li><i>the psycholinguistic modeling of the stages of speech generation,</i></li> <li><i>psycholinguistic patterns of speech perception and comprehension, unconsciousness and equality of speech perception;</i></li> <li><i>the effectiveness of the mechanisms of equivalent substitutions, apperception, probabilistic prediction;</i></li> <li><i>stereotypes of role behavior based on the status-role structure of interpersonal communication.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include the applicants' ability to:</i></p> <ul style="list-style-type: none"> <li><i>- analyze and effectively apply communicative tactics taking into account the basic provisions of psycholinguistic conflictology;</i></li> <li><i>- implement strategies to prevent and resolve communication conflicts;</i></li> <li><i>- apply knowledge about psycholinguistic features of the process of formation of skills and abilities of foreign language communicative activities for the effective foreign language learning and teaching.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course the PhD students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- analyze traditional and present-day approaches to the study of speech phenomena as well as give their scientific interpretation from the standpoint of the ontological properties;</i></li> <li><i>- use in scientific and professional activities the achievements of applied aspects of psycholinguistic research in the field of foreign language acquisition, speech influence, mass media, speech diagnostics and personality identification, medicine, artificial intelligence systems and neurolinguistic programming.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts, etc.)</i>
<b>Mode of delivery</b>	<i>lectures (seminars / workshops / tutorials)</i>
<b>End-of-semester control</b>	<i>credit</i>

## Synergetic Approach as a Methodological Basis of Linguistic Research

<b>Lecturer</b>	<i>Alla Kalyta</i>
<b>Educational level</b>	<i>Third (Doctor of Philosophy)</i>
<b>Year of study</b>	<i>1, 2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of theory, practice and translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>Proficiency in English at C1 level</i>
<b>The scope of the course</b>	<p><i>The scope of the course includes the study of linguistic synergetics as a new scientific paradigm; in outlining the basics of scientific ideas and conceptual and terminological apparatus of the synergetic approach to the study of linguistic phenomena, processes and objects as well as the perspectives of a linguistic synergetic research.</i></p> <p><i>Particular attention is paid to the methodological prerequisites for linguosynergetic studies; classification of principles and models of linguosynergetics, as well as the mechanisms of self-regulating and self-developing communicative processes.</i></p>
<b>Rationale</b>	<i>The educational component contributes to the development of a comprehensive methodology of modern interdisciplinary philological research. This discipline will allow the researcher to predict the dynamics of the language and speech evolution in the real world on the basis of building synergetic models representing the self-organization, disorganization and reorganization of the language as a complex open self-developing system.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- the advanced conceptual and methodological knowledge in philology and at the boundaries of other linguistic and non-linguistic disciplines as well as the research skills sufficient to conduct scientific theoretical and applied research at the level of the latest world achievements, gaining new knowledge and / or innovation.</i></li> <li><i>- the ability to plan and perform theoretical and / or experimental research in philology and related interdisciplinary areas using professional tools, methods and approaches; critically analyze the results of their own research and the achievements of other scientists in the context of modern knowledge.</i></li> <li><i>- the ability to use methodological tools of different fields of knowledge to implement the tasks of innovative interdisciplinary research.</i></li> <li><i>- the ability to carry out scientific analysis of language, speech, literary and translated material, interpret and structure it taking into account the classical and latest methodological principles, formulate generalizations based on independently processed data.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course the PhD students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- use the in-depth knowledge in the field of philology, in particular the basic concepts, understanding theoretical and practical problems, history and the current state of scientific philological knowledge, to master the terminology of the scientific field;</i></li> <li><i>- analyze philological phenomena in the field of fundamental philological principles and knowledge, classical and modern research approaches;</i></li> <li><i>- perform linguo-creative activity in the field of science and innovation;</i></li> <li><i>- carry out the comprehensive analysis of linguocognitive and sociocultural processes, to model and foresee the trends in the development of linguistic, extralinguistic and communicative phenomena;</i></li> <li><i>- perform the innovative application of methods of other branches of knowledge for realizing the tasks of interdisciplinary philological research.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts etc)</i>
<b>Mode of delivery</b>	<i>lectures (seminars / workshops / tutorials)</i>
<b>End-of-semester control</b>	<i>credit</i>

Sociocultural Aspect of Linguistic Research	
<b>Lecturer</b>	<i>Larysa Taranenko</i>
<b>Educational level</b>	<i>Third (Doctor of Philosophy)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of theory, practice and translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>Proficiency in English at C1 level.</i>
<b>The scope of the course</b>	<i>The scope of the course includes the study of theoretical and methodological foundations of the socio-cultural aspect of linguistic research; basic theoretical principles regarding the nature of socio-cultural phenomena and processes; leading factors that influence the socio-cultural differentiation of language and speech; sociocultural variability of verbal and nonverbal means' interplay in present-day English on the basis of recent scientific interdisciplinary knowledge in sociolinguistics. The course is also aimed at substantiation of conceptual and terminological apparatus of the sociocultural aspect of linguistic research.</i>
<b>Rationale</b>	<i>The educational component contributes to the comprehensive analysis of socio-cultural features of different types and kinds of discourses. This course acquaints the PhD students with current trends and processes of the English language and helps them distinguish those socio-cultural factors that cause its variability. Considerable attention is paid to the interpretation of speech from the stand point of such socio-cultural factors as the speakers' national and social identity, the nature of their relationships, gender, employment, national and cultural specifics of the communicative situation, etc.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- advanced methodological knowledge in philology and adjacent subject areas, as well as research skills sufficient to conduct scientific theoretical, applied and interdisciplinary research;</i></li> <li><i>- the ability to plan and perform theoretical and / or experimental research in philology and adjacent interdisciplinary areas using professional tools, methods and approaches, critically analyze the results of their own research and the achievements of other scientists within the context of present-day knowledge;</i></li> <li><i>- the use of methodological tools of various fields of knowledge to solve the tasks of innovative interdisciplinary research;</i></li> <li><i>- the skills to analyse language, speech, literary and translation material, interpret and structure it taking into account the classical and innovative methodological principles, as well as formulate generalizations based on independently processed data;</i></li> <li><i>- the use of knowledge of translation studies, linguocognitive, pragmatic, sociocultural and psycholinguistic paradigms to optimize intercultural interaction.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course the PhD students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- perform an in-depth analysis in the field of philology, considering theoretical and practical problems, history of development and current state of scientific philological knowledge;</i></li> <li><i>- analyze language and speech phenomena in the field of fundamental philological principles and knowledge, classical and modern research approaches, as well as on the basis of appropriate general scientific methods;</i></li> <li><i>- comprehensively analyze linguocognitive and sociocultural processes, to model and predict trends in the development of linguistic, extralinguistic and speech phenomena;</i></li> <li><i>- innovative application of methods of other branches of knowledge for realization of tasks of interdisciplinary philological research.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts etc)</i>
<b>Mode of delivery</b>	<i>lectures (seminars / workshops / tutorials)</i>
<b>End-of-semester control</b>	<i>credit</i>

## STYLISTICS AND TEXT INTERPRETATION: TRADITION AND NEW VISTAS

<b>Lecturer</b>	D.Sc., Prof. Vorobyova Olga P.
<b>Educational level</b>	Third (Doctor of Philosophy)
<b>Year of study</b>	1, 2
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Department of Theory, Practice and Translation of English
<b>Assumed knowledge and prerequisites</b>	<i>English B2.</i> Completion of master courses in General Linguistics, Stylistics, Theory of Translation, Methodology of Linguistic Research or their equivalents, PhD course in Academic writing.
<b>The scope of the course</b>	The scope of this course includes the main issues of Stylistics and Text interpretation within the framework of traditional and edge-cutting approaches. The elective addresses historiography of Stylistics and Linguistic stylistics, their problematics, key personalities and schools of East-European, West-European and Transatlantic stylistics and text interpretation. It focuses upon the content and evolution of basic stylistic while being oriented towards elaborating the skills of linguostylistic analysis of texts and discourses belonging to different genres. The course is aimed to give a balanced survey of traditional and novel approaches in Linguostylistics, highlighting the continuity of traditions in interpreting such stylistic notions as imagery, tropology, connotations, stylistic means and devices, stylistic effects, foregrounding and defamiliarization, functional styles and registers, etc. It also gives much attention to the reinterpretation of the above notions in cognitive terms.
<b>Rationale</b>	The educational component contributes to the development of professional expertise in comprehensive linguostylistic analysis of texts related to various genres, mainly literary, as well as their philological interpretation in the context of different scholarly paradigms. It also highlights issues, which concern the development of new types of stylistics (cognitive, multimodal, cinostylistics/ poetics, or stylistic of film, intermedial stylistics, feminist and queer-stylistics, pedagogical stylistics, etc.) from a multidisciplinary perspective.
<b>Learning outcomes</b>	Expected learning outcomes include: <ul style="list-style-type: none"> <li>- Comprehensive knowledge of the subject area and the fundamental works of Ukrainian and foreign scholars, schools and trends, which contributed to the progress in Stylistics and text interpretation.</li> <li>- Demonstrating critical knowledge of the state of art in contemporary Stylistics and text interpretation, mastering their conceptual and methodological foundations.</li> <li>- The ability to explain basic principles and the key terms of Stylistics and Text interpretation at their traditional and novel (cognitive, multimodal, intermedial) angles.</li> <li>- Updating the techniques of stylistic analysis and literary text interpretation, as well as demonstrating advanced skills of accomplishing such analysis.</li> <li>- The ability to incorporate gains of Stylistics and Text interpretation into one's own research with regard to its multidisciplinary character.</li> <li>- Being able to extrapolate the materials and ideas of the course in one's research in progress.</li> <li>- Demonstrating efficiency in preparing individual and group presentations as well as accomplishing other tasks related to the content of the course.</li> </ul>
<b>Competencies and skills</b>	Upon successful completion of the course PhD students are expected to be able to: <ul style="list-style-type: none"> <li>- Fully realize the role of systematic knowledge in the area of Stylistics and Text interpretation, grounded in the ability of mastering a significant scope of new philological knowledge, the knowledge of the revolution of the above areas as well as respective terminology.</li> <li>- Formulate scholarly problems within the framework of Stylistics and Text interpretation, develop relevant working hypotheses for one's own research through the lens of various types of Stylistics, which envisages reinterpretation of the acquired knowledge of the field as well as generating new multidisciplinary knowledge.</li> <li>- Get a deeper knowledge of the methodology of stylistic research in the domain of literary text and discourse, updating the techniques of their analysis and interpretation.</li> <li>- Independently select, digest, systematize and critically analyze the data pertaining to Stylistics and Text interpretation in its progress in Ukraine and beyond.</li> <li>- Generate new creative ideas related to the field of Stylistics as well as Text interpretation from their traditional and new perspectives.</li> <li>- Carry out analytical and experimental activities in the area of Stylistics and adjacent fields of research, to plan experiments and prognosticate their results.</li> <li>- Efficiently use computer and multimedia technologies in preparing presentations and projects in Stylistics and Text interpretation.</li> <li>- Browse academic research databases for information search in the field of Stylistics and adjacent disciplines.</li> <li>- Communicate crossculturally, maintaining international academic connections and arguing PhD students' scholarly ideas to various audiences in English, while following the canons of public communication.</li> </ul>
<b>Instructional materials</b>	syllabus, learning materials (monographic studies, journal papers, PPT presentations, video lectures, etc.)
<b>Mode of delivery</b>	interactive lectures (seminars / workshops / tutorials)
<b>End-of-semester control</b>	credit (passing exam)

Current Trends in Higher Education	
<b>Lecturer</b>	<i>Svitlana Fedorenko, Habilitated Doctor of Educational Sciences, Professor</i>
<b>Educational level</b>	<i>Third (Doctor of Philosophy)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>The scope of the educational component</b>	<i>The scope of the educational component includes: social, technological, economic and political factors that determine the state and directions of higher education in the EU and the USA; world models of university education (classical, profile, integrated; autonomous, international, "open universities"); differences of the university model from other models of higher education; goal-setting algorithm of professionalization, socialization and digitalization of modern higher education; standardization and content-procedural features of modern higher education.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in the world best pedagogical practices in higher education, comparative analysis of different types of models of university education.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include the ability to:</i></p> <ul style="list-style-type: none"> <li><i>- organize the teaching of philological disciplines in accordance with the tasks and principles of modern higher education, the requirements for its scientific, educational and methodological and regulatory support, use various forms of organization, diagnosis, monitoring and evaluation of the effectiveness of educational process;</i></li> <li><i>- exploit the principles of organization and development of research and innovative projects, epistemological and axiological guidelines of modern educational science;</i></li> <li><i>- on the basis of a systematic scientific worldview, to analyze complex phenomena of social life, to connect general philosophical problems with the solution of problems that arise in professional and research-innovative activities, to apply empirical and theoretical methods of cognition;</i></li> <li><i>- utilize the techniques of personal self-development and self-enhancement, actualization of creative potential and further self-realization.</i></li> </ul> <p><i>In addition, students will be able to:</i></p> <ul style="list-style-type: none"> <li><i>- substantiate the factors that determine the state and directions of development of modern higher education;</i></li> <li><i>- extrapolate foreign progressive pedagogical experience in the organization and implementation of educational and scientific activities in the educational environment of their home higher education institutions;</i></li> <li><i>- analyze and generalize the facts and phenomena of pedagogical activity of higher education institutions of the leading countries in the world.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the educational component, PhD students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- search, systematize and critically analyze information from various sources;</i></li> <li><i>- plan and conduct comprehensive research, including in interdisciplinary fields, based on a systematic scientific worldview using modern information and communication technologies;</i></li> <li><i>- use communicative strategies of scientific discourse from the standpoint of intentional, activity and cognitive approaches for the effective implementation of goals in the study;</i></li> <li><i>- develop research strategies, including self-monitoring and self-assessment strategies and research self-improvement strategies;</i></li> <li><i>- improve pedagogical skills, methodological culture, methodological reflection, critical thinking throughout life;</i></li> <li><i>- plan, organize professional, scientific-innovative, translation and teaching activities, in particular in situations that require new strategic approaches.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, learning materials (textbook, reference book, video lectures, podcasts, etc.)</i>
<b>Mode of delivery</b>	<i>Lectures (seminars / workshops / tutorials)</i>
<b>End-of-semester control</b>	<i>credit</i>



## TEXT THEORY: VECTORS OF DEVELOPMENT, RESEARCH SCHOOLS AND PERSONALITIES

<b>Lecturer</b>	<i>D.Sc., Prof. Vorobyova Olga P.</i>
<b>Educational level</b>	<i>Third (Doctor of Philosophy)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of English</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Completion of master courses of General Linguistics, Stylistics, Theory of Translation, Methodology of Linguistic Research or their equivalents.</i>
<b>The scope of the course</b>	<i>The scope of the course includes the main issues of Text theory – from early Text Linguistics to its current Cognitive discursive and Semiotic narrative studies. This course aims to provide PhD students with fundamental and practical knowledge in the area of Text theory as well as philological techniques of text analysis. The elective addresses the problems of Text theory historiography, the evolution of “text image” in philological studies, basic conceptions in this field, key personalities and schools of East-European, West-European and Transatlantic Text theory, including its categorial, cognitive, discursive and semiotic narrative scholarly vectors. The course specifically focuses upon basic (intentionality and addressee-orientation of the source and target texts) and adjacent (tension, emotivity, etc.) text categories related to textual anthropocenters. The course zeroes in on key text patterns, among them the tripartite one (macrosign :: communication entity :: texture), as well as the verbal mechanisms of readers’ emotional resonance. The course concludes with case studies of short stories in terms of the metamethod of semiotic and narrative analysis.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in comprehensive philological analysis of texts related to various genres from the perspective of different scholarly paradigms.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Being well-versed in the evolution and development of Text linguistics and Text theory from various scholarly and individual perspectives.</i></li> <li><i>- Demonstrating critical knowledge of the state of art in contemporary text studies in terms of scholarly vectors, schools and personalities.</i></li> <li><i>- Having a clear idea of key terms and notions of Text linguistics and Text theory, basic text patterns, the inventory of text categories.</i></li> <li><i>- Showing the ability to differentiate between basic anthropocenters of literary text, including the category of addressee-orientation, while identifying its modifications in target texts.</i></li> <li><i>- Possessing the knowledge of the content and principles pertaining to Narrative semiotic studies of literary text.</i></li> <li><i>- Knowing the ways of combining different techniques of text analysis related to different approaches within text studies.</i></li> <li><i>- Being able to extrapolate the materials and ideas of the course in one’s research in progress.</i></li> <li><i>- Demonstrating efficiency in preparing individual and group presentations as well as accomplishing other tasks related to the content of the course.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course PhD students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- Fully realize the role of systematic knowledge in the area of text studies, grounded in mastering various fields of Philology, novel scholarly paradigms and the methodology of philological research.</i></li> <li><i>- Formulate scholarly problems within the framework of Text theory, relevant working hypotheses for one’s own research through the lens of Text theory, which envisages reinterpretation of the acquired knowledge of the field as well as generating new multidisciplinary knowledge.</i></li> <li><i>- Define the methodology of text and discourse studies, updating the techniques of their analysis and interpretation.</i></li> <li><i>- Independently select, digest, systematize and critically analyze the data pertaining to Text theory in its progress in Ukraine and beyond.</i></li> <li><i>- Generate new creative ideas related to the field of text research.</i></li> <li><i>- Carry out analytical and experimental activities in the area of text studies and adjacent fields, to plan experiments and prognosticate their results.</i></li> <li><i>- Efficiently use computer and multimedia technologies in preparing presentations and projects in text studies.</i></li> <li><i>- Browse academic research databases for information search in the field of text studies and adjacent disciplines.</i></li> <li><i>- Communicate crossculturally, maintaining international academic connections and arguing your scholarly ideas to various audiences in English, while following the canons of public communication.</i></li> </ul>
<b>Instructional materials</b>	<i>syllabus, learning materials (monographic studies, journal papers, PPT presentations, video lectures, including <a href="https://forms.gle/xJ9zESFy9whqRsAi8">https://forms.gle/xJ9zESFy9whqRsAi8</a>, etc.)</i>
<b>Mode of delivery</b>	<i>interactive lectures (seminars / workshops / tutorials)</i>
<b>End-of-semester control</b>	<i>credit (passing exam)</i>



Phonosemantic Aspect of Linguistic Research	
<b>Lecturer</b>	Alla Kalyta
<b>Educational level</b>	Third (Doctor of Philosophy)
<b>Year of study</b>	1
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Department of theory, practice and translation of English
<b>Assumed knowledge and prerequisites</b>	Proficiency in English at C1 level.
<b>The scope of the course</b>	<p>The scope of the course includes a systematic study of the mechanisms and patterns of phonetic means functioning on the language segmental and suprasegmental levels in the process of actualizing the meaning of emotional utterances. A special attention is paid to:</p> <ul style="list-style-type: none"> <li>- the areas of phonosemantic research;</li> <li>- the interrelation between phonetics and semantics;</li> <li>- the specifics of the word meaning and sense at the language phonetic level;</li> <li>- functioning of the mechanism realizing pragmatic tasks of oral communication;</li> <li>- the interplay of the different language means in actualizing the meaning by the prosodic means forming the utterance;</li> <li>- ways of the language phonetic means semantization;</li> <li>- the functioning of phonosemantic universals in the emotional utterances actualization.</li> </ul>
<b>Rationale</b>	<p>The educational component enables the learners to:</p> <ul style="list-style-type: none"> <li>- trace the logic of realization of the utterances meaning considering the sequence of lexical, grammatical and phonetic means in their interplay with the nonverbal means of communication;</li> <li>- define semantic features of phonetic means and reveal their abilities to convey extra-linguistic information;</li> <li>- determine the efficiency of different segmental units in oral speech.</li> </ul> <p>Studying this discipline will contribute to:</p> <ul style="list-style-type: none"> <li>- the identification of the relationship between sound and meaning,</li> <li>- defining the linkage between segmental units and speech subliminal message within the framework of speech energetics theory,</li> <li>- defining the linkage between sociolinguistic and gender-related features influencing the phonetic means functioning in speech,</li> <li>- the substantiation of the influence of the individual's pronunciation culture in the process of the utterance meaning coding and decoding.</li> </ul>
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>- the advanced conceptual and methodological knowledge in philology and at the boundaries of other linguistic and non-linguistic disciplines as well as the research skills sufficient to conduct scientific theoretical and applied research at the level of the latest world achievements, gaining new knowledge and / or innovation.</li> <li>- the ability to plan and perform theoretical and / or experimental research in philology and related interdisciplinary areas using professional tools, methods and approaches; critically analyze the results of their own research and the achievements of other scientists in the context of modern knowledge.</li> <li>- the ability to use methodological tools of different fields of knowledge to implement the tasks of innovative interdisciplinary research.</li> <li>- the ability to carry out scientific analysis of language, speech, literary and translated material, interpret and structure it taking into account the classical and latest methodological principles, formulate generalizations based on independently processed data.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course the PhD students are expected to be able to:</p> <ul style="list-style-type: none"> <li>- use the in-depth knowledge in the field of philology, in particular the basic concepts, understanding theoretical and practical problems, history and the current state of scientific philological knowledge, to master the terminology of the scientific field;</li> <li>- analyze philological phenomena in the field of fundamental philological principles and knowledge, classical and modern research approaches;</li> <li>- perform linguo-creative activity in the field of science and innovation;</li> <li>- carry out the comprehensive analysis of linguocognitive and sociocultural processes, to model and foresee the trends in the development of linguistic, extralinguistic and communicative phenomena;</li> <li>- perform the innovative application of methods of other branches of knowledge for realizing the tasks of interdisciplinary philological research.</li> </ul>
<b>Instructional Materials</b>	syllabus, learning materials (textbook, reference book, video lectures, podcasts, etc.)
<b>Mode of delivery</b>	lectures (seminars / workshops / tutorials)
<b>End-of-semester control</b>	credit

Konsekutivdolmetschen	
<b>Angestrebter Studienabschluss</b>	<i>Bachelorabschluss</i>
<b>Semester</b>	<i>7</i>
<b>Arbeitsaufwand</b>	<i>3.5 ECTS-Punkte</i>
<b>Unterrichtssprache</b>	<i>Deutsch/Ukrainisch</i>
<b>Lehrstuhl</b>	<i>Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache</i>
<b>Zulassungsvoraussetzungen</b>	<i>Deutschkenntnisse auf dem Niveau B2 des Gemeinsamen europäischen Referenzrahmens, aktive Teilnahme und Mitarbeit</i>
<b>Studiengegenstand</b>	<i>In dieser Veranstaltung werden methodische und psychologische Aspekte der Dolmetscherausbildung, typische Fehler und Verbesserungsstrategien betrachtet sowie verschiedene Techniken im Dolmetschenprozess (Tempo, Mnemotechniken, Notizentechnik) geübt.</i>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	<i>Dolmetschen (Konsekutiv-, Konferenz und Simultandolmetschen) ist im Vergleich zum Übersetzen nicht weniger nachgefragt und mehr bezahlt. Dolmetscher werden hoch geschätzt, da im Dolmetschenprozess viel verlangt wird: perfekte Kenntnisse von beiden Sprachen (Fremdsprache und Muttersprache), breites Hintergrundwissen, spezifische Fähigkeiten, die nur durch kontinuierliches Üben erworben werden können.</i>
<b>Learning Outcomes (Lernergebnisse)</b>	<p><i>Nach positiver Absolvierung der Lehrveranstaltung werden Studierende:</i></p> <ul style="list-style-type: none"> <li><i>❖ Textstrukturierungsregeln verschiedener Textsorten (mit Kohäsion- und Kohärenzmitteln entsprechend der Kommunikationssituation) und Spezifik vom Dolmetschen kennen;</i></li> <li><i>❖ Deutsch und Ukrainisch flexibel und effektiv in den Situationen der offiziellen und Alltagskommunikation gebrauchen;</i></li> <li><i>❖ feste deutsch-ukrainische Äquivalenz-Ausdrücke in den Texten verschiedener Thematik (Wirtschaft, Politik, Gesellschaft, Kultur) gebrauchen;</i></li> <li><i>❖ als aktiver/e Teilnehmer/in interkultureller Kommunikationssituation agieren, richtig und schnell auf die Stressfaktoren reagieren.</i></li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<ol style="list-style-type: none"> <li><i>1. Fähigkeit zur richtigen Wahrnehmung, Analyse, Wiedergabe und Produktion eines mündlichen Textes;</i></li> <li><i>2. Fähigkeit zum Einsatz der Lösungsstrategien für kommunikative Aufgaben beim Dolmetschen;</i></li> <li><i>3. Fähigkeit zur Konzentration und schnellen Auswahl nötiger Entsprechungen in der Zielsprache (auch im Falle nicht vertrauter Lexik);</i></li> <li><i>4. Fähigkeit zum automatischen Abruf nötiger Lexeme aus dem Langzeitgedächtnis;</i></li> <li><i>5. Fähigkeit zum Dolmetschen umgangssprachlicher und offizieller Texte mit Einhaltung professioneller ethischer Grundsätze.</i></li> </ol>
<b>Hinweise zur Veranstaltung /Literatur</b>	<i>Übersicht der Lehrveranstaltung (Syllabus) mit dem Notensystem, Lehrbuch, Materialien zum Dolmetschen (Audio- und Videotexte)</i>
<b>Leistungsnachweis</b>	<i>Zwischenprüfung (im 7. und im 8. Semester)</i>

Kontrastive Grammatik	
<b>Angestrebter Studienabschluss</b>	Bachelorabschluss
<b>Semester</b>	1-2
<b>Arbeitsaufwand</b>	10 ECTS-Punkte
<b>Unterrichtssprache</b>	Deutsch/Ukrainisch
<b>Lehrstuhl</b>	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
<b>Zulassungsvoraussetzungen</b>	Gute Kenntnisse der ukrainischen Grammatik
<b>Studiengegenstand</b>	<b>In dieser Veranstaltung werden morphologische (Wortformen, Wortarten und deren Kategorien usw.) und syntaktische Einheiten (Wortgruppen, Satzglieder, Sätze usw.) kontrastiv behandelt (anhand der deutschen und der ukrainischen Sprache).</b>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	Die Grammatik bietet mehrere Möglichkeiten, die Struktur einer Sprache zu fassen. Für zukünftige Übersetzer-innen/Dolmetscher-innen ist Grammatik unabdingbar, weil sie für die Kohärenz sorgt. Die Grammatik vermittelt verschiedene „Baupläne“ für die erfolgreiche Sprachproduktion und das Sprachverstehen. Die Bedeutung der Grammatik besteht darin, dass sie der Sprache die Möglichkeit gibt, die menschlichen Gedanken in eine materielle sprachliche Hülle zu kleiden. Ohne Grammatik ist die gelungene Kommunikation unmöglich.
<b>Learning Outcomes (Lernergebnisse)</b>	Nach positiver Absolvierung der Lehrveranstaltung sind Studierende in der Lage: <ul style="list-style-type: none"> <li>❖ grammatische Einheiten zu analysieren, deren Zusammenhang zu bestimmen, die Prozesse zu beschreiben, die diese Zusammenhänge verursachen;</li> <li>❖ die Wortartenkategorien zu differenzieren;</li> <li>❖ die Sätze formal und funktional zu analysieren;</li> <li>❖ morphologische Einheiten und syntaktische Konstruktionen zu vergleichen;</li> <li>❖ die beherrschten grammatischen Strukturen korrekt zu gebrauchen;</li> <li>❖ grammatische Einheiten zu sammeln, zu systematisieren und zu interpretieren.</li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<ol style="list-style-type: none"> <li>1. Fähigkeit zur grammatisch korrekten Kommunikation;</li> <li>2. Fähigkeit zur Kritik und Selbstkritik;</li> <li>3. Fähigkeit zum abstrakten Denken, zur Analyse und Synthese;</li> <li>4. Studierende verstehen die grammatische Architektur des Deutschen, deren Ursprung, Funktionen und Ebenen.</li> <li>5. Fähigkeit zur vergleichenden Analyse grammatischer Strukturen des Deutschen und des Ukrainischen.</li> </ol>
<b>Hinweise zur Veranstaltung /Literatur</b>	Übersicht der Lehrveranstaltung (Syllabus) mit dem Notensystem, Lehrbuch, PowerPoint-Präsentationen
<b>Leistungsnachweis</b>	Prüfung (im 1. und im 2. Semester)

Kontrastive Typologie. Kontrastive Lexikologie	
Angestrebter Studienabschluss	Bachelorabschluss
Semester	4
Arbeitsaufwand	3 ECTS-Punkte
Unterrichtssprache	Deutsch/Ukrainisch
Lehrstuhl	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
Zulassungsvoraussetzungen	Absolvierung der Lehrveranstaltung „Einführung in die germanische Sprachwissenschaft“
Studiengegenstand	<b>Der Kurs umfasst 9 Themen, die synthetisiert einen Überblick über die wichtigsten Probleme der Lexikologie beider Sprachen bieten. In dieser Veranstaltung werden solche Schwerpunkte kontrastiv behandelt (anhand der deutschen und der ukrainischen Sprache): Wort und seine Semantik, Wege der Bereicherung des Wortbestandes, Struktur des Wortbestandes, das lexikalisch-semantische System beider Sprachen, Phraseologie, Lexikographie.</b>
Motivationsgrund (Nutzen der Lehrveranstaltung)	Das Hauptziel der kontrastiven Lexikologie ist die deutsche und die ukrainische Sprachen miteinander synchron zu vergleichen, sowohl Unterschiede, als auch Ähnlichkeiten der beiden Sprachen gleichwertig zu betrachten. Die erworbenen Kenntnisse sind in der Übersetzungspraxis bei der richtigen Auswahl der lexikalischen Äquivalente anzuwenden. Für zukünftige Übersetzer_innen/Dolmetscher_innen ist kontrastive Lexikologie unentbehrlich, weil sie für die erfolgreiche Kommunikation sorgt.
Learning Outcomes (Lernergebnisse)	Nach positiver Absolvierung der Lehrveranstaltung sind Studierende in der Lage: <ul style="list-style-type: none"> <li>❖ lexikalische Spracheinheiten der deutschen und der ukrainischen Sprachen zu analysieren; ihre Wechselwirkung, paradigmatische und syntagmatische Beziehungen zu bestimmen und die Sprachphänomene und Prozesse zu charakterisieren, die sie bedingen, um praktische Aufgaben auf dem Gebiet der Lexikologie zu formulieren und zu lösen;</li> <li>❖ Besonderheiten der Funktionsweise und der Schichtung der deutschen und der ukrainischen Sprachen, die wichtigsten Bereiche und Methoden der klassischen linguistischen Sprachforschung, Gesetzmäßigkeiten der Entwicklung dieser Sprachen in modernen Linguokulturen zu verstehen;</li> <li>❖ verschiedene Spracheinheiten zu vergleichen, um wichtige Informationen im Originaltext zu identifizieren, eine vergleichende Analyse von lexikalischen Strukturen und Phänomenen der deutschen und ukrainischen Sprachen durchzuführen, um die lexikalische Interferenz von der deutschen und ukrainischen Sprachen zu überwinden, indem man Ähnlichkeiten und Unterschiede in beiden Sprachen bestimmt;</li> <li>❖ sprachliche und translatorische Analyse der Texte verschiedener Stile und Genres durchzuführen, die soziolinguistische Situation zu beschreiben.</li> </ul>
Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)	<ol style="list-style-type: none"> <li>1. Fähigkeit zur korrekten Kommunikation sowohl mündlich, als auch schriftlich;</li> <li>2. Fähigkeit zur Kritik und Selbstkritik; Fähigkeit zur Bestimmung und Lösung der Probleme;</li> <li>3. Studierende verstehen die Strukturen der Philologie und ihrer theoretischen Grundlage, die Prinzipien der Sprachorganisation, ihrer Natur, Funktionen, Ebenen und die strukturelle Typologie der Weltsprachen.</li> <li>4. Fähigkeit zur vergleichenden Analyse der Dialekte und Soziolekte des Deutschen und des Ukrainischen; Fähigkeit zur sprachlichen, soziolinguistischen, kulturellen und typologischen Analyse sprachlicher Phänomene, insbesondere lexikalischer Einheiten, in Bezug auf ihren Ursprung, interne semantische Strukturen und Interaktion von lexikalischen Einheiten in einem bestimmten Text, unter Berücksichtigung von Ähnlichkeiten und zahlreichen Unterschieden im Wortschatz beider Sprachen und Besonderheiten ihrer Funktion im bestimmten Kommunikationsbereich und Sprachregister.</li> </ol>
Hinweise zur Veranstaltung /Literatur	Übersicht der Lehrveranstaltung (Syllabus) mit dem Notensystem, Lehrbuch, PowerPoint-Präsentationen
Leistungsnachweis	Prüfung

Übersetzen und Post-Editing von Fachtexten	
Angestrebter Studienabschluss	Bachelorabschluss
Semester	7
Arbeitsaufwand	5 ECTS-Punkte
Unterrichtssprache	Deutsch und Ukrainisch
Lehrstuhl	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
Zulassungsvoraussetzungen	<ul style="list-style-type: none"> <li>Deutschkenntnisse auf dem Niveau B1 + / B2 des Gemeinsamen europäischen Referenzrahmens (<a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a>)</li> <li>gute Kenntnisse von der Stilistik</li> <li>Grundkenntnisse von Naturwissenschaften und BWL</li> </ul>
Studiengegenstand	Gegenstand der Veranstaltung sind die Probleme der Abgrenzung von Fach- und Gemeinsprache, die Frage typischer Kommunikationskonstellationen, die Bandbreite schriftlicher Fachtextsorten, die Vorstellung sprachlicher Merkmale ausgewählter Fachsprachen (Technik und Geschäftskorrespondenz) auf allen Ebenen (Lexik, Grammatik, Stilistik, Pragmatik), auch kontrastiv. Im Fokus der Ausführungen stehen die translationsrelevanten Aspekte dieses weiten Forschungsgebiets.
Motivationsgrund (Nutzen der Lehrveranstaltung)	Die Studierenden erwerben fachliche und fachterminologische Kenntnisse in den im Bereich Fachtextübersetzen angebotenen Schwerpunkten (Technik und Handel) und können also nicht nur mehrsprachig mündlich und schriftlich kommunizieren, sondern auch mit fachspezifischen interkulturellen Besonderheiten konfrontieren und die anspruchsvollsten Textformen (Gebrauchsanweisungen, Patentschriften, wissenschaftliche Beiträge, Verträge, Angebote, Aufträge, Rechnungen, Mahnungsschreiben, Reklamationen) übersetzen und dank ihrer hohen Sprachkompetenz in Kombination mit einem fundierten fachlichen Background in international ausgerichteten Unternehmen und Organisationen sehr gefragt sein.
Learning Outcomes (Lernergebnisse)	<p>Die Studierenden verfügen nach der Lehrveranstaltung über wissenschaftlich fundierte theorie- und methodengestützte Problemlösungskompetenzen sowie über mentale, kommunikative und technische Schlüsselkompetenzen und können unter anderem:</p> <ul style="list-style-type: none"> <li>die Informationen aus unterschiedlichen Quellen sortieren, klassifizieren, systematisieren und damit kritisch umgehen;</li> <li>den Stoff unter Einbeziehung extralinguistischer Zusammenhänge und Intertextualität von Fachtexten analysieren und deuten (Hintergrund- und Sachwissen jeweiliges Fachbereichs der wissenschaftlich-technischen Literatur aktivieren, komparative Analyse von Ausgangs- und Zieltextrn vollziehen, sowie lexikalisch-grammatische, semantische, stilistische und pragmatische Besonderheiten einzelner Sprachphänomene bestimmen und bei der Übersetzung berücksichtigen);</li> <li>aktuelle Informations- und Kommunikationstechnologien für die Umsetzung von bestimmten Übersetzungszielen einsetzen;</li> <li>verschiedene fachbezogene Texte äquivalent und normgerecht übersetzen und posteditieren.</li> </ul>
Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)	<p>Nach dem Erlernen der angebotenen Kursinhalte können die Studierenden:</p> <ul style="list-style-type: none"> <li><i>methodisches und theoretisches Wissen zur zielgerichteten Bewältigung prototypischer Probleme des Fachübersetzens anwenden;</i></li> <li><i>die für das Übersetzen relevanten kulturellen Zusammenhänge und Besonderheiten verstehen;</i></li> <li><i>aktuelle professionelle Arbeitsmittel und Translationstechnologien beherrschen;</i></li> <li><i>Informationen aus verschiedenen Quellen recherchieren, behandeln und analysieren;</i></li> <li><i>sicher mit den fachspezifischen Ausdrucksmitteln der Arbeitssprachen umgehen;</i></li> <li><i>fachbezogene Fachterminologie problemlos interpretieren und benutzen;</i></li> <li><i>Sprach- und Übersetzungsanalyse von unterschiedlichen Textsorten durchführen;</i></li> <li><i>die Texte äquivalent und normgerecht übersetzen;</i></li> <li><i>technische Hilfsmittel effektiv einsetzen;</i></li> <li><i>nach dem Übersetzen die Texte in der Zielsprache redigieren</i></li> </ul>
Hinweise zur Veranstaltung /Literatur	Übersicht der Lehrveranstaltung (Syllabus) mit dem nachvollziehbarem Notensystem, PP-Präsentationen, didaktisierte Fachtexte
Leistungsnachweis	Zwischenprüfung

Medienübersetzung	
<b>Angestrebter Studienabschluss</b>	Bachelorabschluss
<b>Semester</b>	8
<b>Arbeitsaufwand</b>	4 ECTS-Punkte
<b>Unterrichtssprache</b>	Ukrainisch, Deutsch
<b>Lehrstuhl</b>	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
<b>Zulassungsvoraussetzungen</b>	Deutschkenntnisse auf dem Niveau B1+ des Gemeinsamen europäischen Referenzrahmens ( <a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a> ) Einsicht in Hauptbegriffe der Journalistik und Publizistik, Hauptmerkmale des Stiles der Publizistik, Interesse an der Fachübersetzung. Obligatorische Zulassungsvoraussetzung ist der erfolgreiche Abschluss vom Kreditmodul "Praxisorientierte linguistische Forschungen. Grundlagen der Übersetzungswissenschaft" und von mindestens einem Semester der Lehrveranstaltung "Praktischer Kurs der Übersetzung".
<b>Studiengegenstand</b>	<p>Während der Lehrveranstaltung werden:</p> <ul style="list-style-type: none"> <li>- theoretische und praktische Kenntnisse im Bereich der audiovisuellen Übersetzung erworben;</li> <li>- Fähigkeiten in der Übersetzung der Medientexte (Übersetzung von Untertiteln, Landingpages, Fernsehprogrammen) gebildet;</li> <li>- Schwierigkeiten der Medienübersetzung vom Ukrainischen ins Deutsche und umgekehrt analysiert;</li> </ul>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	<p>Die Lehrveranstaltung sieht Folgendes vor:</p> <p>Bekanntmachen der Studierenden mit den Informationen über den Platz der audiovisuellen Übersetzung in der Berufstätigkeit der Übersetzer sowie über ihre Besonderheiten</p> <p>und Arten;</p> <p>Einsicht in Strategien und Methoden von der Übersetzung der Medientexte auf Deutsch und Ukrainisch.</p> <p>Die Studierenden analysieren Landingpages, Videoausschnitte und Untertiteln zu denen, schreiben Scripts zu Videoausschnitten auf Deutsch, übersetzen sie für weitere Untertitelung ins Ukrainische und analysieren die Arbeitsergebnisse voneinander im Präsenzunterricht.</p>
<b>Lernergebnisse (Learning Outcomes)</b>	<p>Im Rahmen der Lehrveranstaltung lernen die Studierenden:</p> <ul style="list-style-type: none"> <li>- Übersetzungsstrategien und -taktiken, die zur Verfassung der Untertitel für Videomaterialien und für die Übersetzung der Web-Seiten nötig sind;</li> <li>- Strategien, Taktiken und Methoden der Übersetzung von den Web-Seiten-Inhalten;</li> <li>- Fähigkeiten im Gebrauch der Software für Verfassung der Untertitel.</li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<p>Der Hauptvorteil dieser Lehrveranstaltung ist, dass die Studierenden nach dem erfolgreichen Abschluss die thematische Übersetzungssubkompetenz im Bereich der Medienübersetzung erweitern. Sie können:</p> <p>ihre Kenntnisse von der Spezifik der mündlichen und schriftlichen Rede in verschiedenen Medienkontexten demonstrieren;</p> <ul style="list-style-type: none"> <li>• über Strategien von der Wiedergabe der soziokulturellen Besonderheiten des Ausgangstextes verfügen;</li> <li>• in einem Audiotext Übersetzungsschwierigkeiten identifizieren und die Lösungswege anbieten;</li> <li>• problemlos fachliche (Medien-)Übersetzungen machen; verschiedene Medientexte (Landingpages, Untertiteln zu Medienprodukten) übersetzen.</li> </ul>
<b>Hinweise zur Veranstaltung</b>	<p>Syllabus mit dem transparenten Notensystem, Präsentationen der theoretischen Materialien der Lehrveranstaltung, Ausgabematerialien.</p> <p>Für die Studierende wird eine elektronische Version von dem praktischen Stoff und den Aufgaben zugänglich, aber man kann je nach individuellen Interessen einige Materialien zur Vorbereitung benutzen.</p>
<b>Leistungsnachweis</b>	Zwischenprüfung

Terminologiewissenschaft	
<b>Angestrebter Studienabschluss</b>	Bachelorabschluss
<b>Semester</b>	6,8
<b>Arbeitsaufwand</b>	4 ECTS-Punkte
<b>Unterrichtssprache</b>	Ukrainisch, Deutsch
<b>Lehrstuhl</b>	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
<b>Zulassungsvoraussetzungen</b>	Deutschkenntnisse auf dem Niveau B1+ des Gemeinsamen europäischen Referenzrahmens ( <a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a> ), Grundkenntnisse von den Grundlagen der Terminologiewissenschaft. Obligatorische Zulassungsvoraussetzung ist der erfolgreiche Abschluss vom Kreditmodul "Praxisorientierte linguistische Forschungen. Grundlagen der Übersetzungswissenschaft".
<b>Studiengegenstand</b>	Studiengegenstand der Lehrveranstaltung ist die Terminologiewissenschaft als Wissenschaft, Termini, ihre Bildungsarten und Anforderungen an sie; Feststellung der Mängel, Analyse und Redaktion der Übersetzungsergebnisse von Termini in Fachliteratur.
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	Diese Lehrveranstaltung ist zu wählen, damit der von Ihnen übersetzten Fachtext aus irgendwelchem Bereich der Wissenschaft und Technik verfeinert und professionell klingt; damit Ihr Arbeitgeber nach der Probezeit versteht, dass nicht der/die neugebackene Absolvent/in, sondern der/die echte Übersetzer/in der technischen Literatur vor ihm steht; damit der Auftraggeber, der ihr Übersetzungsprodukt erhalten hat, zurückkommt und gerade Sie bietet, den nächsten Auftrag zu machen.
<b>Lernergebnisse (Learning Outcomes)</b>	Perspektiven der Entwicklung von Fachterminologie unter Berücksichtigung der zwischensprachlichen Nichtübereinstimmungen einschätzen; Faktoren analysieren, die Bildung der Terminologie beeinflussen, und Übersetzungsergebnisse entsprechend den normativen Anforderungen revidieren; sich mit der Fach- und Auskunftsliteratur umgehen können; Termini in den Vergleichssprachen analysieren, indem man die Regeln der Wiedergabe von Termini, Abkürzungen, zwischensprachlichen Äquivalenten (Klischees) bei der Analyse und Übersetzung einhält sowie stilistische und pragmatische Besonderheiten dieser Texte berücksichtigt.
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	Nach dem erfolgreichen Abschluss können die Studierenden: <ul style="list-style-type: none"> <li>- ihre Kenntnisse und Fähigkeiten im Rahmen der auf Übersetzung der Fachtexte gerichteten Subkompetenz verbessern;</li> <li>- Informationen von verschiedenen Quellen, insbesondere Fachquellen, suchen, verarbeiten und analysieren;</li> <li>- sich in der großen Menge der wissenschaftlichen Informationen orientieren;</li> <li>- sich mit den neuzeitigen Erkenntnissen und Entdeckungen der Wissenschaft und Technik vertraut machen, insbesondere durch Verarbeitung der entsprechenden Texte.</li> </ul>
<b>Hinweise zur Veranstaltung</b>	Syllabus mit dem transparenten Notensystem, der unterrichts-methodologische Komplex der Lehrveranstaltung, Multimediaausrüstungen (bei Bedarf).
<b>Leistungsnachweis</b>	Zwischenprüfung



Dolmetschenstrategien	
<b>Angestrebter Studienabschluss</b>	Bachelorabschluss
<b>Semester</b>	8
<b>Arbeitsaufwand</b>	4 ECTS-Punkte
<b>Unterrichtssprache</b>	Ukrainisch, Deutsch
<b>Lehrstuhl</b>	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
<b>Zulassungsvoraussetzungen</b>	Deutschkenntnisse auf dem Niveau B2+ des Gemeinsamen europäischen Referenzrahmens ( <a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a> ), Einsicht in Grundlagen der Übersetzungswissenschaft, Interesse an zweiseitige Übersetzung. Obligatorische Zulassungsvoraussetzung ist der erfolgreiche Abschluss der Lehrveranstaltung "Konsekutivdolmetschen".
<b>Studiengegenstand</b>	Während der praktischen Lehrveranstaltungen werden: <ul style="list-style-type: none"> <li>- methodologische und psychologische Aspekte der Vorbereitung von Dolmetschern erlernt;</li> <li>- Mnemotechniken, Übersetzungstempo und Kurzerhandschreiben trainiert;</li> <li>- typische Sprechfehler und Strategien von ihrem Vermeiden und Korrigieren betrachtet.</li> </ul>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	Dolmetschen (ein- oder zweiseitiges, konsekutives, Konferenz-Dolmetschen, Dolmetschen bei Verhandlungen, simultanes) ist im Vergleich zu der schriftlichen Übersetzung weniger nachgefragt und viel besser bezahlt. Dolmetscher gelten nicht umsonst als "Elite" unter den Sprachmittlern, weil das Dolmetschen nicht nur Fremd- und Mutter(!)sprachkenntnissen auf dem professionellen Niveau fordert, sondern auch spezifische Fähigkeiten, die beim ständigen Trainieren gebildet werden ("Dolmetscher = Profisportler").
<b>Lernergebnisse (Learning Outcomes)</b>	Nach dem erfolgreichen Abschluss der Lehrveranstaltung <i>kennen</i> die Studierenden die Regeln der Verfassung von Texten verschiedener Arten (mit Mitteln der Sinn- und Formalzusammenhänge entsprechend der Kommunikativsituation), Besonderheiten der Dolmetschenarten und <i>können</i> flexibel und effektiv ukrainische und deutsche Sprachen in mündlicher Form bei der formellen und informellen Kommunikation anwenden; feste zwischensprachliche Äquivalente in den Texten der sozialwirtschaftlichen und politischen Thematik bei der Übersetzung verwenden; als aktive Teilnehmer der zwischenkulturellen kommunikativen Situation treten; richtig und schnell auf Stressfaktoren reagieren.
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	Der Hauptvorteil dieser Lernveranstaltung ist, dass die Studierenden nach dem erfolgreichen Abschluss spezifische Dolmetschenkompetenzen beherrschen, also sie können: <ul style="list-style-type: none"> <li>- den mündlichen Text adäquat wahrnehmen, verstehen, einschätzen, wiedergeben und produzieren;</li> <li>- verschiedene Strategien zur Lösung der kommunikativen Aufgaben im Dolmetschen anwenden;</li> <li>- konzentriert bleiben und die Äquivalente auf der Zielsprache schnell finden, auch wenn einzelne Lexeme nicht verständlich sind;</li> <li>- ein Äquivalent auf der Zielsprache aus dem Langzeitgedächtnis sofort hervorrufen und das Wort in die Sprachkette einschließen;</li> <li>- Texte des Amts- und Alltagsstiles dolmetschen, indem sie die Prinzipien der Berufsethik im Dolmetschen einhalten.</li> </ul>
<b>Hinweise zur Veranstaltung</b>	Syllabus mit dem transparenten Notensystem, Lehrbücher, Materialien für Dolmetschen (gedruckte Texte, Video- und Audiomaterialien).
<b>Leistungsnachweis</b>	Zwischenprüfung

Praxis der mündlichen und schriftlichen Rede	
<b>Angestrebter Studienabschluss</b>	Bachelorabschluss
<b>Semester</b>	5,7
<b>Arbeitsaufwand</b>	4 ECTS-Punkte
<b>Unterrichtssprache</b>	Deutsch
<b>Lehrstuhl</b>	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
<b>Zulassungsvoraussetzungen</b>	Deutschkenntnisse auf dem Niveau B2+ des Gemeinsamen europäischen Referenzrahmens ( <a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a> ), Bereitschaft zu der Erweiterung der kommunikativen Kompetenzen in deutscher Sprache. Die Obligatorische Zulassungsvoraussetzung ist der erfolgreiche Abschluss von mindestens sechs Semestern der Lehrveranstaltung "Deutsche Sprache (erste, der praktische Kurs)".
<b>Studiengegenstand</b>	<p>Während der Lehrveranstaltung werden:</p> <ul style="list-style-type: none"> <li>- Techniken der schriftlichen Rede unter Berücksichtigung der kommunikativen Absicht des Autors erlernt;</li> <li>- Haupttechniken der Redekunst (Regeln und Prinzipien der öffentlichen Rede) mit der Vorbereitung der Präsentationen und der Teilnahme an Diskussionen zu den soziokulturellen und wirtschaftlich-politischen Themen erlernt;</li> <li>- produktive kommunikative Fähigkeiten durch Erledigung der praktischen Aufgaben verbessert.</li> </ul>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	Die Lehrveranstaltung sieht die sprachliche Analyse und Verarbeitung der authentischen Texte (mit der Anerkennung des impliziten Sinnes) mit der weiteren schriftlichen und mündlichen Rede zu den angegebenen Themen vor. Fähigkeit, klare, logische, ausführliche und spontane Aussagen zu den soziokulturellen und wirtschaftlich-politischen Themen zu verfassen, ermöglicht eine effektive und flexible zwischenkulturelle Kommunikation. Fähigkeit, die eigene Meinung schriftlich und mündlich entsprechend der Bedingungen der kommunikativen Situation zu äußern, ist ein grundlegender Bestandteil der philologischen Kompetenz. Wenn Ihr Ziel ist konkurrenzfähige Fachkraft zu sein und in jeder Redesituation richtig zu reagieren, die Aufmerksamkeit der Zuhörer nicht nur mit dem großen Umfang des Wortschatzes und perfekten grammatischen Strukturen, sondern auch mit dem analytischen Denken und überzeugender Argumentation zu erregen, wird diese Lehrveranstaltung eine gute Wahl für Sie. Es ist zu erwähnen, dass gerade Deutsch dank seiner Deutlichkeit und Ordentlichkeit eine perfekte Sprache zur Verfassung der strukturierten komplizierten Aussagen ist.
<b>Lernergebnisse (Learning Outcomes)</b>	Nach dem erfolgreichen Abschluss der Lehrveranstaltung <i>kennen</i> die Studierenden die stilistischen Merkmale des Wortes, die Wörter von verschiedenen lexikalisch-semantischen Feldern verschiedener Thematik, phraseologische Redewendungen, Kollokationen der publizistischen, wissenschaftlichen, gerichtlichen und Amtstexte insgesamt, Ausdrucksmittel der strukturellen Organisation des Textes (insbesondere Prinzipien der Bildung von argumentativen Textstrukturen), lexikalische Ausdrucksmittel der kommunikativen Intention des Autors, Hauptprinzipien der Redekunst sowie <i>können</i> das Gespräch mit den Muttersprachlern frei führen, analytisch-kritische Ansichten zu den verschiedenen Aspekten der Wirklichkeit und Präsentationen demonstrieren, Texte verschiedener Genres und Themen (offizieller Brief, Formulareausfüllung, Anmeldung, Kommentar, Beschwerdebrief, Brief-Angebot, Zeitungsartikel) sowie die für das Studium relevante Texte ("academical writing", Essay, Bericht, Exposé) mit der Verwendung der angeeigneten Sprachausdrücke und verschiedenen grammatischen Strukturen auf dem Niveau C1 des Gemeinsamen europäischen Referenzrahmens ( <a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a> ) verfassen.
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<p>Der Hauptvorteil dieser Lernveranstaltung ist, dass die Studierenden nach dem erfolgreichen Abschluss das Folgende können:</p> <ul style="list-style-type: none"> <li>- aktive Teilnehmer (frei und deutlich ihre Meinungen äußern, auf die Aussagen der anderen Kommunikationsteilnehmer reagieren, Argumentation formulieren, Prognosen erarbeiten, Ideen vollbringen, einzelne Unterpunkte des Themas entwickeln und logische Schlussfolgerungen ziehen, ihre Standpunkte durch zusätzliche entsprechende Beispiele erklären) der mündlichen zwischenkulturellen Kommunikation in Redesituationen des offiziellen und populärwissenschaftlichen Stiles, das heißt bei Konferenzen, Verhandlungen, Besprechungen während der Sitzungen usw. mit den deutschsprachigen Partnern sein;</li> <li>- gut strukturierte Texte/Essays zu den vielschichtigen Themen schreiben, indem sie Ausgangskonstellationen hervorheben, Standpunkte/Meinungen mit den zusätzlichen Argumenten, Beweisen und entsprechenden Beispielen (Berichte, Angebote, kritisches Referieren- Informationsübersicht) ausführlich formulieren und beweisen;</li> <li>- ausführliche Vorschriften völlig verstehen, im Arbeitsvorgang helfen, den anderen dazu einladen;</li> <li>- flexibel und effektiv die Sprache zu den sozialen Zielen anwenden, insbesondere zu den Emotionsausdrücken und der Bildung der Aussagen witziger Tönung (Alltagsgespräch- "Einlagerungen" im Bereich der Geschäftskommunikation).</li> </ul>
<b>Hinweise zur Veranstaltung</b>	Syllabus mit dem transparenten Notensystem, Lehrbücher, Ausgabematerialien (Texte, Video- und Audiomaterialien).
<b>Leistungsnachweis</b>	Zwischenprüfung

Übersetzung von medizinischen Fachtexten	
<b>Angestrebter Studienabschluss</b>	Bachelorabschluss
<b>Semester</b>	8
<b>Arbeitsaufwand</b>	4 ECTS-Punkte
<b>Unterrichtssprache</b>	Ukrainisch, Deutsch
<b>Lehrstuhl</b>	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
<b>Zulassungsvoraussetzungen</b>	Deutschkenntnisse auf dem Niveau B1+ des Gemeinsamen europäischen Referenzrahmens ( <a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a> ), Einsicht in Grundlagen der Terminologiewissenschaft, Interesse an Fachübersetzung. Obligatorische Zulassungsvoraussetzung ist der erfolgreiche Abschluss vom Kreditmodul "Praxisorientierte linguistische Forschungen. Grundlagen der Übersetzungswissenschaft" und von mindestens einem Semester der Lehrveranstaltung "Praktischer Kurs der Übersetzung".
<b>Studiengegenstand</b>	Während der Lehrveranstaltung werden: <ul style="list-style-type: none"> <li>- Hauptbesonderheiten der Fachsprachen, insbesondere vom medizinischen Diskurs, betrachtet;</li> <li>- Besonderheiten des Terminsystems der Medizin festgestellt und klassifiziert;</li> <li>- Hauptstrategien und Taktiken der medizinischen Übersetzung festgestellt.</li> </ul>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	Medizinische Übersetzung ist eine der am meisten nachgefragten Richtungen der spezialisierten Übersetzung. Hauptschwierigkeit bei der medizinischen Übersetzung besteht in dem ausgebauten Terminsysteem, der großen Anzahl der Abkürzungen sowie in den völlig unterschiedlichen Regeln der Ausfertigung der gleichen Dokumente in verschiedenen Ländern.
<b>Lernergebnisse (Learning Outcomes)</b>	Während der Lehrveranstaltung können die Studierenden einen Einblick in Hauptproblematik der folgenden Genres und Texttypen erhalten: <ul style="list-style-type: none"> <li>- pharmazeutische Dokumentation;</li> <li>- Packungsbeilagen;</li> <li>- Krankengeschichten;</li> <li>- Arztberichte;</li> <li>- ärztliche Atteste;</li> <li>- Bedienungsanleitungen zur medizinischen Ausrüstung;</li> <li>- medizinische Patente oder Zertifikate;</li> <li>- Vorträge und Artikel zur medizinischen Thematik;</li> <li>- Web-Seiten für medizinische und pharmazeutische Unternehmen usw.</li> </ul> Während der Lernveranstaltung lernen die Studierenden: <ul style="list-style-type: none"> <li>- eine richtige translatorische Vor- und Nachanalyse der medizinischen Fachliteratur durchführen;</li> <li>- internationale Muster der Übersetzungsstandards benutzen;</li> <li>- korrekte Übersetzungsstrategien feststellen.</li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	Der Hauptvorteil der Lehrveranstaltung ist, dass die Studierenden nach dem erfolgreichen Abschluss ihre thematische Übersetzungssubkompetenz im Bereich der Medizin verbessern. Sie können: <ul style="list-style-type: none"> <li>- fachliche (medizinische) Übersetzungen informelles Charakters problemlos machen;</li> <li>- medizinische Dokumente verschiedener Arten (Arztberichte, Krankenberichte, Krankengeschichten, Atteste, Untersuchungsbefunde, Packungsbeilagen, Bedienungsanleitungen zur medizinischen Ausrüstung) für den Eigenbedarf übersetzen;</li> <li>- populärwissenschaftliche Medizinliteratur lesen und übersetzen.</li> </ul>
<b>Hinweise zur Veranstaltung</b>	Syllabus mit dem transparenten Notensystem, Präsentationen zum theoretischen Stoff, Ausgabematerialien. Für die Studierenden wird auch die elektronische Version des praktischen Stoffes und der Aufgaben zugänglich, aber man kann je nach individuellen Interessen einige Materialien zur Vorbereitung benutzen.
<b>Leistungsnachweis</b>	Zwischenprüfung

Der praktische Übersetzungskurs	
<b>Angestrebter Studienabschluss</b>	Bachelorabschluss
<b>Semester</b>	5, 6, 7, 8
<b>Arbeitsaufwand</b>	21,5 ECTS-Punkte
<b>Unterrichtssprache</b>	Deutsch/Ukrainisch
<b>Lehrstuhl</b>	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
<b>Zulassungsvoraussetzungen</b>	Gute Kenntnisse der ukrainischen und deutschen Sprache
<b>Studiengegenstand</b>	<b>In dieser Lehrveranstaltung werden alle Besonderheiten der Übersetzung von technischen und wirtschaftlichen Texten behandelt.</b>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	Der praktische Kurs der Übersetzung bietet viele Möglichkeiten an. Die Studierenden lernen verschiedene Übersetzungsverfahren von technischen und wirtschaftlichen Texten.
<b>Learning Outcomes (Lernergebnisse)</b>	<p>Nach positiver Absolvierung der Lehrveranstaltung sind Studierende in der Lage:</p> <ul style="list-style-type: none"> <li>❖ effektiv mit Informationen zu arbeiten, um verschiedene Quellen kritisch zu analysieren und zu systematisieren;</li> <li>❖ verschiedene Kommunikationsaufgaben mündlich oder schriftlich zu lösen;</li> <li>❖ mündliche und schriftliche Geschäftskommunikation zu führen, diese zu bearbeiten, zusammenzufassen und zu kommentieren;</li> <li>❖ sprachliche und übersetzungsbezogene Analyse von Texten verschiedener Stile durchzuführen;</li> <li>❖ eine angemessene Übersetzung verschiedener Stile durchzuführen;</li> <li>❖ Fachtexte zu wirtschaftlichen und sozialen Themen in Mutter- und Fremdsprache mit dem Gebrauch von Sprach- und Berufskompetenzen zu übersetzen.</li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<ol style="list-style-type: none"> <li>1. Die Studierenden können mündliche und schriftliche Texte verschiedener Stile erstellen.</li> <li>2. Die Studierenden können wirtschaftliche und technische Texte übersetzen.</li> <li>3. Die Studierenden können Sprach- und Übersetzungsanalyse von Texten verschiedener Stile durchführen.</li> <li>4. Die Studierenden können die Texte verschiedener Stile kommentieren und zusammenfassen.</li> </ol>
<b>Hinweise zur Veranstaltung /Literatur</b>	Übersicht der Lehrveranstaltung (Syllabus) mit dem Notensystem, Lehrbüchern und zusätzlichen Materialien
<b>Leistungsnachweis</b>	Prüfung (im 1., 2., 3., 4. Semester)

Die deutsche Sprache (Hauptsprache, praktischer Kurs)	
<b>Angestrebter Studienabschluss</b>	<i>Bachelorabschluss</i>
<b>Semester</b>	<i>1-8 Semester</i>
<b>Arbeitsaufwand</b>	<i>60 ECTS-Punkte</i>
<b>Unterrichtssprache</b>	<i>Deutsch/Ukrainisch</i>
<b>Lehrstuhl</b>	<i>Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache</i>
<b>Zulassungsvoraussetzungen</b>	<p><i>Vorkenntnisse in der deutschen Sprache sind nicht erforderlich. Wichtig sind:</i></p> <ul style="list-style-type: none"> <li>- <i>aktive Teilnahme an der Lehrveranstaltung;</i></li> <li>- <i>selbständige Arbeit — Hausaufgaben zu bearbeiten.</i></li> </ul>
<b>Studiengegenstand</b>	<p><i>Die Lehrveranstaltung orientiert sich an den Niveaus des Gemeinsamen Europäischen Referenzrahmen von A1 bis C1. Im Fokus des kommunikativ orientierten Fremdsprachenunterrichts steht die Förderung der vier Grundfertigkeiten, zwar Hören, Sprechen, Schreiben und Lesen. Da werden phonetische, lexikalische, grammatische und stilistische Besonderheiten der geschriebenen deutschen Standardsprache und der Alltagssprache vermittelt.</i></p>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	<p><i>Die Unterrichtsmethodik ist auf Interaktion ausgerichtet, lernerorientiert und praxisnah. Im Vordergrund steht die Anwendung der geschriebenen und gesprochenen deutschen Sprache. Der Schwerpunkt liegt auf der Vermittlung der allgemeinen Sprachkompetenz im Bezug auf Kultur, Landeskunde und Literatur der deutschsprachigen Länder. In den Unterricht werden Unterrichtsformen wie Gruppenarbeiten, Rollenspiele, Präsentationen stark eingebaut. Interessante, abwechslungsreiche Aufgaben und eine riesige Auswahl an Lernmethoden motivieren Studierende, weiterzulernen.</i></p>
<b>Learning Outcomes (Lernergebnisse)</b>	<p><i>Nach positiver Absolvierung der Lehrveranstaltung können Studierende ein breites Spektrum schwieriger, anspruchsvoller, längerer Texte verstehen, analysieren übersetzen und implizite Bedeutungen erfassen; sich einer Vielzahl von Themen spontan, fließend und klar ausdrücken; sich strukturiert und ausführlich zu komplexen Sachverhalten mündlich und schriftlich äußern und dabei verschiedene Mittel zur Textverknüpfung angemessen verwenden; die deutsche Sprache in Studium, im gesellschaftlichen und beruflichen Leben wirksam und flexibel gebrauchen.</i></p>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<ol style="list-style-type: none"> <li><i>1. Fähigkeit zur freien mündlichen und schriftlichen Kommunikation im Alltag, im gesellschaftlichen und beruflichen Leben;</i></li> <li><i>2. Fähigkeit zur Kommunikation mit Vertretern von anderen Kulturen, Religion usw. und Teilname an Diskussionen;</i></li> <li><i>3. Fähigkeit zur Sprachverwendung in der Fachkommunikation;</i></li> <li><i>4. Fähigkeit zur Produktion von klaren und detaillierten Texten verschiedener funktionaler Stile und Verwendung von verschiedenen Mitteln zur Textverknüpfung;</i></li> <li><i>5. Fähigkeit zur Übertragung der geschriebenen und der gesprochenen Sprache aus dem Deutschen in die Muttersprache;</i></li> <li><i>6. Fähigkeit zur Übersetzung von schwierigen, anspruchsvollen, längeren Texten aus dem Deutschen in die Muttersprache.</i></li> </ol>
<b>Hinweise zur Veranstaltung /Literatur</b>	<p><i>Übersicht der Lehrveranstaltung (Syllabus) mit dem Notensystem, deutschsprachige Lehrwerke, wie z. B. Begegnungen A1, Spektrum A2, Aspekte B1+, Aspekte B2, Sicher C1.</i></p>
<b>Leistungsnachweis</b>	<i>Prüfung (in jedem Semester)</i>

Praktisches Dolmetschen	
<b>Angestrebter Studienabschluss</b>	<i>Masterabschluss</i>
<b>Semester</b>	<i>2</i>
<b>Arbeitsaufwand</b>	<i>3 ECTS-Punkte</i>
<b>Unterrichtssprache</b>	<i>Deutsch, Ukrainisch</i>
<b>Lehrstuhl</b>	<i>Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache</i>
<b>Zulassungsvoraussetzungen</b>	<ul style="list-style-type: none"> <li>– <i>Deutschkenntnisse auf dem Niveau C1 des Gemeinsamen europäischen Referenzrahmens</i> (<a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a>)</li> <li>– <i>Fachwissen im Bereich Translationstheorie;</i></li> <li>– <i>gute Kommunikationsfähigkeiten und -fertigkeiten;</i></li> <li>– <i>Sachwissen in sozialpolitischen Themen;</i></li> <li>– <i>Bestimmte Soft Skills: Stressbeständigkeit, Ausdauer, Kommunikationsfreudigkeit; Bereitschaft zur Arbeit in strengen Zeitrahmen.</i></li> </ul>
<b>Studiengegenstand</b>	<i>In dieser Veranstaltung werden die Grundlagen des Dolmetschens erörtert und verschiedene Dolmetschtechniken im sozialpolitischen Bereich geübt.</i>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	<i>Die erworbenen Erkenntnisse erlauben erfolgreiche Tätigkeit als KonsekutivdolmetscherIn oder SimultandolmetscherIn in verschiedenen Lebensbereichen.</i>
<b>Learning Outcomes (Lernergebnisse)</b>	<p><i>Nach dem Abschluss des Moduls können die Studierenden:</i></p> <ul style="list-style-type: none"> <li>– <i>fließend Deutsch und Ukrainisch sprechen;</i></li> <li>– <i>moderne Techniken im Konsekutiv- und Simultandolmetschen effektiv anwenden (bspw. beim konsekutiven Vom-Blatt-Dolmetschen mit und ohne Vorbereitung sowie beim Simultandolmetschen);</i></li> <li>– <i>konnotative Komponenten in der Semantik der Wörter beachten;</i></li> <li>– <i>linguales und extralinguales Wissen während der Dolmetschvorbereitung gebrauchen;</i></li> <li>– <i>verschiedene sozialpolitische Fachtexte (bspw. Artikel, Nachrichten, politische Reden usw.) dolmetschen;</i></li> <li>– <i>Ethiknormen und Verhaltensregeln beim Verhandlungsdolmetschen, Konferenzdolmetschen und Simultandolmetschen wissen;</i></li> <li>– <i>ihre Dolmetschtätigkeit bei der Analyse von Fehlern einschätzen.</i></li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<p><i>Zu den Lernkompetenzen gehören:</i></p> <ul style="list-style-type: none"> <li>– <i>gründliches Sprachwissen (Deutsch und Ukrainisch);</i></li> <li>– <i>theoretisches Wissen im Dolmetschbereich;</i></li> <li>– <i>Fähigkeit zur Teamarbeit und Selbstarbeit;</i></li> <li>– <i>Kenntnisse von Ethiknormen und festgelegten Vorschriften sowie deren Einsatz beim Dolmetschen;</i></li> <li>– <i>Anpassungsfähigkeit in bestimmten Situationen;</i></li> <li>– <i>Umsetzung von Informations- und Kommunikationstechnologien beim Dolmetschen;</i></li> <li>– <i>Gebrauch verschiedener Techniken beim Dolmetschen von Fachtexten;</i></li> <li>– <i>Zusammenfassen von großen Textumfängen in der Fremd- und Staatssprache (Deutsch und Ukrainisch);</i></li> <li>– <i>Erweiterung des sprachlich kreativen Denkens zur Realisierung von Dolmetschtechniken;</i></li> <li>– <i>Kritik und Selbstkritik beim Dolmetschen.</i></li> </ul>
<b>Hinweise zur Veranstaltung /Literatur</b>	<i>Übersicht der Lehrveranstaltung (Syllabus) mit dem Notensystem, Handbuch von O. Rebrii „Grundlagen der Notizentechnik“, autorenbezogene Materialien zur Vergabe</i>
<b>Leistungsnachweis</b>	<i>Prüfung (Examen)</i>



Sprach- und Übersetzungspraxis Deutsch	
<b>Angestrebter Studienabschluss</b>	<i>Masterabschluss</i>
<b>Semester</b>	<i>1</i>
<b>Arbeitsaufwand</b>	<i>9 ECTS-Punkte</i>
<b>Unterrichtssprache</b>	<i>Deutsch</i>
<b>Lehrstuhl</b>	<i>Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache</i>
<b>Zulassungsvoraussetzungen</b>	<i>Deutschkenntnisse auf dem Niveau B2-C1 des Gemeinsamen europäischen Referenzrahmens, aktive Teilnahme und Mitarbeit im Unterricht, Bereitschaft zur Lektüre umfangreicher Texte</i>
<b>Studiengegenstand</b>	<i>In dieser Veranstaltung werden verschiedene Textsorten im Deutschen produziert, referiert, systematisiert und analysiert mit Einsatz der Informationstechnologien (insbesondere bei der Informationsrecherche und Vorbereitung von Präsentationen und Vorträgen), dabei wird sowohl Fachlexik für erfolgreiche Fachkommunikation in ausgewählten Bereichen (Medizin, Jura, Technik, Kultur, Gesellschaft, Politik) benutzt als auch die Rolle von expressiven Ausdrücken für das Erzielen der erwünschten pragmatischen Wirkung hervorgehoben.</i>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	<i>Deutschkenntnisse auf dem muttersprachlichen Niveau gewährleisten reibungslose Kommunikation mit den minimalsten Missverständnissen, indem solche Kenntnisse erfolgreiche Realisierung von kommunikativen und übersetzerischen Strategien in allen Situationen interkultureller Kommunikation ermöglichen. Dank einem höheren Sprachniveau ist man in der Lage, das sprachliche Material unter Berücksichtigung der klassischen und neuesten methodologischen Prinzipien für den geschickten Gebrauch zu analysieren.</i>
<b>Learning Outcomes (Lernergebnisse)</b>	<p><i>Nach positiver Absolvierung der Lehrveranstaltung sind Studierende in der Lage:</i></p> <ul style="list-style-type: none"> <li><i>❖ effektive Strategie der beruflichen Entwicklung aufzubauen und zu implementieren;</i></li> <li><i>❖ moderne Ansätze und Technologien für erfolgreiche Ausübung der übersetzerischen, pädagogischen und wissenschaftlichen Tätigkeit einzusetzen;</i></li> <li><i>❖ Texte verschiedener Stile und Textsorten wahrzunehmen, zu übersetzen, Korrektur zu lesen und zu produzieren mit Rücksicht auf das Potenzial der expressiven Ausdrücke und Gesprächstechniken für den nötigen pragmatischen Ertrag und effektive Kommunikationsgestaltung;</i></li> <li><i>❖ Übersetzungsstrategien und Methoden für verschiedene Übersetzungstypen sachgemäß anzuwenden.</i></li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<ol style="list-style-type: none"> <li><i>1. Fähigkeit zur richtigen Bewertung eigener Lern- und beruflichen Tätigkeit und daraus schlussfolgernd zur Erarbeitung weiterer Schritte in der beruflichen Tätigkeit;</i></li> <li><i>2. Fähigkeit zum Einsatz geeigneter Kommunikations- und Informationsmittel;</i></li> <li><i>3. Fähigkeit zur Analyse und Systematisierung sprachlichen Materials;</i></li> <li><i>4. Fähigkeit zur erfolgreichen Organisation und Mitwirkung an der mündlichen und schriftlichen fachlichen und alltäglichen Kommunikation;</i></li> <li><i>5. Fähigkeit zur richtigen Anwendung von Kenntnissen der Übersetzungstheorie mit Einhaltung der Normen bei der Übersetzung von Fachtexten;</i></li> <li><i>6. Fähigkeit zur linguokreativen Denkweise.</i></li> </ol>
<b>Hinweise zur Veranstaltung /Literatur</b>	<i>Übersicht der Lehrveranstaltung (Syllabus) mit dem Notensystem, Lehrbuch, zusätzliche Materialien aus den deutschsprachigen Quellen</i>
<b>Leistungsnachweis</b>	<i>Prüfung (im 1. Semester)</i>



Translationstheorie	
<b>Angestrebter Studienabschluss</b>	<i>Masterabschluss</i>
<b>Semester</b>	<i>1</i>
<b>Arbeitsaufwand</b>	<i>2 ECTS-Punkte</i>
<b>Unterrichtssprache</b>	<i>Deutsch, Ukrainisch</i>
<b>Lehrstuhl</b>	<i>Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache</i>
<b>Zulassungsvoraussetzungen</b>	<ul style="list-style-type: none"> <li>– <i>Deutschkenntnisse auf dem Niveau B2 des Gemeinsamen europäischen Referenzrahmens</i> (<a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a>)</li> <li>– <i>Fachwissen im Bereich Sprachwissenschaft und Fachkommunikation;</i></li> <li>– <i>Sachwissen aus dem Themenbereich Wissenschaft und Technik, Politik, Gesellschaft usw.;</i></li> <li>– <i>Bestimmte Soft Skills: Teamarbeitsbereitschaft und Zeitmanagement.</i></li> </ul>
<b>Studiengegenstand</b>	<i>Im Unterricht werden die Besonderheiten der einzelnen Translationsfälle erörtert und die Fachtexte werden analysiert, übersetzt bzw. gedolmetscht sowie ggf. korrigiert.</i>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	<i>Die erworbenen Erkenntnisse erlauben erfolgreiche Tätigkeit als ÜbersetzerInnen, AssistentInnen des Geschäftsleiters bei den deutsch-ukrainischen Firmen, ProjektkoordinatorInnen in den deutschen Bildungszentren und diplomatischen Einrichtungen in der Ukraine.</i>
<b>Learning Outcomes (Lernergebnisse)</b>	<p><i>Nach dem Abschluss des Moduls können die Studierenden:</i></p> <ul style="list-style-type: none"> <li>– <i>gründliches Fachwissen zur Sprachvermittlung in der deutsch-ukrainischen bzw. ukrainisch-deutschen Übersetzungsrichtung gebrauchen;</i></li> <li>– <i>theoretische Grundlagen (Konzepte, Kategorien, Ansätze, Begriffe usw.) der Translationswissenschaft charakterisieren;</i></li> <li>– <i>Übersetzungsmethoden, -verfahren und -techniken wissen;</i></li> <li>– <i>textsortenspezifische Texte aus verschiedenen Themenbereichen übersetzen und dolmetschen;</i></li> <li>– <i>zusammenfassende Übersetzung von geschriebenen und gehörten Texten machen;</i></li> <li>– <i>einzelne Schwierigkeiten des Übersetzens auf dem lexikalischen, grammatischen und semantischen Niveau überwinden.</i></li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<p><i>Zu den Lernkompetenzen gehören:</i></p> <ul style="list-style-type: none"> <li>– <i>Sprachwissen (Deutsch und Ukrainisch);</i></li> <li>– <i>Fachwissen in linguistischen Theorien, Konzepten und Richtungen;</i></li> <li>– <i>Fähigkeit zum abstrakten Denken sowie zur Analyse und Synthese;</i></li> <li>– <i>Anwendung des theoretischen Wissens von einzelnen Übersetzungstypen- und -arten sowie Übersetzungsmethoden, -verfahren und -techniken im professionellen Tätigkeitsbereich;</i></li> <li>– <i>Fertigkeit zum adäquaten Übersetzen von Fachtexten in deutsch-ukrainischer bzw. ukrainisch-deutscher Richtung.</i></li> </ul>
<b>Hinweise zur Veranstaltung /Literatur</b>	<p><i>Übersicht der Lehrveranstaltung (Syllabus) mit dem Notensystem, Lehrbuch von H. Lysenko, I. Baklan und Z. Chepurna „Grundlagen des Übersetzens: eine Brücke zwischen Theorie und Praxis (deutsch-ukrainische Richtung)“, autorenbezogene Materialien zur Vergabe, Präsentationen, Distance-Learning-Kurs auf der Sikorsky-Plattform unter Link:</i>  <a href="https://do.ipk.kpi.ua/course/view.php?id=1999">https://do.ipk.kpi.ua/course/view.php?id=1999</a></p>
<b>Leistungsnachweis</b>	<i>Prüfung (Examen)</i>

Audiovisuelle Übersetzung	
<b>Angestrebter Studienabschluss</b>	Masterabschluss
<b>Semester</b>	2
<b>Arbeitsaufwand</b>	4 ECTS-Punkte
<b>Unterrichtssprache</b>	Ukrainisch/Deutsch
<b>Lehrstuhl</b>	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
<b>Zulassungsvoraussetzungen</b>	Deutschkenntnisse auf dem Niveau B2-C1, erfolgreicher Abschluss vom Kurs "Grundlagen der Übersetzungswissenschaft", Interesse an der Medienübersetzung.
<b>Studiengegenstand</b>	In dieser Veranstaltung können die Studierenden einen Einblick in verschiedene Arten der audiovisuellen Übersetzung und in Besonderheiten der Medientexte bekommen, sich mit den Programmen für die Untertitelung, die Synchronisation und das Voice-Over von den wissenschaftlich-technischen (entsprechend der Thematik) Medienprodukten verschiedener Genres vertraut machen.
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	Audiovisuelle Übersetzung ist eine Übersetzungstätigkeit, die durch Zusammenwirkung des Textes (mündlichen oder schriftlichen) mit Ton und Bild gekennzeichnet wird. Zwei beliebtesten Arten der Übersetzung, die zu der audiovisuellen Übersetzung gehören, sind Synchronisation und Untertitelung. Audiovisuelle Übersetzung ist ein neuer Bereich der wissenschaftlichen Forschungen, trotzdem ist sie von großem Interesse für Erlernung und Aneignung im Unterricht. Eines der Hauptziele bei der Übersetzung von Mediafilmen verschiedener Genres ist die Schaffung der internationalen ästhetischen Kommunikation dank der Interpretation vom Ausgangstext. Er wird von den Übersetzern oder Redakteuren der Untertitel bereits in einem neuen - fremdsprachigen - Textfeld realisiert. Professionelle Übersetzer schaffen nicht nur ein hochwertiges Textprodukt, sondern auch adäquaten Zusammenhang zwischen allen Bestandteilen des Originals (verbalen, nonverbalen und paraverbalen).
<b>Lernergebnisse (Learning Outcomes)</b>	Während der Lehrveranstaltung können die Studierenden: <ul style="list-style-type: none"> <li>- verschiedene Arten der audiovisuellen Übersetzung,</li> <li>- Hauptprinzipien, Regelmäßigkeiten und Verlauf des Synchronisationsprozesses,</li> <li>- Hauptprinzipien, Regelmäßigkeiten und Verlauf des Untertitelungsprozesses,</li> <li>- Hauptprinzipien, Regelmäßigkeiten und Verlauf des Voice-Over-Prozesses beherrschen.</li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	Mithilfe der erworbenen Kenntnisse können die Studierenden: <ul style="list-style-type: none"> <li>- Niveau der Grundausbildung heben, was seinerseits hilft, sich in der großen Menge der Übersetzungsansätze und -strategien bezüglich der Texte verschiedener Genres besser auszukennen;</li> <li>- Hauptarten der audiovisuellen Übersetzung unterscheiden;</li> <li>- mit den Programmen für die Untertitelung, die Synchronisation und das Voice-Over arbeiten;</li> <li>- Untertiteln, Synchronbuch und Voice-Over-Übersetzung erstellen;</li> <li>- sich dem Schwerpunkt und der sozialen Bedeutung vom künftigen Beruf bewusst machen.</li> </ul>
<b>Hinweise zur Veranstaltung</b>	Hinweise zur Veranstaltung beinhalten: <ul style="list-style-type: none"> <li>- das Vorlesungsskript der Lehrkraft von dem Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache, das frei zugänglich ist;</li> <li>- den theoretischen Stoff in Form von Präsentationen;</li> <li>- Software für praktische Arbeit im Unterricht.</li> </ul>
<b>Leistungsnachweis</b>	Zwischenprüfung

Grundlagen der Korpus- und Computerlinguistik	
<b>Angestrebter Studienabschluss</b>	Masterabschluss
<b>Semester</b>	2
<b>Arbeitsaufwand</b>	4 ECTS-Punkte
<b>Unterrichtssprache</b>	Deutsch
<b>Lehrstuhl</b>	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
<b>Zulassungsvoraussetzungen</b>	<p>1) Deutschkenntnisse auf dem Niveau B2+;</p> <p>2) der sichere Umgang mit dem Computer.</p> <p>Der Kurs wird vom Einfachen zum Komplexen gestaltet. Um Lernstoff zu beherrschen, muss man kein Vorwissen in Computerverarbeitung haben, sondern den Wunsch, an sich selbst zu arbeiten und die gewöhnliche Denkweise zu verändern.</p>
<b>Studiengegenstand</b>	<p>In dieser Lehrveranstaltung werden wir:</p> <ul style="list-style-type: none"> <li>- die Anknüpfungspunkte von Linguistik und IT betrachten und berühren;</li> <li>- darüber erfahren, was die Grundlage der modernen digitalen Sprachservices und -technologien bildet (Autovervollständigung, maschinelle Übersetzung, Fehlerkorrektur, automatische Generierung des Sprechens usw.);</li> <li>- lernen, die großen Textkorpora im Korpusmanager schnell zu analysieren;</li> <li>- Hauptbegriffe und Prozesse der Computerlinguistik kennenlernen;</li> <li>- lernen, wie man eine effektive Textsuche mithilfe der in Linguistik bekannten Hilfsmittel — der regulären Ausdrücke durchführt;</li> <li>- Grundlage des Programmierens mit der Sprache Python lernen, die die Texte der natürlichen Sprache verarbeiten lässt.</li> </ul>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	<p>Die Lehrveranstaltung gibt Ihnen die Möglichkeit, die Sprache aus einer anderen Sicht — nicht philologischen, sondern instrumentalen — zu betrachten, zu sehen, wie die Computerlinguisten mit den Sprachen arbeiten, wie viel Interessantes man mit den Texten machen kann, wenn man über Grundfähigkeiten im Programmieren und über Instrumente der Computerlinguistik verfügt. Sie verändern Ihre Denkweise, versuchen sich selbst im Programmieren für Verarbeitung der Sprache und stellen sicher, dass jeder programmieren lernen kann.</p>
<b>Lernergebnisse (Learning Outcomes)</b>	<p>Während der Lehrveranstaltung lernen Sie:</p> <ul style="list-style-type: none"> <li>- Instrumente für Korpusverarbeitung benutzen;</li> <li>- eine effektive Textsuche mithilfe der regulären Ausdrücke durchführen;</li> <li>- Parser zur Textgliederung und zum Tagging nach Lemmata und Wortarten benutzen;</li> <li>- mit der Sprache Python auf Basis-Niveau programmieren.</li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<p>Nach dem erfolgreichen Abschluss der Lehrveranstaltung können Sie:</p> <ul style="list-style-type: none"> <li>- besser und schneller übersetzen, indem Sie zur Überprüfung des Kontextes von Wörtern und Wortverbindungen die Korpora benutzen;</li> <li>- mit den Übersetzungsinstrumenten und Texteditors effektiver arbeiten, indem Sie die regulären Ausdrücke benutzen;</li> <li>- durch den sicheren Umgang mit den Korpora Ihre eigenen linguistischen Forschungen statistisch begründet und methodologisch verlässlich machen;</li> <li>- Programmieren und Computerverarbeitung der Sprache weiter erlernen und ihr Berufsleben der Computerlinguistik widmen.</li> </ul>
<b>Hinweise zur Veranstaltung</b>	<p>Syllabus mit dem transparenten Notensystem, Korpusplattformen der deutschen und ukrainischen Sprachen, Korpusmanager, Online-Parser, Online-Tutorial und Text-Editor, Online- oder Desktopprogrammierenraum.</p>
<b>Leistungsnachweis</b>	Zwischenprüfung

Medizinische Übersetzung	
<b>Angestrebter Studienabschluss</b>	Masterabschluss
<b>Semester</b>	2
<b>Arbeitsaufwand</b>	4 ECTS-Punkte
<b>Unterrichtssprache</b>	Ukrainisch, Deutsch
<b>Lehrstuhl</b>	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
<b>Zulassungsvoraussetzungen</b>	Deutschkenntnisse auf dem Niveau B2+ des Gemeinsamen europäischen Referenzrahmens ( <a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a> ), Einsicht in Grundlagen der Terminologie, Interesse an Fachübersetzung.
<b>Studiengegenstand</b>	<p>Während dieser Lehrveranstaltung werden:</p> <ul style="list-style-type: none"> <li>- Hauptbesonderheiten der Fachsprachen, insbesondere des medizinischen Diskurses betrachtet;</li> <li>- Besonderheiten des medizinischen Terminsystemes festgestellt und klassifiziert;</li> <li>- Hauptstrategien und Taktiken der medizinischen Übersetzung festgestellt;</li> <li>- Hauptfähigkeiten in der Übersetzung der am meisten verbreiteten medizinischen Texte erworben.</li> </ul>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	Medizinische Übersetzung ist eine der am meisten nachgefragten Richtungen der spezialisierten Übersetzung. Hauptschwierigkeit bei der medizinischen Übersetzung besteht in dem ausgebauten Terminsysteme, der großen Anzahl der Abkürzungen sowie in den völlig unterschiedlichen Regeln der Ausfertigung von der typischen Dokumente in verschiedenen Ländern.
<b>Lernergebnisse (Learning Outcomes)</b>	<p>Während der Lehrveranstaltung können die Studierenden einen Einblick in Hauptproblematik der folgenden Genres und Texttypen erhalten:</p> <ul style="list-style-type: none"> <li>- pharmazeutische Dokumentation;</li> <li>- Packungsbeilagen;</li> <li>- Krankengeschichten;</li> <li>- Arztberichte;</li> <li>- ärztliche Atteste;</li> <li>- Bedienungsanleitungen zur medizinischen Ausrüstung;</li> <li>- medizinische Patente oder Zertifikate;</li> <li>- Vorträge und Artikel der medizinischen Thematik;</li> <li>- Web-Seiten für medizinische und pharmazeutische Unternehmen usw.</li> </ul> <p>Während der Lehrveranstaltung lernen die Studierenden:</p> <ul style="list-style-type: none"> <li>- eine richtige translatorische Vor- und Nachanalyse der medizinischen Fachliteratur durchführen;</li> <li>- internationale Muster der Übersetzungsstandards benutzen;</li> <li>- korrekte Übersetzungsstrategien feststellen.</li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<p>Der Hauptvorteil dieser Lehrveranstaltung ist, dass die Studierenden nach dem erfolgreichen Abschluss die grundlegende Fachkompetenz als Übersetzer im Bereich der Medizin erwerben. Sie können:</p> <ul style="list-style-type: none"> <li>- fachliche (medizinische) Übersetzungen informellen Charakters problemlos machen;</li> <li>- medizinische Dokumente verschiedener Arten (Arztberichte, Krankenberichte, Krankengeschichten, Atteste, Untersuchungsbefunde, Packungsbeilagen, Bedienungsanleitungen zur medizinischen Ausrüstung) für den Eigenbedarf übersetzen;</li> <li>- populärwissenschaftliche Medizinliteratur lesen und übersetzen.</li> </ul>
<b>Hinweise zur Veranstaltung</b>	<p>Syllabus mit dem transparenten Notensystem, Präsentationen zum theoretischen Stoff, Ausgabematerialien, Arbeitsblätter.</p> <p>Für die Studierenden wird auch die elektronische Version des praktischen Stoffes und der Aufgaben zugänglich, aber man kann je nach individuellen Interessen eigene Materialien zur Vorbereitung benutzen.</p>
<b>Leistungsnaehweis</b>	Zwischenprüfung

## Theorie und Praxis vom Copywriting

<b>Angestrebter Studienabschluss</b>	Masterabschluss
<b>Semester</b>	2
<b>Arbeitsaufwand</b>	4 ECTS-Punkte
<b>Unterrichtssprache</b>	Deutsch
<b>Lehrstuhl</b>	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
<b>Zulassungsvoraussetzungen</b>	Deutschkenntnisse auf dem Niveau B2+/C1 des Gemeinsamen europäischen Referenzrahmens ( <a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a> ), Bereitschaft zu der selbstständigen Verfassung von einer großen Anzahl der Texte verschiedener Menge, Stil und Thematik.
<b>Studiengegenstand</b>	<p>Diese Lehrveranstaltung sieht Folgendes vor:</p> <ul style="list-style-type: none"> <li>- Bekanntmachen mit den historischen Entstehungsbedingungen und Arten vom Copywriting als von einem besonderen Infoprodukt;</li> <li>- Feststellung der Unterschiede zwischen Copywriting, Copyright und Rewriting;</li> <li>- Erlernen der theoretischen Grundlagen vom Copywriting (Formeln für Textverfassen, Größe und Struktur, visueller Bestandteil der Texte);</li> <li>- Erlernen von den Grundmethoden für Verfassen der Präsentationstexte unter Berücksichtigung der kommunikativen Intention vom Auftraggeber, des Zieles und der Aufgaben vom Text;</li> <li>- Verbesserung der produktiven kommunikativen Fähigkeiten in der Schriftsprache durch Erledigen von den praktischen Aufgaben (Rewriting, Redaktion, Stilisierung, Übersetzung, Verfassen der einzigartigen Texte).</li> </ul>
<b>Motivationsgrund (Nutzen der Lehrveranstaltung)</b>	<p>Es ist allgemein bekannt: "Im Anfang war das Wort ...". Im Zeitalter der Informatisierung und Digitalisierung bleibt das Wort ein mächtiges Mittel für die Erregung der Aufmerksamkeit, das ein breites Spektrum der Emotionen hervorrufen, die Umwelt satter und bunter machen oder dagegen wegstoßen kann. Nicht nur mit der Übersetzung beschäftigen sich Philologen. Hochkarätige Spezialisten benutzen ihre Kenntnisse und Fähigkeiten zu der Redaktion und dem Verfassen der einzigartigen Texte. Schreiben, schreiben und nochmals schreiben: zu irgendwelchem Thema, für breites oder enges Publikum, schnell und treffend - das ist die Hauptsache beim Copywriting.</p> <p>Falls es für Sie kompliziert ist, Ihre eigene Meinung zu formulieren oder die fremde mit anderen Worten zu wiedergeben/stilisieren, wählen Sie das Copywriting aus, denn die ganze Menge der angeeigneten Lexik und Grammatik wird sich ohne diese Fähigkeiten in Ihrem Kopf langweilen.</p> <p>Die Lehrveranstaltung sieht das Bekanntmachen mit den theoretischen Grundlagen vom Copywriting vor, dabei aber ist das nicht die "trockene Theorie", sondern interessante Fakten über Entstehung des Copywritings, das seinen Ursprung in der Redekunst hat und mit der Entwicklung der Werbetätigkeit und Massenmedien eng verbunden ist. Unter dem Begriff "Copywriting" verstehen wir das Verfassen der kommerziellen Werbetexte (Verkaufstexte), Präsentationstexte (PR-Texte, Image-Copywriting), Inhalt zur Bekanntmachung der Web-Seite (SEO-Copywriting).</p> <p>Die Fähigkeiten, einzigartige fesselnde Werbe-, Informations- und Unterhaltungstexte zu schreiben, qualitative ukrainisch↔deutsche Übersetzungen zu machen, unausgereifte Texte korrekturlesen und zu redigieren, sind ein wichtiger Kompetenzbestandteil der Übersetzungsfachrichtung sowie eine Garantie der hohen Konkurrenzleistung.</p>
<b>Lernergebnisse (Learning Outcomes)</b>	<p>Nach dem erfolgreichen Kursabschluss kennen die Studierende</p> <ul style="list-style-type: none"> <li>- die Besonderheiten vom Copywriting, Formeln zur Textverfassen, Informationen über Typologie und Struktur, Gesetzmäßigkeiten des Verhältnisses zwischen den visuellen und verbalen Textbestandteilen, stilistische Merkmale des Wortes (Übereinstimmung der Aussagen und Redewendungen mit dem Stil des Textes), Ausdrucksmittel der strukturellen Gestaltung des Textes, lexikalische Ausdrucksmittel der Textaufgabe und des Textzieles und können</li> <li>- den übersetzten Text redigieren und stilisieren, insbesondere Überprüfung der Orthografie, Interpunktion, Stilistik, Lexik, Koordinierung der inhaltlichen Nichtübereinstimmungen;</li> <li>- eigene Texte unterschiedlicher Genres und Thematik (Informations- und Präsentationstexte für Web-Seiten, Prospekte, z. B. Warenbeschreibung, Pressemeldungen) ohne Kanzelanismen, Klischeewörter und Textmüll verfassen;</li> <li>- <u>Rewriting</u> (einen Text entsprechend der Intention vom Auftraggeber umschreiben) sowie Annotationen mit der angeeigneten Sprachausdrücken und verschiedenen grammatischen Strukturen auf Niveau C1 des Gemeinsamen europäischen Referenzrahmens (<a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a>) machen.</li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<p>Der Hauptvorteil dieser Lehrveranstaltung ist, dass die Studierenden nach dem erfolgreichen Abschluss das Folgende können:</p> <ul style="list-style-type: none"> <li>- den (von der anderen Sprache übersetzten) Text übersetzen, korrekturlesen, redigieren, stilisieren, indem sie Orthografie, Stilistik, Lexik, inhaltliche Nichtübereinstimmungen in Ordnung bringen;</li> <li>- klar strukturierte Informations- und Präsentationstexte für Web-Seiten, Prospekte und soziale Netzwerke (Texte für Geschäft und Medien) schreiben, frei, deutlich und satt die Meinungen äußern und dabei bei den Empfängern das Interesse an die Texte und den Wunsch, Zieltat zu machen, erwecken;</li> <li>- ausführliche fachliche Texte der großen Menge (Artikel, Berichte, Briefe) völlig verstehen und sie unter Berücksichtigung der kommunikativen Situation verändern (Rewriting, Annotieren);</li> <li>- die Angst vor dem weißen Blatt und Prokrastination bekämpfen sowie Deadlines einhalten.</li> </ul>
<b>Hinweise zur Veranstaltung</b>	Syllabus mit dem transparenten Notensystem, Ausgabematerialien (Texte, Video- und Audiomaterialien).
<b>Leistungsnachweis</b>	Zwischenprüfung



Rechtsübersetzung	
<b>Angestrebter Studienabschluss</b>	Masterabschluss
<b>Semester</b>	2
<b>Arbeitsaufwand</b>	4 ECTS-Punkte
<b>Unterrichtssprache</b>	Ukrainisch, Deutsch
<b>Lehrstuhl</b>	Lehrstuhl für Theorie, Praxis und Übersetzung der deutschen Sprache
<b>Zulassungsvoraussetzungen</b>	Deutschkenntnisse auf dem Niveau C1 des Gemeinsamen europäischen Referenzrahmens ( <a href="http://www.univ.kiev.ua/ru/resources/tests4">http://www.univ.kiev.ua/ru/resources/tests4</a> ), Einsicht in den Grundlagen der Fachübersetzung.
<b>Studiengegenstand</b>	<p>Diese Veranstaltung sieht Folgendes vor:</p> <ul style="list-style-type: none"> <li>- Betrachten der lexikalisch-grammatischen Aspekte der Übersetzung von Rechtsdokumenten;</li> <li>- Bekanntmachen mit den Stil- und Genre-Aspekten der Übersetzung von Rechtsdokumenten;</li> <li>- Bildung und Aneignung der Terminologiebasis im Rechtsbereich;</li> <li>- Analyse von den Texten der primären Rechtsliteratur;</li> <li>- Strukturieren der Arbeitsordnung bei der Übersetzung der primären Rechtstexte;</li> <li>- Feststellen der Besonderheiten bei der Gerichtsübersetzung mit Bearbeitung der Terminologiebasis und Aneignung der Übersetzungsmethode sowohl in der schriftlichen als auch in der mündlichen Form.</li> </ul>
<b>Motivationsgründe und (Nutzen der Lehrveranstaltung)</b>	Die während der Lehrveranstaltung "Rechtsübersetzung" erworbenen Kenntnisse vertiefen berufliche Übersetzungsfähigkeiten für die Arbeit mit den Rechtstexten, die auf dem Markt der Übersetzungsdienstleistungen immer nachgefragt werden.
<b>Lernergebnisse (Learning Outcomes)</b>	<p>Während der Lehrveranstaltung können die Studierenden sich mit der Spezifik der Übersetzung von den primären Rechtstexten vertraut machen, einschließlich:</p> <ul style="list-style-type: none"> <li>- Arten der Rechtsdokumente, ihre Form und Requisiten;</li> <li>- Anforderungen an Struktur, Inhalt und Form von grundsätzlichen und einzelnen Rechtsdokumenten.</li> </ul> <p>Während der Lehrveranstaltung lernen die Studierenden:</p> <ul style="list-style-type: none"> <li>- Fachkenntnisse bei der Übersetzung der Texte verschiedener Genres (Verordnungen, Anordnungen, Weisungen, Verfügungen, Anzeigen, Gerichtsurteile usw.) anwenden;</li> <li>- die Übersetzung der Rechtsdokumente von hoher Qualität machen;</li> <li>- Terminologie im Bereich der Rechtswissenschaft beherrschen.</li> </ul>
<b>Lernkompetenzen (erworbene Kenntnisse und Fähigkeiten)</b>	<p>Der Hauptvorteil dieser Lehrveranstaltung ist, dass die Studierenden nach dem erfolgreichen Abschluss die Fachkompetenz im Bereich der Übersetzung von den Rechtsdokumenten erwerben. Sie können:</p> <ul style="list-style-type: none"> <li>- die Fachfähigkeiten bei der Übersetzung von den Rechtstexten professionell anwenden;</li> <li>- die Übersetzung der Rechtsdokumente verschiedener Genres im Rahmen des deutsch-ukrainischen Sprachpaares schnell, leicht und richtig machen.</li> </ul>
<b>Hinweise zur Veranstaltung</b>	Syllabus mit dem transparenten Notensystem, Präsentationen mit der Veranschaulichung der Fachkenntnisse, Ausgabematerialien. Für die Studierenden wird die elektronische Version der praktischen Aufgaben zugänglich. Die Arbeit mit den authentischen Texten der Rechtsdokumente ist vorgesehen.
<b>Leistungsnachweis</b>	Zwischenprüfung

## Contrastive Typology: Contrastive Stylistics

<b>Restrictions</b>	<i>Knowledge of English at B2 level</i>
<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>2 (4)</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Theory, Practice and Translation of the English Language</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Contrastive Typology: Contrastive Lexicology").</i>
<b>The scope of the course</b>	<i>The scope of the course includes phonetic, graphical, morphological levels of functional stylistics, stylistic classification of vocabulary, stylistic semasiology and syntax.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in stylistic text analysis as a prerequisite of text translation.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: knowledge of the place of stylistics in the system of linguistic sciences, its distinguishing features and types, expressive resources of English.</i>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- differentiate functional styles on the basis of their specific features;</i></li> <li><i>- determine tenor and mode of text ;</i></li> <li><i>- distinguish stylistic devices and specify their functions in the texts to be translated;</i></li> <li><i>- compare stylistic potential of expressive resources of English and the native language.</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (textbooks, video lectures, bank of presentations, assignments for practical work and control</i>
<b>Mode of delivery:</b>	<i>lectures / workshops</i>
<b>End-of-semester control:</b>	<i>Credit</i>



Methodology and didactics of Teaching	
<b>Lecturer</b>	<i>Habilitated Doctor of Pedagogics, Professor, Zoia Kornieva</i>
<b>Educational level</b>	<i>First (Bachelor's degree)</i>
<b>Year of study, semester</b>	<i>4 (7)</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of the English Language Theory and Translation</i>
<b>Assumed knowledge and prerequisites</b>	<i>English C1 (Completion of educational component «Introduction to Romano-Germanic Linguistics»)</i>
<b>The scope of the course</b>	<i>The scope of the course includes the basics of methodical preparation of students for the implementation of their professional functions as foreign language teachers. The above mentioned consists in studying the peculiarities of foreign language teaching (listening, speaking, reading and writing skills formation), students' educational development through a foreign language; scientific, methodical and organizational activities performed in- and out-of-class; introduction of innovative informational technologies into foreign languages teaching; educational and methodological work, including the study, generalization and dissemination of the latest teaching methodologies.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in understanding the fundamentals of foreign languages teaching.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- understanding the main modern trends in teaching foreign languages in Ukraine and abroad and use the skills and abilities acquired during the course in future teaching activities;</i></li> <li><i>- mastering the most well-known methodological areas, systems and methods, forms and means of teaching foreign languages, as well as creatively introducing this knowledge into practice, taking into account specific conditions at different educational institutions;</i></li> <li><i>- being aware of the peculiarities of the process of learning foreign languages as a means of communication, upbringing and development, as well as knowledge related to the methodology of disciplines of psychological, pedagogical and philological cycles, serving to form holistic ideas about the content and structure of pedagogical activities;</i></li> <li><i>- collecting, analyzing, systematizing and interpreting the facts of language and speech and use them to solve both complex and specialized problems in the areas of professional activities and training.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to possess:</i></p> <ul style="list-style-type: none"> <li><i>- socio-cultural competence as the future foreign language teachers;</i></li> <li><i>- ability to solve various methodological problems that arise in the educational process at secondary schools, based on the acquired theoretical and practical knowledge;</i></li> <li><i>- ability to creatively search and study special scientific and methodological literature, which should become a source of constant work in order to improve the level of professional qualification.</i></li> </ul>
<b>Instructional Materials:</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts, etc)</i>
<b>Mode of delivery:</b>	<i>seminars / workshops / tutorials</i>
<b>End-of- semester control:</b>	<i>credit</i>

Practical Grammar of the English Language	
<b>Lecturer</b>	Valeriya Havrylenko
<b>Educational level</b>	First (Bachelor)
<b>Year of study</b>	2, 3
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Department of theory, practice and translation of the English language
<b>Assumed knowledge and prerequisites</b>	B2 level of English
<b>The scope of course</b>	<i>The aim of the course is to improve knowledge and understanding of the grammar structure of the modern English language, in particular – the peculiarities of parts of speech functioning in language. The course also envisages the practicing of application of various tense forms in active and in passive voices, changes of direct speech into indirect one and vice versa, the peculiarities of sequence of tenses, and the peculiarities of different moods usage. Special attention is paid to current tendencies and changes in English grammar, syntax and punctuation, as these are of a great importance in translation activity.</i>
<b>Rationale</b>	<i>These subject deepens and systematizes knowledge of English, being complementary in obtaining the skillset necessary for being a high quality translator or interpreter, as only deep understanding of the language's inner workings grants the ability to convey the translated messages, both oral and written, in a proper manner.</i>
<b>Learning outcomes</b>	<p><i>Learning outcomes:</i></p> <ul style="list-style-type: none"> <li>- <i>Being able to analyze language units, define their interaction modes and characterize linguistic phenomena and processes, which define them;</i></li> <li>- <i>Contrast different language and speech units with the view of finding key information in the original texts;</i></li> <li>- <i>collect, analyze, systematize and interpret language and speech facts and use them accordingly in order to solve various difficult tasks in specific areas of professional activities and/or education.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>This discipline ensures the acquisition of the following competencies:</i></p> <ul style="list-style-type: none"> <li>- <i>ability to understand and use the principle of language organization, language's nature, its functions, levels and structural typology of the world's languages;</i></li> <li>- <i>ability to apply sociolinguistic, lingvo-cultural and contrastive-and-typological analyses to language phenomena;</i></li> </ul>
<b>Instructional materials:</b> syllabus of the discipline, set of educational and curricular materials	
<b>Mode of delivery:</b> Seminars	
<b>End of semester control:</b> credit	

## 101 Environmental studies

Environmental Protection Organisation and Management	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Environmental sciences</i>
<b>Educational level</b>	<i>Bachelor's degree</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>6</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Ecology and Plant Polymers Technology</i>
<b>Assumed knowledge and prerequisites</b>	<i>English</i>
<b>Scope of the course</b>	<i>The scope of the course includes theoretical foundations of management, the main directions of ecological policy of the state, international experience in environmental management.</i>
<b>Rationale</b>	<i>At the present stage, socio-economic development leads to increased anthropogenic impact on the environment, which reduces its ability to self-healing. In addition, there are clear signs of ecological crisis, which are manifested in the degradation of the environment. Therefore, it is important to find the optimal interaction between the environment and meet the basic needs of society. Taking into account the social, economic and environmental interests of society is ensured through the environmental policy of the state, which is implemented through the system of environmental management. The Department ensures the implementation of legislation, control over compliance with environmental safety requirements, carrying out comprehensive measures aimed at the rational use of natural resources, achieving coordination of actions of state and public bodies in the field of environmental protection.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– knowledge of tools and mechanisms for environmental management at the local, regional, national and international levels, taking into account the program of sustainable development at all levels;</i></li> <li><i>– be able to assess the impact of basic environmental laws on management decisions;</i></li> <li><i>– to adapt international management experience in the practice of environmental activities of rational use of natural resources;</i></li> <li><i>– to define ecological problems of Ukraine and to solve them in the context of strategy of ecological policy of the state</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– Use the basic principles and composition of environmental management;</i></li> <li><i>– inform the public about the state of environmental safety and sustainable use of nature;</i></li> <li><i>– formulate requirements for personnel management and use in practice the principles of personnel selection management;</i></li> <li><i>– interact with participation in the management of environmental actions and / or environmental projects.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes, presentations, reference book)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Exam</i>

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Meteorology and Climatology	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Environmental sciences</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Ecology and Plant Polymers Technology</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<i>The scope of the course includes formation of students' full knowledge in physical, electrical and physico-chemical processes occurring in the atmosphere; learning the impact of these processes on the formation of meteorological phenomena; determination of anthropogenic effect on meteorological and climatic processes</i>
<b>Rationale</b>	<i>Atmospheric processes and meteorological phenomena are one of the most important environmental factors. Climate change and, as a result, catastrophic changes in the weather characteristics at different parts of our planet lead to awful destruction and human losses. Understanding the main atmospheric processes, their impact on weather and climatic characteristics is a necessary feature of the future specialist in ecology and environmental protection field.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: – ability to critically comprehend the basic theories, methods and principles of natural sciences</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: – understand the basic environmental laws, rules and principles of environmental protection and nature management; – understand the basic concepts, theoretical and practical problems of natural sciences, which are necessary for analysis and decision-making in the ecology, environmental protection and rational nature management fields; – to improve the professional level by further education and self-education</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials, presentations</i>
<b>Mode of delivery</b>	<i>lectures and seminars</i>
<b>End-of-semester control</b>	<i>Test</i>

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Toxicology	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Environmental sciences</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Ecology and Plant Polymers Technology</i>
<b>Assumed knowledge and prerequisites</b>	<i>Toxicology course studying based on knowledge of biology, general ecology, inorganic, organic and analytical chemistry</i>
<b>Scope of the course</b>	<i>The main directions of toxicology, peculiarities of the various environment pollutants influence on living organisms and ecosystems as a whole</i>
<b>Rationale</b>	<i>Understanding the basics of toxicology becomes especially important for the period of intensification of anthropogenic pollution, because it allows you to manage environmental risks, avoid dangerous situations and poisonings. Toxicology provides critically important information and knowledge that can be used to make the balanced decisions about personal safety, homeostasis of natural ecosystems and to promote the concept of sustainable development in a global scale</i>
<b>Learning outcomes</b>	<i>To find out the impact of certain groups of pollutants on living organisms, to master the methods of toxicological calculations and to learn to assess the degree of toxicological risk.</i>
<b>Competencies and skills</b>	<i>After mastering the "Toxicology" discipline students will acquire competencies:</i> <ul style="list-style-type: none"> <li>– <i>tracking the movement of xenobiotics in ecosystems along trophic chains;</i></li> <li>– <i>assessment the toxicity degree of various substances and media;</i></li> <li>– <i>determination of the class of toxicity and danger of chemical pollutants according to the parameters of toxicometry.</i></li> </ul>
<b>Instructional Materials</b>	<i>A course of lectures that can be taught remotely</i>
<b>Mode of delivery</b>	<i>Lectures, practical and laboratory classes</i>
<b>End-of-semester control</b>	<i>Exam</i>

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## Analytical Chemistry - I. Qualitative Analysis

<b>Restrictions (specialty for which the course is offered)</b>	<i>Environmental sciences</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Ecology and Plant Polymers Technology</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Completion of educational component "Inorganic Chemistry", "Physics", "Mathematics"</i>
<b>Scope of the course</b>	<i>The scope of the course includes</i> <ul style="list-style-type: none"> <li>– <i>basic laws of chemistry used in analytical chemistry;</i></li> <li>– <i>logical connection between methods of analytical chemistry and chemical properties of molecules and ions;</i></li> <li>– <i>general provisions of the basics of chemical methods of analysis;</i></li> <li>– <i>extensive laboratory practice in qualitative chemical analysis of kations and anions.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in principles and methods of chemical analysis, promoting the achievement of a more in-depth understanding of chemical processes and the laws of their course.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>– <i>study of theoretical bases of chemical methods of analysis in the control of human objects and the environment;</i></li> <li>– <i>scientific substantiation of general approaches in the selection and development of methods for determining the chemical composition of substances, their concentration, separation and identification.</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>– <i>prepare necessary materials and reagents for analysis;</i></li> <li>– <i>perform qualitative analysis of simple objects of man-made and natural origin;</i></li> <li>– <i>perform calculations of analysis results.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book)</i>
<b>Mode of delivery</b>	<i>lectures, laboratory practices</i>
<b>End-of-semester control</b>	<i>Exam</i>

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## Analytical Chemistry - II. Quantitative Analysis

<b>Restrictions (specialty for which the course is offered)</b>	<i>Environmental sciences</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Ecology and Plant Polymers Technology</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Completion of educational component "Inorganic Chemistry", "Physics", "Mathematics"</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes</i></p> <ul style="list-style-type: none"> <li>– <i>the theoretical foundations and practical skill in quantitative (gravimetric, titrimetric) chemical analysis;</i></li> <li>– <i>acquaintance with the rules of work with chemical utensils and analytical scales;</i></li> <li>– <i>study of preparation methods of compounds for analysis;</i></li> <li>– <i>the basic principles of analytical research;</i></li> <li>– <i>study of methods of analytical evaluation of analysis results.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in the theoretical foundations of quantitative chemical analysis and mastering the practical skills of its implementation. The students will learn the theoretical basis of modern analytical chemistry, the main stages of analytical research, the features of different methods for determining chemical ingredients in the environment.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li>– <i>to run qualitative control in solving of environmental problems;</i></li> <li>– <i>to perform quantitative analysis of simple objects of man-made and natural origin;</i></li> <li>– <i>the ability to work with laboratory equipment.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>– <i>to perform quantitative analysis of simple objects of man-made and natural origin;</i></li> <li>– <i>to perform calculations of the composition of the system, the amount of substance of the reacting compounds for the development of technological processes</i></li> <li>– <i>the ability to work with laboratory equipment</i></li> <li>– <i>using the theoretical provisions of analytical chemistry and reference data, calculate the necessary parameters (masses of substances, volumes of solutions, concentrations of components) for preparation of working solutions (titrants, buffers, indicators) for the purpose of their standardization;</i></li> <li>– <i>to evaluate the possibilities of analysis methods and reasonably choose a method for a specific practical analysis;</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book)</i>
<b>Mode of delivery</b>	<i>lectures, laboratory practices</i>
<b>End-of-semester control</b>	<i>Exam</i>

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## 133 Industrial Machinery Engineering

Informatics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Industrial Machinery Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Chemical, polymer and silicate mechanical engineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<i>The scope of the course includes: The student acquires basic knowledge of computer science, rules of computer work, basics programming; will be able to type, insert objects, build graphics, tables and charts in Word, Excel, PowerPoint editors; perform calculations and evaluate the results in software environments MathCAD, VBA, or similar</i>
<b>Rationale</b>	<i>The knowledge and skills gained in the classroom will make it easy to find an interesting job</i>
<b>Learning outcomes</b>	<i>Ability to apply standard analytical methods and computer software to solve engineering problems of industrial engineering, effective quantitative methods of mathematics, physics, engineering, as well as appropriate computer software for solving engineering problems of branch mechanical engineering</i>
<b>Competencies and skills</b>	<i>The ability of a person to solve complex specialized problems and practical problems in a particular field of professional activity or in the learning process, which involves the use of certain theories and methods of relevant sciences and is characterized by complexity and uncertainty of conditions .Carry out engineering calculations to solve complex problems and practical problems in the field of mechanical engineering</i>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures and computer practicum</i>
<b>End-of-semester control</b>	<i>Test</i>

Heat Transfer	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Industrial Machinery Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Chemical, polymer and silicate mechanical engineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, "Informatics", "Mathematics", "Physics", "Theoretical foundations of heat engineering"</i>
<b>Scope of the course</b>	<p><i>The subject of the discipline "Heat Transfer" - heat transfer processes in devices and apparatus of polymer and construction industries, calculations of the parameters of these processes.</i></p> <p><i>The solution of this problem is determined by the level of training of specialists working in the field of chemical engineering of chemical and construction industries. To successfully solve the problems of calculating heat transfer processes, specialists must be fluent in information, be able to solve the problem of heat transfer in industrial equipment.</i></p>
<b>Rationale</b>	<i>Most of the technological processes of enterprises for the production of building and polymeric materials are associated with heat transfer, and, in many cases, this operation is the final stage of technological processing, which determines the properties of materials and product quality. Rational choice of the mode of heat treatment and the corresponding heat exchange equipment is defined by technological and operational characteristics of materials and products, resource and energy saving, and also economic indicators of production.</i>
<b>Learning outcomes</b>	<p><i>-the ability of a person to solve complex specialized problems and practical problems in a particular field of professional activity or in the learning process, which involves the use of certain theories and methods of relevant sciences and is characterized by complexity and uncertainty of conditions.</i></p> <p><i>- ability to apply fundamental scientific facts, concepts, theories, principles to solve professional problems and practical problems of industrial engineering - ability to make effective decisions on the choice of construction materials, equipment, processes and combine theory and practice to solve engineering task.</i></p> <p><i>- ability to describe and classify a wide range of technical objects and processes, based on deep knowledge and understanding, knowledge of related technical sciences.</i></p>
<b>Competencies and skills</b>	<p><i>- knowledge and understanding of the principles of technological, basic and engineering sciences that underlie the branch engineering of the relevant industry;</i></p> <p><i>- perform engineering calculations to solve complex problems and practical problems in the field of mechanical engineering;</i></p> <p><i>- analyze engineering objects, processes and methods;</i></p> <p><i>- select and apply the necessary equipment, tools and methods;</i></p> <p><i>- apply technical control tools to assess the parameters of objects and processes in the field of mechanical engineering;</i></p> <p><i>- know and understand related fields (mechanics of liquids and gases, heat engineering, electrical engineering, electronics) and be able to identify interdisciplinary links at the level necessary to meet other requirements of the educational program.</i></p>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures and workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

## Theoretical Foundations of Heat Technics

<b>Restrictions (specialty for which the course is offered)</b>	<i>Industrial Machinery Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Chemical, polymer and silicate mechanical engineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, knowledge of mathematics, physics, thermal processes and equipment of chemical technologies, automated engineering systems. Is the basis for the study of the following courses of disciplines: "Processes, devices and machines of the industry", "Technological equipment for the production of construction and polymer products", "Technology of composite materials"</i>
<b>Scope of the course</b>	<i>The subject of the discipline - the basic laws of technical thermodynamics. Methods of research of energy phenomena in thermodynamics. Status parameters. Mathematical expressions of the laws of thermodynamics</i>
<b>Rationale</b>	<i>The "Theoretical foundations of heat technics" are general technical discipline, studying the methods of obtaining, heat conversion, transfer and use as well principles of operation and design features of heat and steam generators, heat engines and devices.</i>
<b>Learning outcomes</b>	<i>According to the requirements of the curriculum, students after mastering the credit module must demonstrate the following learning outcomes: knowledge of the basic laws of technical thermodynamics ability: using the basic principles and laws of thermodynamics to analyze the operation of heat engines and the processes that occur in them and identify ways to save heat resources.</i>
<b>Competencies and skills</b>	<i>ability to use the basic laws of thermodynamics in calculations and thermodynamic analysis of the efficiency of energy transformations in equipment.</i>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures and workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Applied Numerical Methods	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Industrial Machinery Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Chemical, polymer and silicate mechanical engineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, physics, chemistry, higher mathematics, resistance of materials, materials science, engineering technology.</i>
<b>Scope of the course</b>	<i>The essence of numerical methods. Characteristics of numerical methods. Numerical methods for solving nonlinear equations. Numerical differentiation of functions. Finite difference method for solving differential equations</i>
<b>Rationale</b>	<i>The purpose of studying the credit module is to form in students a set of knowledge, skills, abilities necessary for qualified mastery of applied numerical methods for calculating machines and equipment of chemical plants.</i>
<b>Learning outcomes</b>	<i>Knowledge and understanding of the principles of technological, fundamental and engineering sciences that underlie the branch of mechanical engineering. Carry out engineering calculations to solve complex problems and practical problems in the field of mechanical engineering. Analyze engineering objects, processes and methods. Develop parts and assemblies of machines using computer-aided design systems.</i>
<b>Competencies and skills</b>	<i>Ability to use standard analytical methods and computer software to solve engineering problems of industrial engineering, effective quantitative methods of mathematics, physics, engineering, as well as appropriate computer software to solve engineering problems of industrial engineering. Ability to make effective decisions on the choice of construction materials, equipment, processes and combine theory and practice to solve engineering problems. Ability to use computer-aided design systems and specialized application software to solve engineering problems in the field of mechanical engineering. Ability to make effective decisions on the choice of construction materials, equipment, processes and combine theory and practice to solve engineering problems. Read, analyze, edit source code, compile programs for engineering calculations on a PC using a high-level algorithmic language</i>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures and computer practicum</i>
<b>End-of-semester control</b>	<i>Test</i>

3D-graphics and printing	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Industrial Machinery Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Chemical, polymer and silicate mechanical engineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, basic knowledge of the disciplines: "Informatics" "Engineering and computer graphics", "Engineering calculations on a PC"</i>
<b>Scope of the course</b>	<i>Principles of three-dimensional modeling. Sketches and geometry details. Three-dimensional operations with sketches. Adjust parts and assemblies settings. Creating conjugations between assembly elements. Three-dimensional orientation of assembly parts. Creating two-dimensional drawings from three-dimensional models of parts and assemblies. Work with dimensions, symbols and technical inscriptions on the drawing. 3D printing. Types and characteristics of basic 3D printers, their settings.</i>
<b>Rationale</b>	<i>Cases are aimed at providing modern, holistic knowledge in the field of computer design; providing creative work of students together with the teacher during the lecture; formation of students' necessary interest and providing direction for independent work; acquisition of visual information.</i>
<b>Learning outcomes</b>	<i>According to the requirements of the curriculum, students after mastering the credit module must demonstrate the following learning outcomes: knowledge of fundamentals of 3D modeling software, rules for building and editing 3D object models.</i>
<b>Competencies and skills</b>	<i>Use software to build 3D objects and 3D structures, set the properties of 3D objects, and perform motion simulations.</i>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures and workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Design of Heat Exchange Equipment	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Industrial Machinery Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Machines and apparatus of chemical and oil refining industries</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Completion of educational component "Engineering and computer graphics", "Fundamentals of chemical engineering", "Automated engineering systems"</i>
<b>Scope of the course</b>	<i>The scope of the course includes: Features of designs of heat exchangers and main units. Methods of creating design documentation for design of heat exchange equipment using modern CAD systems. Special features of individual CAD-systems for the design of heat exchange equipment....</i>
<b>Rationale</b>	<i>Heat exchangers and other types of heat exchange equipment are a mandatory component of the vast majority of technological lines in the chemical industry and related industries, and in many cases the operation of heat exchange equipment significantly affects the efficiency of the plant as a whole. Therefore, ensuring the reliability of such equipment at the design stage is an important task of the industry. For the training of specialists capable of solving such problems, it is important not only to have a deep understanding of the design features of heat exchangers and their elements, but also experience with modern CAD-systems that increase the efficiency of the designer</i>
<b>Learning outcomes</b>	<ul style="list-style-type: none"> <li>- Knowledge of the typical designs of elements, parts and assemblies of heat exchangers, their classification, areas of application, and be able to make informed choices.</li> <li>- Understanding of the methods and have the skills to design standard heat exchange equipment, its components and elements in accordance with the task.</li> <li>- Knowledge of automated engineering systems and specialized software, including CAD / CAM / CAE-systems, for the development and design of heat exchange equipment</li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>– <i>use computer-aided design systems and specialized application software to solve problems in chemical engineering.</i></li> <li>- <i>develop plans and projects of heat exchange equipment, aimed at achieving the goal, taking into account the existing limitations, to solve problems of improving product quality and control.–</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures and workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Processes and Technologies of Primary Oil and Gas Refining	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Industrial Machinery Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Machines and apparatus of chemical and oil refining industries</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Knowledge of mathematics, physics, processes and equipment of chemical technologies, automated engineering systems.</i>
<b>Scope of the course</b>	<i>The scope of the course includes: Origin, features of oil and gas exploration and production. Methods and methods of selection of equipment for primary oil and gas refining.</i>
<b>Rationale</b>	<i>In addition to the fact that Ukraine produces and processes a significant amount of oil and gas, in Kiev there are several dozen large design organizations for the design of enterprises from production to deep processing of oil and gas.</i>
<b>Learning outcomes</b>	<i>Knowledge of methods and techniques of extraction, transportation and refining of oil and gas.</i>
<b>Competencies and skills</b>	<i>Ability determine parameters chemical-technological processes and to make a rational choice of equipment for primary oil and gas refining, to determine the modes of its operation in the given production conditions.</i>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures and workshops</i>
<b>End-of-semester control</b>	<i>Test</i>



Numerical Methods of Analysis	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Industrial Machinery Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Machines and apparatus of chemical and oil refining industries</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, knowledge of mathematics and computer science.</i>
<b>Scope of the course</b>	<i>Methods of computational mathematics. Errors in the results of numerical solution of problems. Numerical of integrations. Numerical methods for solving nonlinear and transcendental equations. Approximation of functions. Interpolation. Point and integral quadratic approximation of functions.</i>
<b>Rationale</b>	<i>The activity of a modern engineer is inextricably linked with the use of a personal computer, which allows you to intensify the work of the engineer, to accelerate the results of calculations. Numerical methods for the engineer is a method of quantitative decision making, ie a method of quantitative optimization of engineering decisions.</i>
<b>Learning outcomes</b>	<ul style="list-style-type: none"> <li>- Numerical methods of analysis and application of computer technology when performing justification of decisions</li> <li>- Use numerical methods of computer applications technologies, CAD-systems and other applications to determine the main characteristics of the equipment, to choose the parameters and typical structural elements of the technological equipment of chemical engineering: chemical, oil refining and pulp and paper industries</li> <li>- Perform design calculations and justification of the accepted solutions with the use of computer technology, CAD-systems and other applications, including the use of numerical methods of analysis of chemical engineering equipment: chemical, oil refining and pulp and paper industries</li> </ul>
<b>Competencies and skills</b>	<ul style="list-style-type: none"> <li>- Ability to use numerical methods of analysis using computer technologies, CAD-systems and other applications when performing justification of decisions.</li> <li>- Ability to use knowledge of academic disciplines with calculation and modeling with the help of computer technologies, CAD systems and other applications when performing substantiation decisions and development, modernization and utilization of chemical engineering equipment: chemical, oil refining and pulp and paper industries.</li> </ul>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures and workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Special Methods of Thermal Treatment	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Industrial Machinery Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Machines and apparatus of chemical and oil refining industries</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, knowledge of mathematics, physics, thermal processes and equipment of chemical technologies, automated engineering systems..</i>
<b>Scope of the course</b>	<i>Methods and methods of selection of thermal energy generation by combustion method. Features of selection and calculation of various burners, types of furnace equipment, features of selection of furnace equipment.</i>
<b>Rationale</b>	<i>The knowledge and skills gained in the classroom will make it easy to find an interesting job</i>
<b>Learning outcomes</b>	<i>Knowledge of fuels, types of burners and various furnace equipment. Methods of their selection and operation</i>
<b>Competencies and skills</b>	<i>Use knowledge and skills in the calculation and selection of furnace equipment not only in industry but also in everyday life</i>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures and workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Chemical Engineering Thermodynamics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Industrial Machinery Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Machines and apparatus of chemical and oil refining industries</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, basic knowledge of the disciplines: "Fundamentals of Chemical Engineering", "Transfer processes in continuous media"</i>
<b>Scope of the course</b>	<i>Basic laws of thermodynamics and thermodynamic parameters. Thermodynamics of mixtures and solutions. Thermodynamic equilibrium. Thermodynamic analysis of processes</i>
<b>Rationale</b>	<i>Thermodynamics is a fundamental science that studies the general properties of macroscopic systems and methods of energy transfer and conversion in such systems, and is the basis of many practical applications in chemical engineering. In particular, knowledge of thermodynamics allows to develop the most rational methods of calculating heat balances during physical and chemical processes, to reveal the patterns observed in equilibrium, to determine the most favorable conditions for processes, identifies conditions under which all side processes can be minimized.</i>
<b>Learning outcomes</b>	<ul style="list-style-type: none"> <li>- Knowledge and understanding of the principles of thermodynamics that underlie the engineering of chemical equipment and related technologies.</li> <li>- Understanding of the physical nature of phenomena, mechanisms of thermodynamic processes occurring in the equipment of chemical and related technologies, use the mathematical apparatus for quantitative calculations, based on which to choose the parameters of equipment and modes of its operation.</li> </ul>
<b>Competencies and skills</b>	<i>Ability to use the basic laws of thermodynamics in calculations and thermodynamic analysis of the efficiency of energy transformations in equipment.</i>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures and workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Refrigeration Equipment	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Industrial Machinery Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Machines and apparatus of chemical and oil refining industries</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Knowledge of physics, thermodynamics, mathematics, mastering the discipline "Processes and equipment of chemical technologies"</i>
<b>Scope of the course</b>	<i>Constructions, methods of calculation and optimization of refrigeration machines and units. Modern technologies for obtaining cold. Ventilation and air conditioning systems.</i>
<b>Rationale</b>	<i>Refrigeration and air conditioning are widely used in chemical technology, so having the skills to design and operate it will provide a competitive advantage when working in the specialty.</i>
<b>Learning outcomes</b>	<ul style="list-style-type: none"> <li>- Carry out the selection and calculation of standard equipment and technological schemes for cooling systems.</li> <li>- To build algorithms for calculating refrigeration equipment according to selected process models, to use modern computer programs for modeling the operation of refrigeration equipment.</li> </ul>
<b>Competencies and skills</b>	<ul style="list-style-type: none"> <li>- Choose operating modes, design dimensions of equipment and heat or cold supply system.</li> <li>- Carry out design development of equipment.- Carry out a comprehensive experimental research equipment for receiving artificial cold.</li> </ul>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures and workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

3D-engineering Methods	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Industrial Machinery Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Machines and apparatus of chemical and oil refining industries</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Basic knowledge of the disciplines "Physics", "Higher Mathematics", "Engineering and Computer Graphics"</i>
<b>Scope of the course</b>	<i>Basic methods of computer modeling of 3D-elements and assembly units, as well as simulation of mechanical, hydraulic, hydromechanical and thermal processes over them in SolidWorks.</i>
<b>Rationale</b>	<i>This discipline is very important for mechanical engineers and research engineers, as it forms the necessary set of skills and abilities to use SolidWorks software to create adequate working models of real equipment and implement simulation of chemical engineering processes.</i>
<b>Learning outcomes</b>	<ul style="list-style-type: none"> <li>- The main methods of software development for design and engineering work of chemical engineering: chemical, oil refining and pulp and paper industries.</li> <li>- Methods and approaches for design development of equipment and execution of drawings of chemical engineering equipment: equipment for chemical, oil refining and pulp and paper production and their components and parts using computer technology, CAD systems, CAD and other design applications</li> </ul>
<b>Competencies and skills</b>	<ul style="list-style-type: none"> <li>- Use computer technology, CAD-systems and other applications for design development of equipment and perform assembly drawings of machines and devices, their components and parts of chemical engineering equipment.</li> <li>- Use of computer technologies, CAD-systems and others.</li> </ul>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures and workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

## 151 Automation and Computer Integrated Technologies

Programming	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Ukrainian - 151 – Automation and computer integrated technologies ISCED - 0714 - Electronics and automation</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Automation Hardware and Software Department</i>
<b>Assumed knowledge and prerequisites</b>	<i>Basic knowledge of information technologies and programming including data types, variables, workflow instructions, functions declaration and calling.</i>
<b>Scope of the course</b>	<i>The scope of the course includes object-oriented programming in Java and the use of this paradigm for the information systems development.</i>
<b>Rationale</b>	<i>The educational component contributes the development of professional experience in programming, object-oriented programming and basic knowledge necessary for informational system design. This knowledge is also needed for development of web-based and desktop applications.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>– <i>object-oriented programming paradigm</i></li> <li>– <i>object-oriented programming principles</i></li> <li>– <i>work with built-in libraries and classes</i></li> <li>– <i>work with external libraries and dependencies</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>– <i>develop information systems with different data sources</i></li> <li>– <i>build projects with external dependencies</i></li> <li>– <i>provide system scalability</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, textbook, reference book</i>
<b>Mode of delivery</b>	<i>lectures, laboratory work</i>
<b>End-of-semester control</b>	<i>Exam</i>

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Industrial Networks	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Ukrainian - 151 – Automation and computer integrated technologies ISCED - 0714 - Electronics and automation</i>
<b>Educational level</b>	<i>Bachelor</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Automation Hardware and Software Department</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 Completion of educational component “Fundamental Information and Communication Technologies”, “Electronic”, “Automation Systems Design” or compatible.</i>
<b>Scope of the course</b>	<i>The scope of the course includes modern automated control systems and other computer-integrated industrial and non-industrial systems</i>
<b>Rationale</b>	<i>The educational component promotes the development of professional experience in industrial data networks technologies, industrial networks types, industrial protocols and interfaces. Attention is also paid to general purpose networks</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>– <i>industrial network technologies,</i></li> <li>– <i>industrial networks types,</i></li> <li>– <i>industrial networks interfaces (RS-232, RS-485),</i></li> <li>– <i>industrial networks protocols (HART, ModBus, ProfiBus, industrial Ethernet)</i></li> <li>– <i>general-purpose network (Ethernet, Web services).</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>– <i>design the industrial data networks;</i></li> <li>– <i>debug and configure devices in industrial networks.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, textbook, training equipment</i>
<b>Mode of delivery</b>	<i>lectures, seminars, practical</i>
<b>End-of-semester control</b>	<i>final test</i>

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## Fundamentals of design of computer-integrated technological complexes

<b>Restrictions (specialty for which the course is offered)</b>	<i>Ukrainian - 151 – Automation and computer integrated technologies ISCED - 0714 - Electronics and automation</i>
<b>Educational level</b>	<i>Bachelor</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Automation Hardware and Software Department</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 Completion of educational component “Fundamental Information and Communication Technologies”, “Programming”, “Automation Systems Design” or compatible.</i>
<b>Scope of the course</b>	<i>The scope of the course includes modern automated control systems and other computer-integrated industrial and non-industrial systems</i>
<b>Rationale</b>	<i>The educational component promotes the development of professional experience in LabVIEW environment and interactive analysis, dataflow programming, and common development techniques. In this course, you will learn how to develop data acquisition, instrument control, data-logging, and measurement analysis applications.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>– <i>Create user interfaces with charts, graphs, and buttons</i></li> <li>– <i>Use programming structures, data types, and the analysis and signal processing algorithms in LabVIEW</i></li> <li>– <i>Debug and troubleshoot applications</i></li> <li>– <i>Log data to file</i></li> <li>– <i>Use best programming practices for code reuse and readability</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>– <i>Create and program a LabVIEW application that acquires, analyzes, and visualizes data</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, textbook, training equipment</i>
<b>Mode of delivery</b>	<i>lectures, seminars, practical</i>
<b>End-of-semester control</b>	<i>final test</i>

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Application of computer-integrated technological complexes	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Ukrainian - 151 – Automation and computer integrated technologies ISCED - 0714 - Electronics and automation</i>
<b>Educational level</b>	<i>Bachelor</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Automation Hardware and Software Department</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 Completion of educational component “Fundamentals of design of computer-integrated technological complexes”, “Automation Systems Design” or compatible.</i>
<b>Scope of the course</b>	<i>The scope of the course includes modern automated control systems and other computer-integrated industrial and non-industrial systems</i>
<b>Rationale</b>	<i>The educational component promotes the fundamental knowledge about Information and Coding Theory and development of professional experience in advanced techniques of programming with LabVIEW environment.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li>– <i>design of stand-alone applications in LabVIEW</i></li> <li>– <i>Implementing Design Patterns</i></li> <li>– <i>Use local variables to modify front panel controls</i></li> <li>– <i>Understanding the principles of source coding as well as error-detecting and error-correcting channel coding</i></li> </ul> <p><i>Determining theoretical limits of data compression and error-free data transmission over noisy channels</i></p>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>– <i>design control loops in LabVIEW</i></li> <li>– <i>design of stand-alone applications in LabVIEW</i></li> <li>– <i>determine the limits of data compression as well as of data transmission through noisy channels and based on those limits to design basic parameters of a transmission scheme</i></li> <li>– <i>estimate the parameters of an error-detecting or error-correcting channel coding scheme for achieving certain performance targets</i></li> </ul>
<b>Instructional Materials</b>	– <i>syllabus, textbook, training equipment</i>
<b>Mode of delivery</b>	<i>lectures, seminars, practical</i>
<b>End-of-semester control</b>	<i>final test</i>

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Basics of Robotics and Machine Vision	
<b>Restrictions (specialty for which the course is offered)</b>	<i>Ukrainian - 151 – Automation and computer integrated technologies ISCED - 0714 - Electronics and automation</i>
<b>Educational level</b>	<i>Bachelor</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Automation Hardware and Software Department</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 Completion of educational component “Physics”, “Programming”, “Technological Measurements and Devices”, “Electronics and Electro-mechanics”, “Automation Systems Design” or compatible.</i>
<b>Scope of the course</b>	<i>The scope of this course includes robots’ construction, kinematics and dynamics, image recognition systems, algorithms and methods for image recognition and device control based on obtained data</i>
<b>Rationale</b>	<i>Nowadays use of robots and machine vision systems have become a requirement not only for industry, but also for everyday life. Robots are used to solve problems such as machines and equipment loading/unloading, products transportation, communication with people, studying of hard-to-reach and dangerous environments. Moreover, the requirements of Industry 4.0 cannot be met without robots and machine vision systems. The knowledge and skills acquired by students within the course will make them competitive professionals in Ukraine and abroad.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>– <i>understanding techniques for collecting visual data from the environment,</i></li> <li>– <i>being able to use and apply appropriate equipment (cameras, radars etc) which fulfils task’s purpose</i></li> <li>– <i>strong knowledge of image processing algorithms and methods,</i></li> <li>– <i>robot kinematics and dynamics,</i></li> <li>– <i>being able to apply robot’s control algorithms and methods</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>– <i>design robots and robotics devices for various purpose;</i></li> <li>– <i>design image recognition systems.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, textbook, training equipment</i>
<b>Mode of delivery</b>	<i>lectures, labs, practical training</i>
<b>End-of-semester control</b>	<i>final test</i>

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## 073 Management

RISK MANAGEMENT	
<b>Restrictions (specialty for which the course is offered)</b>	073 Management
<b>Educational level</b>	First (bachelor)
<b>Year of study</b>	4
<b>Number of ECTS credits</b>	3,5
<b>Language of study</b>	English
<b>Department</b>	Management of Enterprises
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational components: "Probability theory and mathematical statistics for managers", "Economics and finance of the enterprise", "Planning and forecasting of the enterprise activity", "Project management", "Economic analysis")
<b>Scope of the course</b>	The scope of the course includes specifics of making and tools for implementing economic decisions in conditions of uncertainty, aimed at reducing the likelihood of adverse outcomes and minimizing possible losses of the enterprise from its occurrence
<b>Rationale</b>	The educational component contributes to the development of professional expertise in the nature and patterns of economic risks, the acquisition of skills for identification, assessment, modelling and analysis of risks and skills of application of appropriate tools, and on their basis the formation of competencies for economic risk management in the enterprise activity
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>- knowledge of the theory, methods and functions of management, modern concepts of leadership, including approaches to the management of industrial enterprises, in particular the main scientific and methodological approaches that were developed in the field of risk management;</li> <li>- knowledge of procedures for searching, collecting and analyzing information, calculating indicators to justify management decisions, including procedures for identifying risks, determining their degree and extent, developing measures for risk management;</li> <li>- knowledge of management methods to ensure the effectiveness of the organization, in particular methods of preventing and minimizing the risks of the enterprise;</li> <li>- knowledge of the laws of functioning of socio-economic systems of different levels and spheres of activity, namely knowledge of organizational and economic features of the formation of the risk management system at the enterprise;</li> <li>- knowledge of methods and principles of enterprise management, in particular in conditions of uncertainty and risk.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>- demonstrate skills of identifying problematic parts of the organization's management and substantiation of management decisions aimed at their optimization, in particular the ability to select risk-taking measures;</li> <li>- demonstrate skills of situation analysis and communication in various areas of the organization, including in the field of management and business administration of various activities, including risk analysis and determining the relationship of general risk management functions with the stages of risk situation;</li> <li>- identify skills of organizational design, in particular to take into account the factors of uncertainty and risk in the process of project development</li> </ul>
<b>Instructional Materials</b>	syllabus, textbook
<b>Mode of delivery</b>	lectures, seminars, workshops
<b>End-of-semester control</b>	Exam

PLANNING OF INTERNATIONAL ACTIVITY	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 Management</i>
<b>Educational level</b>	<i>First (bachelor)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Management of Enterprises</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational components: "Fundamentals of Management", "Foreign Economic Activity of Enterprises", "International Economic Relations", "Marketing")</i>
<b>Scope of the course</b>	<i>The scope of the course includes specifics of planning international activities and tools for its implementation by industrial enterprises, aimed at increasing the competitiveness of the enterprise and improving its image in the international arena</i>
<b>Rationale</b>	<i>The educational component contributes to the formation of students' system of theoretical knowledge and practical skills in the field of enterprise planning at the international level; focus on the adaptation of foreign experience in planning the entry of enterprises into foreign markets to domestic realities</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- theories, methods and functions of management, modern concepts of leadership, including approaches to the management of industrial enterprises, in particular the principles and approaches to marketing, financial, operational and personnel planning in international activities;</i></li> <li><i>- management methods to ensure the effectiveness of the organization, in particular the world experience of building effective management systems for modern organizations, methodologies for designing organizational structures for international activities</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- describe the content of functional areas of the organization, including functional areas of business in the management of industrial enterprises, in particular the content and features of organizational, operational, marketing, personnel and financial planning of international activities;</i></li> <li><i>- demonstrate skills to identify problematic parts of the management of the organization and justify management decisions aimed at their optimization, in particular, the development of a strategy for international activities; use of various forms and directions of partnership in international activity.</i></li> <li><i>- demonstrate skills of interaction, leadership, teamwork, in particular when interacting with foreign partners to achieve the best results in international activities;</i></li> <li><i>- identify skills of organizational design, in particular the ability to choose the appropriate to the scale of international activities of the enterprise organizational structure and organize the process of its effective functioning.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus,</i>
<b>Mode of delivery</b>	<i>lectures, seminars, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

INTERNATIONAL LOGISTICS	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 Management</i>
<b>Educational level</b>	<i>First (bachelor)</i>
<b>Year of study</b>	<i>4</i>
<b>Number of ECTS credits</b>	<i>3,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Management of Enterprises</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational components: "Logistics", "Planning of international activities")</i>
<b>Scope of the course</b>	<i>The scope of the course includes specifics of international transportation, stocking and warehousing, and tools for their improvement by enterprises, aimed at increasing the international competitiveness of the enterprise and improving its image in the international arena</i>
<b>Rationale</b>	<i>The educational component contributes to the formation of students' ability to organize the process of international transportation of goods, manage transport activities, evaluate the effectiveness of international transport services to consumers, choose the mode of transport for international cargo transportation and form transport and logistics systems based on the best domestic and foreign experience</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include knowledge of:</i></p> <ul style="list-style-type: none"> <li><i>-the theory, methods and functions of management, modern concepts of leadership, including approaches to the management of industrial enterprises, in particular methods and principles of management of international transport and logistics activities of enterprises; modern concepts of logistics and management of international supply chains;</i></li> <li><i>- patterns of functioning of socio-economic systems of different levels and spheres of activity, namely the composition, sequence of development and features of the functioning of the transport and logistics system, the features of its management;</i></li> <li><i>- modern concepts of management and business administration, in particular the use of advanced information technologies and software and hardware for the organization and management of the process of international transport services;</i></li> <li><i>- tools for effective management and business administration of business, foreign economic and innovative activities of enterprises, in particular, the principles, processes and features of international transportation of goods, the basic conditions of supply of goods in international traffic, ways to optimize costs for international transport services</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>-analyze the economic, innovative and export potential of the enterprise and develop directions and tools for their development, namely the ability to analyze the problems of the world transport and logistics system, analyze the efficiency of the transport and logistics system of the enterprise during international transport, model logistics business processes in the international environment and reorganize them;</i></li> <li><i>- assess the legal, social and economic consequences of the organization, including in the field of management and administration of industrial enterprises, in particular the effectiveness of international logistics, determining the cost of international transportation and the cost of transportation.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus,</i>
<b>Mode of delivery</b>	<i>lectures, seminars, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>



MANAGEMENT OF STARTUP PROJECT	
<b>Restrictions (specialty for which the course is offered)</b>	073 Management
<b>Educational level</b>	First (Bachelor)
<b>Year of study</b>	4
<b>Number of ECTS credits</b>	4,5
<b>Language of study</b>	English
<b>Department</b>	Department of Management of Enterprises
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component: " Quality Management ", "Management Decisions", " Risk Management ", "Innovation Management", " Business Planning at an Industrial Enterprise ")
<b>Scope of the course</b>	<i>The scope of the course includes study of start-up management as a form of innovative business, organization of a start-up from a team to an enterprise, formation of business idea of start-up project and creation of viable product, business modelling of start-up, marketing start-ups, business planning of start-up, management of investment support of start-up project, elaboration of legal bases of implementing the start-up project, scaling and strategizing of start-ups</i>
<b>Rationale</b>	<i>The educational component contributes to the formation of a system of knowledge and mastering a set of practical skills for the development of start-ups based on scientific and technical designs, managing their creation, implementation and development on the basis of marketing, organizational planning and financial justification using the modern innovation management tools, project management and business modelling. The course includes the acquaintance with the tools of start-up projects, their business modelling and business planning, study of marketing technologies, development methods, investment support, procedures for transforming a start-up into a legal entity in real market conditions. The course is built according to the logic of the start-ups development process and the appropriate management tools on the given stage: from the idea origin, then to the development of a business model and finally – scaling into the company.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>– identify skills of search, collection and analysis of information, calculation of indicators to justify management decisions, in particular for the formation of business ideas of a start-up project, testing the idea and product of a start-up in the market, assessing the market size and niche of business start-up project, procedures determining the cost and price of a start-up product, calculating the financial model of a start-up project, key success factors of start-up projects, methods of estimating the cost and attractiveness of a start-up project for investors;</li> <li>– apply management methods to ensure the effectiveness of the organization, including socio-psychological methods of forming and developing a start-up team, organizational and administrative methods of managing acceleration and business incubation of start-ups, scaling a start-up project into an organization, economic methods of start-up project management stages of development, investment support of a start-up project, methods of implementation control and strategic management of start-ups;</li> <li>– demonstrate skills of independent work, flexible thinking, openness to new knowledge, be critical and self-critical, in particular flexible thinking during the formation of business model and business plan of a start-up project, marketing, organizational, financial and economic planning, critical assessment of the cost and attractiveness of a start-up project for investors, critical elaboration of the financial model of a start-up project, formation and implementation of a strategy for a lean start-up, pivot of a start-up project, stagnation of a start-up project; innovative thinking for presenting a start-up project, forming a start-up proposal during crowdfunding, independently and self-critically manage your own start-up project;</li> <li>– perform research individually and / or in a group under the guidance of a leader, in particular during teamwork development of a start-up project, participation in start-ups, mentoring in a start-up, perform market research, target customers, start-up competitors, search and attract start-ups to enterprises.</li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>–generate new ideas (creativity), in particular to generate business ideas of start-up projects, their creative search, marketing concepts of their development, to apply creativity in the formation of business models of start-ups;</li> <li>–work in a team and establish interpersonal interaction in solving professional problems, in particular to form and work in a start-up project team, to establish interpersonal interaction in the process of its scaling by stages of its development, during mentoring;</li> <li>– find new market opportunities, formulate innovative business ideas, develop projects and ensure their implementation, including the ability to perceive the business idea of a start-up, the minimum viable product (MVP) by the market, develop a start-up project, implement it on the basis of business plan in real market conditions, attract resources, investments, provide partnership in the process of implementing a start-up project;</li> <li>–initiate and implement own entrepreneurial start-up projects, in particular to develop and implement own start-ups as an innovative project, as an innovative business project with bringing the start-up to a legal organization, to form and implement a business model of a start-up, to apply marketing management to start-ups, organize and business incubation of start-ups, to attract investment in a start-up project, including on the basis of crowdfunding, to apply business strategies for the development of a start-up project, to change a start-up project by pivot.</li> </ul>
<b>Instructional Materials</b>	Syllabus
<b>Mode of delivery</b>	lectures, seminars, workshops
<b>End-of-semester control</b>	Exam



FINANCIAL MANAGEMENT	
<b>Restrictions (specialty for which the course is offered)</b>	073 Management
<b>Educational level</b>	<i>Second (master's)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Management of Enterprises</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational components International business management, Strategy management in international business)</i>
<b>Scope of the course</b>	<i>The scope of the course includes such topics: 1. An overview of financial management. 2. Financial statements, cash flow and taxes. 3. Analysis of financial statements. 4. Financial planning and forecasting. 5. The financial environment: markets, institutions and interest rates. 6. Risk and rates of return. 7. Time value of money. 8. Bonds and their valuation. 9. Stocks and their valuation. 10. The cost of capital. 11. The basics of capital budgeting. 12. Cash flow estimation and risk analysis. 13. Capital structure and leverage. 14. Distributions to shareholders: dividends and share repurchases. 15. Working capital management. 16. Multinational financial management..</i>
<b>Rationale</b>	<i>Discipline Purpose is to form students' understanding of basics of financial management of an enterprise and to form students' skills to perform financial analysis and to make decisions in financial field of business activity of an enterprise</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes:</i> Knowledge: fundamentals of financial management, structure of a financial statement, methods of financial forecasting and planning, basic features of financial environment, stock exchange, the basics of capital budgeting etc.
<b>Competencies and skills</b>	Skills: <ul style="list-style-type: none"> <li>• Analysis of financial statements</li> <li>• Financial planning and forecasting</li> <li>• Analysis of a financial environment of an enterprise</li> <li>• Assessing risk and rates of return</li> <li>• Calculating time value of money and the cost of capital</li> <li>• Valuation bonds and stocks</li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, articles, presentation materials)</i>
<b>Mode of delivery</b>	<i>Lectures, seminars</i>
<b>End-of-semester control</b>	<i>Exam</i>

DESIGN OF INTEGRATION STRUCTURES	
<b>Restrictions (specialty for which the course is offered)</b>	073 Management
<b>Educational level</b>	<i>Second (master's)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Management of Enterprises</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 ( and bachelor's degree)</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes such topics:</i></p> <p>Topic 1. Modern theories of organization Topic 2. New forms of integration Topic 3. Interorganizational networks Topic 4. Causes and types of inter-firm network structures Topic 5. Designing an inter-firm strategic alliance Topic 6. Designing value chains and focal network Topic 7. Design of virtual organizations Topic 8. Designing clusters as a form of interorganizational network interaction Topic 9. Information and communication technologies in the development of network interaction of enterprises</p>
<b>Rationale</b>	<p><i>Discipline Purpose is on in-depth study of integration and knowledge of the benefits of inter-firm network interaction in order to increase economic performance and achieve competitiveness in domestic and global markets. The analysis of various network structures leads to more coordinated management decisions - both at the level of a separate business structure and in the formation of public policy.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes:</i></p> <ul style="list-style-type: none"> <li>- Design effective management systems for organizations;</li> <li>- Substantiate and manage projects, generate business ideas;</li> <li>- Demonstrate leadership skills and ability to work in a team, interact with people, influence their behavior to solve professional problems;</li> <li>- Be able to delegate authority and management of the organization (unit);</li> <li>- To form the mission, goals, values and philosophy of development of a modern organization, to develop its corporate strategy; to form the management system of the organization taking into account its scales, directions of activity, development potential; design organizational management structures; to form an effective system of internal communications in the organization.</li> </ul>
<b>Competencies and skills</b>	<p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>- Ability to motivate people and move towards a common goal;</li> <li>- Ability to effectively use and develop the organization's resources;</li> <li>- Ability to create and organize effective communications in the management process;</li> <li>- Ability to analyze and structure the problems of the organization, make effective management decisions and ensure their implementation;</li> <li>- Ability to develop, economically justify and implement in the practice of the organization design solutions to ensure the efficient use of various types of resources, increase profitability and the formation of prerequisites for capacity development, including human;</li> <li>- Ability to develop projects of organizational development and changes of the organization for the purpose of formation of strategic competitive advantages, to substantiate anti-crisis programs and to provide its effective realization in the conditions of deficit of resources of development.</li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, articles, presentation materials)</i>
<b>Mode of delivery</b>	<i>Lectures, seminars</i>
<b>End-of-semester control</b>	<i>Test</i>

Enterprise Development Management	
<b>Restrictions (specialty for which the course is offered)</b>	073 Management
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	1
<b>Number of ECTS credits</b>	2
<b>Language of study</b>	English
<b>Department</b>	Enterprise management
<b>Assumed knowledge and prerequisites</b>	English B2
<b>Scope of the course</b>	<i>The scope of the course includes defining the essence of economic systems, basic concepts of the theory of organizational development, the potential of enterprise development and approaches to its evaluation, resource support for enterprise development, models of organizational development of enterprises, the mechanism of management and implementation of organizational change, group dynamics in organizational development, management of resistance to change in the implementation of organizational development projects, conflicts in the organization: causes, types, approaches to management, organizational culture in ensuring the development of the enterprise, ensuring the organizational development of the enterprise based on the use of social capital, organizational development of the enterprise at the strategic level</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in understanding of changes taking place outside and inside enterprises and organizations, knowledge of laws and principles that determine organizational development, acquire skills of practical use of approaches to change management and overcoming resistance to change, explore the mechanism of organizational change, including due to the use of social capital, the potential for organizational culture, effective group dynamics.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li>- Identifying problems in the organization and justify methods of solving them;</li> <li>- Designing effective management systems for organizations;</li> <li>- Substantiation and management projects, generation business ideas;</li> <li>- Forming the skills to make, justify and ensure the implementation of management decisions in unpredictable conditions, taking into account the requirements of current legislation, ethical considerations and social responsibility;</li> <li>- Organizing and carrying out effective communication within the team, with representatives of various professional groups and in the international context</li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>- motivate people and move towards a common goal</li> <li>- generate new ideas (creativity)</li> <li>- choose and use concepts, methods and tools of management, including in accordance with defined goals and international standards;</li> <li>- self-development, lifelong learning and effective self-management</li> <li>- create and organize effective communications in the management process</li> <li>- use psychological technology to work with staff</li> <li>- manage the organization and its development</li> <li>- Demonstrate leadership skills and ability to work in a team, interact with people, influence their behavior to solve professional problems;</li> <li>- provide personal professional development and planning of own time.</li> <li>- delegate authority and management of the organization (unit);</li> <li>- plan and implement information, methodological, material, financial and personnel support of the organization (unit).</li> <li>- form the mission, goals, values and philosophy of development of a modern organization, to develop its corporate strategy; to form the management system of the organization taking into account its scales, directions of activity, development potential; design organizational management structures; to form an effective system of internal communications in the organization</li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook)</i>
<b>Mode of delivery</b>	<i>lectures, seminars, workshops, tutorials, case study, business games</i>
<b>End-of-semester control</b>	<i>Exam / Test</i>

STRATEGIC MANAGEMENT	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 Management</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<i>The scope of the course includes defining the essence of the formation of enterprise strategy, skills of independent analytical thinking, making optimal management decisions that increase the competitiveness of the enterprise and meet modern standards of society. The study of the course begins with a consideration of modern concepts of strategic management and continues with the study of practical approaches to creating a system of strategic management of the enterprise and ensuring its effective functioning.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in strategic diagnostics and analysis of the enterprise, the evaluation of strategic potential of the enterprise, the selection and implementation of strategy, choosing the methods of competitiveness evaluation of the organization, portfolio analysis in the development of organizational strategies, providing strategic choice of the enterprise, the implementation of strategy and change management in the organization.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li>- <i>Critically design, select and use the necessary scientific, methodological and analytical tools for management in unpredictable conditions;</i></li> <li>- <i>Identifying problems in the organization and justify methods of solving them;</i></li> <li>- <i>Designing effective management systems for organizations;</i></li> <li>- <i>Substantiation and management projects, generation business ideas;</i></li> <li>- <i>Plan the activities of the organization in strategic and tactical sections;</i></li> <li>- <i>Formation the skills to make, justify and ensure the implementation of management decisions in unpredictable conditions, taking into account the requirements of current legislation, ethical considerations and social responsibility;</i></li> <li>- <i>Delegate authority and management of the organization (unit);</i></li> <li>- <i>Plan and implement information, methodological, material, financial and personnel support of the organization (unit);</i></li> <li>- <i>Formation the mission, goals, values and philosophy of development of a modern organization, to develop its corporate strategy; forming the management system of the organization taking into account its scales, directions of activity, development potential; design organizational management structures; forming an effective system of internal communications in the organization;</i></li> <li>- <i>Applying the modern approaches and methods of analysis of market conditions, forecasting trends in its development; methods of forming plans and programs for the development of new activities of the organization, products, creation of new organizations.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>- <i>Generate new ideas (creativity)</i></li> <li>- <i>Choose and use concepts, methods and tools of management, including in accordance with defined goals and international standards;</i></li> <li>- <i>Establish criteria by which the organization determines further directions of development, develop and implement appropriate strategies and plans;</i></li> <li>- <i>Develop and manage projects, show initiative and entrepreneurship;</i></li> <li>- <i>Plan and conduct research, prepare the results of scientific work for publication;</i></li> <li>- <i>Develop a corporate strategy of the organization on the basis of a comprehensive analysis of the internal and external environment, critical assessment of the consequences of economic policy, justify the mechanisms for implementing the strategy, evaluate its effectiveness;</i></li> <li>- <i>Develop projects of organizational development and organizational change in order to form strategic competitive advantages, justify anti-crisis programs and ensure its effective implementation with limit resources.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook), presentation</i>
<b>Mode of delivery</b>	<i>Lectures, seminars, workshops, tutorials, case study, business games, Youcontrol system.</i>
<b>End-of-semester control</b>	<i>Exam, course work</i>

Human Resource Management Technologies	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 Management</i>
<b>Educational level</b>	<b><i>Second (master's)</i></b>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4 credits (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Fundamentals of Management", "Sociology", "Fundamentals of Economic Theory", "Macroeconomics", "Microeconomics")</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes:</i></p> <p><i>Topic 1. The essence of human resource management and its role in the development of the organization.</i></p> <p><i>Topic 2. Strategic planning and policy in the field of human resource management of the organization.</i></p> <p><i>Topic 3. Formation of the organization's team. Headhunting: principles and technologies</i></p> <p><i>Topic 4. Modern technologies of team building. DISC technology</i></p> <p><i>Topic 5. Coaching technologies and their application in the development of human resources of the organization.</i></p> <p><i>Topic 6. Emotional competence in the development of management staff.</i></p> <p><i>Topic 7. Business valuation as a technology of personnel management</i></p> <p><i>Topic 8. Modern dream of technology to increase productivity in the company</i></p> <p><i>Topic 9. Performance Management as a technology to improve staff performance.</i></p> <p><i>Topic 10. Technology Assessment Center and its application in the evaluation of employees.</i></p> <p><i>Topic 11. Evaluation of employees by the method of Hay Group.</i></p> <p><i>Topic 12. Methodology for evaluating employees on the matrix A-players</i></p> <p><i>Topic 13. Competence approach and its use in human resource management of the organization.</i></p> <p><i>Topic 14. Technologies for the release of human resources in a crisis: downsizing, reengineering, outplacement.</i></p> <p><i>Topic 15. LifeLong Learning and learning transformation</i></p> <p><i>Topic 16. Digital tools in HR</i></p> <p><i>Topic 17. Blockchain technologies in HR</i></p> <p><i>Topic 18. The use of AI (artificial intelligence) in recruitment and HR</i></p>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in human resource management</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– the formation of future managers of modern management thinking and a system of specialized knowledge in management,</i></li> <li><i>– the formation of understanding of the conceptual foundations of human resources management and the acquisition of skills to analyse the impact of internal and external environment,</i></li> <li><i>- human resources organization and motivation of their work.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- to independently solve certain practical issues of human resource management, using modern technologies;</i></li> <li><i>- be able to identify the main aspects of the human resources management department of the organization;</i></li> <li><i>- be able to identify problems facing management in the field of human resource management and find ways to solve them;</i></li> <li><i>- assess the factors that determine the use of certain technologies of human resource management;</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures)</i>
<b>Mode of delivery</b>	<i>lectures, seminars, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Digital Business Transformation	
<b>Restrictions (specialty for which the course is offered)</b>	073 Management
<b>Educational level</b>	<i>Second (master's)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Management of Enterprises</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Business Process Management")</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes such topics: Topic 1. Introduction to digital transformation</i></p> <p><i>Topic 2. Basic principles of digital transformation</i></p> <p><i>Topic 3. The process of digital transformation</i></p> <p><i>Topic 4. Digital platforms as a tool for digital transformation</i></p> <p><i>Topic 5. Business processes as a basis for digital transformations</i></p> <p><i>Topic 6. Personnel issues of digital transformation</i></p> <p><i>Topic 7. Digital transformation as an element of corporate strategy</i></p> <p><i>Topic 8. Readiness for digital transformation</i></p>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in the field of preparation of the organization for the transition to digital transformation of its activities; analyze the organization's readiness for digital change, use digital tools to transform the business in the face of digital change.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Critically comprehend, select and use the necessary scientific, methodological and analytical tools for management in unpredictable conditions;</i></li> <li><i>- Have the skills to make, justify and ensure the implementation of management decisions in unpredictable conditions, taking into account the requirements of current legislation, ethical considerations and social responsibility;</i></li> <li><i>- Use specialized software and information systems to solve management problems of the organization;</i></li> <li><i>- Be able to plan and implement information, methodological, material, financial and personnel support of the organization (unit).</i></li> <li><i>- To form the mission, goals, values and philosophy of development of a modern organization, to develop its corporate strategy; to form the management system of the organization taking into account its scales, directions of activity, development potential; design organizational management structures; to form an effective system of internal communications in the organization;</i></li> <li><i>- Apply modern technologies for organizing information support of analytical activities at enterprises; methods of analysis and evaluation of the processes of development of the organization, components of its economic potential, diagnosis of crisis phenomena</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- use of information and communication technologies;</i></li> <li><i>- to generate new ideas (creativity);</i></li> <li><i>- abstract thinking, analysis and synthesis;</i></li> <li><i>- find and evaluate new market opportunities for the development of the organization, promising areas of activity, to justify the mechanisms of transformation of management systems based on integration management decisions.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, articles, presentation materials)</i>
<b>Mode of delivery</b>	<i>Lectures, seminars</i>
<b>End-of-semester control</b>	<i>Test</i>



BUSINESS -MANAGEMENT	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 Management</i>
<b>Educational level</b>	<i>Second (Master's)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Management of Enterprises</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component: "Enterprise Development Management", "Strategic Management", "Financial Management")</i>
<b>Scope of the course</b>	<i>The scope of the course includes essentials of business management as follows: the role and importance of business enterprise, management of its functional subsystems, functional areas of business management, business models of the enterprises, operational procedures of business implementation, stakeholder management, procurement and supplier relations management, development of key business performance indicators (KPI).</i>
<b>Rationale</b>	<i>The educational component contributes to understanding the methodological and practical provisions of business management, implemented by industrial enterprises, the formation of skills in using the managerial tools and technologies, development of management and administrative skills in predictable and unpredictable conditions. The component of the educational program involves studying the business system of the enterprise, building and improving the business model, developing the concept of business enterprise, functional areas of business management, operating procedures and business model of the enterprise in the business environment, its procurement and commercial activities, tools for managing the relationships with suppliers and consumers, as well as determining business performance based on key indicators</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include the abilities to:</i></p> <ul style="list-style-type: none"> <li><i>– critically comprehend, select and use the necessary scientific, methodological and analytical tools for management in unpredictable conditions;</i></li> <li><i>– identify problems in the organization and justify methods of solving them;</i></li> <li><i>– develop the effective management systems for organizations;</i></li> <li><i>– have the skills to make, justify and ensure the implementation of management decisions in unpredictable conditions, taking into account the requirements of applicable law, ethical considerations and social responsibility;</i></li> <li><i>– use specialized software and information systems to solve management problems of the organization;</i></li> <li><i>– communicate in professional and scientific circles in the state and foreign languages;</i></li> <li><i>– delegate authority and management of the organization (unit);</i></li> <li><i>– plan and implement information, methodological, material, financial and personnel support of the organization (unit);</i></li> <li><i>– form the mission, goals, values and philosophy of development of a modern organization, to develop its corporate strategy; to form the management system of the organization taking into account its scales, directions of activity, development potential; design organizational management structures; to form an effective system of internal communications in the organization;</i></li> <li><i>– apply modern approaches and methods of analysis of market conditions, forecasting trends in its development; methods of formation of plans and programs of development of new directions of activity of the organization, products, creation of new organizations;</i></li> <li><i>– apply modern technologies of organization of information support of analytical activity at the enterprises; methods of analysis and evaluation of the processes of development of the organization, components of its economic potential, diagnosis of crisis phenomena;</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– conduct research at the appropriate level;</i></li> <li><i>– communicate with representatives of other professional groups of different levels (with experts from other fields of knowledge / types of economic activity);</i></li> <li><i>– act on the basis of ethical considerations (motives);</i></li> <li><i>– select and use concepts, methods, and management tools, including in accordance with defined goals and international standards;</i></li> <li><i>– create and organize effective communications in the management process;</i></li> <li><i>– manage organizations of different forms of ownership and areas of activity, departments, groups (teams) of employees, projects and networks using a system of modern management methods, technologies, integrated management approaches;</i></li> <li><i>– find and evaluate new market opportunities for the development of the organization, promising areas of activity, to justify the mechanisms of transformation of management systems based on integration management decisions</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus</i>
<b>Mode of delivery</b>	<i>lectures, seminars, workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>



FINANCIAL MANAGEMENT	
<b>Restrictions (specialty for which the course is offered)</b>	073 Management
<b>Educational level</b>	<i>Second (master's)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Management of Enterprises</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational components International business management, Strategy management in international business)</i>
<b>Scope of the course</b>	<i>The scope of the course includes such topics: 1. An overview of financial management. 2. Financial statements, cash flow and taxes. 3. Analysis of financial statements. 4. Financial planning and forecasting. 5. The financial environment: markets, institutions and interest rates. 6. Risk and rates of return. 7. Time value of money. 8. Bonds and their valuation. 9. Stocks and their valuation. 10. The cost of capital. 11. The basics of capital budgeting. 12. Cash flow estimation and risk analysis. 13. Capital structure and leverage. 14. Distributions to shareholders: dividends and share repurchases. 15. Working capital management. 16. Multinational financial management..</i>
<b>Rationale</b>	<i>Discipline Purpose is to form students' understanding of basics of financial management of an enterprise and to form students' skills to perform financial analysis and to make decisions in financial field of business activity of an enterprise</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes:</i> Knowledge: fundamentals of financial management, structure of a financial statement, methods of financial forecasting and planning, basic features of financial environment, stock exchange, the basics of capital budgeting etc.
<b>Competencies and skills</b>	Skills: <ul style="list-style-type: none"> <li>• Analysis of financial statements</li> <li>• Financial planning and forecasting</li> <li>• Analysis of a financial environment of an enterprise</li> <li>• Assessing risk and rates of return</li> <li>• Calculating time value of money and the cost of capital</li> <li>• Valuation bonds and stocks</li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, articles, presentation materials)</i>
<b>Mode of delivery</b>	<i>Lectures, seminars</i>
<b>End-of-semester control</b>	<i>Exam</i>

DESIGN OF INTEGRATION STRUCTURES	
<b>Restrictions (specialty for which the course is offered)</b>	073 Management
<b>Educational level</b>	<i>Second (master's)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Management of Enterprises</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 ( and bachelor's degree)</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes such topics:</i></p> <p>Topic 1. Modern theories of organization Topic 2. New forms of integration Topic 3. Interorganizational networks Topic 4. Causes and types of inter-firm network structures Topic 5. Designing an inter-firm strategic alliance Topic 6. Designing value chains and focal network Topic 7. Design of virtual organizations Topic 8. Designing clusters as a form of interorganizational network interaction Topic 9. Information and communication technologies in the development of network interaction of enterprises</p>
<b>Rationale</b>	<p><i>Discipline Purpose is on in-depth study of integration and knowledge of the benefits of inter-firm network interaction in order to increase economic performance and achieve competitiveness in domestic and global markets. The analysis of various network structures leads to more coordinated management decisions - both at the level of a separate business structure and in the formation of public policy.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes:</i></p> <ul style="list-style-type: none"> <li>- Design effective management systems for organizations;</li> <li>- Substantiate and manage projects, generate business ideas;</li> <li>- Demonstrate leadership skills and ability to work in a team, interact with people, influence their behavior to solve professional problems;</li> <li>- Be able to delegate authority and management of the organization (unit);</li> <li>- To form the mission, goals, values and philosophy of development of a modern organization, to develop its corporate strategy; to form the management system of the organization taking into account its scales, directions of activity, development potential; design organizational management structures; to form an effective system of internal communications in the organization.</li> </ul>
<b>Competencies and skills</b>	<p><b>Skills:</b></p> <ul style="list-style-type: none"> <li>- Ability to motivate people and move towards a common goal;</li> <li>- Ability to effectively use and develop the organization's resources;</li> <li>- Ability to create and organize effective communications in the management process;</li> <li>- Ability to analyze and structure the problems of the organization, make effective management decisions and ensure their implementation;</li> <li>- Ability to develop, economically justify and implement in the practice of the organization design solutions to ensure the efficient use of various types of resources, increase profitability and the formation of prerequisites for capacity development, including human;</li> <li>- Ability to develop projects of organizational development and changes of the organization for the purpose of formation of strategic competitive advantages, to substantiate anti-crisis programs and to provide its effective realization in the conditions of deficit of resources of development.</li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, articles, presentation materials)</i>
<b>Mode of delivery</b>	<i>Lectures, seminars</i>
<b>End-of-semester control</b>	<i>Test</i>

STRATEGIC MANAGEMENT IN INTERNATIONAL BUSINESS	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 Management</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<i>The scope of the course includes defining the essence of the formation of international business strategy, skills of independent analytical thinking, making optimal management decisions that ensure the growth of international business competitiveness. The study of the course begins with a consideration of modern concepts of strategic management of international business and continues with the study of practical approaches to creating a system of strategic management and ensuring its effective functioning.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in strategic diagnostics and analysis of the international business, the evaluation of strategic potential of the international business, the selection and implementation of international strategy, choosing the methods of competitiveness evaluation of the international companies, portfolio analysis in the development of international strategies, providing strategic choice of the international business, the implementation of strategy and change management in the international business.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Identifying problems in the organization and justify methods of solving them;</i></li> <li><i>- Substantiation and management projects, generation business ideas;</i></li> <li><i>- Plan the activities of the organization in strategic and tactical sections;</i></li> <li><i>- Formation the skills to make, justify and ensure the implementation of management decisions in unpredictable conditions, taking into account the requirements of current legislation, ethical considerations and social responsibility;</i></li> <li><i>- Using specialized software and information systems to solve management problems of the organization;</i></li> <li><i>- Delegate authority and management of the organization (unit);</i></li> <li><i>- Forming the mission, goals, values and philosophy of development of a modern organization, to develop its corporate strategy; forming the management system of the organization taking into account its scales, directions of activity, development potential; design organizational management structures; forming an effective system of internal communications in the organization.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- Identify and solve problems, generate new ideas;</i></li> <li><i>- Establish criteria by which the organization determines further directions of development, develop and implement appropriate strategies and plans;</i></li> <li><i>- Develop and manage projects, show initiative and entrepreneurship;</i></li> <li><i>- Manage the organization and its development;</i></li> <li><i>- Develop a corporate strategy of the organization on the basis of a comprehensive analysis of the internal and external environment, critical assessment of the consequences of economic policy, justify the mechanisms for implementing the strategy, evaluate its effectiveness;</i></li> <li><i>- Organize, plan foreign economic activity of enterprises taking into account current trends in the world economy and using promising business models;</i></li> <li><i>- Develop projects of organizational development and organizational change in order to form strategic competitive advantages, justify anti-crisis programs and ensure its effective implementation in a shortage of development resources.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook), presentation</i>
<b>Mode of delivery</b>	<i>Lectures, seminars, workshops, tutorials, case study, business games, Youcontrol system.</i>
<b>End-of-semester control</b>	<i>Exam</i>

DIGITAL TRANSFORMATION AND NEW BUSINESS MODELS	
<b>Restrictions (specialty for which the course is offered)</b>	073 Management
<b>Educational level</b>	<i>Second (master's)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Management of Enterprises</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Business Process Management")</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes such topics: Topic 1. Introduction to digital transformation</i></p> <p><i>Topic 2. Basic principles of digital transformation</i></p> <p><i>Topic 3. Digital platforms as a tool for digital transformation</i></p> <p><i>Topic 4. Concepts and types of business models</i></p> <p><i>Topic 5. Platform as a business model</i></p> <p><i>Topic 6. Digital duplicates in digital transformation</i></p> <p><i>Topic 7. Creating a digital business model for digital transformation.</i></p>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in the field of preparation of the organization for the transition to digital transformation of its activities; analyze the organization's readiness for digital change, use digital tools to transform the business in the face of digital change; choose and apply modern business models.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Identify problems in the organization and justify methods of solving them;</i></li> <li><i>- Design effective management systems for organizations;</i></li> <li><i>- Have the skills to make, justify and ensure the implementation of management decisions in unpredictable conditions, taking into account the requirements of current legislation, ethical considerations and social responsibility;</i></li> <li><i>- Have the skills to make, justify and ensure the implementation of management decisions in unpredictable conditions, taking into account the requirements of current legislation, ethical considerations and social responsibility;</i></li> <li><i>- Organize and carry out effective communication within the team, with representatives of various professional groups and in the international context;</i></li> <li><i>- Use specialized software and information systems to solve management problems of the organization;</i></li> <li><i>- Be able to plan and implement information, methodological, material, financial and personnel support of the organization (unit).</i></li> <li><i>- To form the mission, goals, values and philosophy of development of a modern organization, to develop its corporate strategy; to form the management system of the organization taking into account its scales, directions of activity, development potential; design organizational management structures; to form an effective system of internal communications in the organization;</i></li> <li><i>- Be able to identify patterns, conditions and factors of national and international nature that determine the formation of effective strategies for international business development</i></li> <li><i>- Apply modern technologies for organizing information support of analytical activities at enterprises; methods of analysis and evaluation of the processes of development of the organization, components of its economic potential, diagnosis of crisis phenomena</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- use of information and communication technologies;</i></li> <li><i>- to act on the basis of ethical considerations (motives);</i></li> <li><i>- to generate new ideas (creativity);</i></li> <li><i>- to create and organize effective communications in the process of management</i></li> <li><i>- to form strategies of international activity of enterprises on the basis of export-oriented development taking into account the potential of digital transformations in the world economy</i></li> <li><i>- to find and evaluate new market opportunities for the development of the organization, promising areas of activity, to justify the mechanisms of transformation of management systems based on integration management decisions.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbooks, articles, presentation materials)</i>
<b>Mode of delivery</b>	<i>Lectures, seminars</i>
<b>End-of-semester control</b>	<i>Test</i>

International Management	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 Management</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component Strategic Management in International Business)</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes:</i></p> <p><i>Topic 1. International business and international management in the context of globalization</i></p> <p><i>Topic 2. The environment of international business</i></p> <p><i>Topic 3. Comparative analysis of business cultures in international business</i></p> <p><i>Topic 4. Strategic planning in the system of international management</i></p> <p><i>Topic 5. Integrated structures of international business</i></p> <p><i>Topic 6. Human resource management and communication in international corporations</i></p> <p><i>Topic 7. Motivation in international management and management style of multinational corporations</i></p> <p><i>Topic 8. Control reporting in international management</i></p> <p><i>Topic 9. Technological policy of international corporations</i></p> <p><i>Topic 10. International scientific and technical cooperation</i></p> <p><i>Topic 11. Ethics and social responsibility of international business</i></p> <p><i>Topic 12. Global perspectives of TNCs</i></p>
<b>Rationale</b>	<i>The educational component contributes to the development of practical skills in the field of management at the international level; study of world experience in international management.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Identifying problems in the organization and justify methods of solving them;</i></li> <li><i>- Designing effective management systems for organizations;</i></li> <li><i>- Substantiation and management projects, generation business ideas for international market;</i></li> <li><i>- Forming the skills to make, justify and ensure the implementation of management decisions in unpredictable conditions, taking into account the requirements of local legislation, ethical considerations and social responsibility;</i></li> <li><i>- Organizing and carrying out effective communication within the international team, with representatives of various professional groups</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- motivate people and move towards a common goal</i></li> <li><i>- create and organize effective communications in the management process</i></li> <li><i>- use psychological technology to work with staff</i></li> <li><i>- manage the organization and its development in the international level</i></li> <li><i>- Demonstrate leadership skills and ability to work in a team, interact with people, influence their behavior to solve professional problems;</i></li> <li><i>- analyze the environment of the company engaged in international business transactions;</i></li> <li><i>- identify the characteristics and requirements for managers working in different countries, and their ability to adapt to local characteristics;</i></li> <li><i>- choose the development strategy of the international company taking into account its priorities;</i></li> <li><i>- design organizational management structures for the international corporation as a whole and its structural units;</i></li> <li><i>- prepare proposals to the company's management to improve staff motivation, taking into account the national cultures.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook)</i>
<b>Mode of delivery</b>	<i>lectures, seminars, workshops, case study, business games</i>
<b>End-of-semester control</b>	<i>Exam</i>

Management of Foreign Exchange Transactions	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 management</i>
<b>Educational level</b>	<i>2<sup>nd</sup> (Master's Degree )</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>5,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Financial Management</i>
<b>Scope of the course</b>	<i>The scope of the course includes defining the essence of foreign exchange transactions, International monetary system, the essence and types of exchange rates, basics of foreign exchange regulation and control, the structure of the balance of payments, the essence and classification of foreign exchange transactions, basic types of foreign exchange transactions, basics of foreign exchange risk management, structure of the foreign exchange market.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in understanding the essence of foreign exchange transactions, calculating the profit from different types of transactions in certain circumstances, etc.</i>
<b>Learning outcomes</b>	<ul style="list-style-type: none"> <li>- Ability to select and use management concepts, methods and tools in accordance with defined objectives and international standards. In particular, to establish cooperation with banks and other credit and financial institutions, including international ones,</li> <li>- Ability to effectively use and develop the resources of the organization, in particular in the development of a strategy for hedging currency risks, the implementation of foreign exchange transactions, documentation of foreign exchange transactions</li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>-To determine and develop optimal forms of organization of foreign economic and international activities of enterprises, taking into account the peculiarities of international activities, including exchange rate policy.</li> <li>- Be able to identify patterns, conditions and factors of national and international nature, in particular in the field of exchange rate policy.</li> <li>- Identify and analyze the possible impact of current trends in the world economy on the functioning of international business entities, in particular trends in exchange rates</li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops)</i>
<b>End-of-semester control</b>	<i>Exam</i>



Corporate Governance	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 management</i>
<b>Educational level</b>	<i>2<sup>nd</sup> (Master's Degree )</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>5,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Enterprise Development Management, Strategic Management</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes the following topics:</i></p> <ol style="list-style-type: none"> <li><i>1. Shares and stock market participants</i></li> <li><i>2. Models of corporate governance</i></li> <li><i>3. Agency conflicts and ways to resolve them</i></li> <li><i>4. Company stakeholders</i></li> <li><i>5. Structure and functions of the Board of Directors.</i></li> <li><i>6. Corporate governance standards</i></li> <li><i>7. Company management and corporate governance efficiency</i></li> </ol>
<b>Rationale</b>	<p><i>World experience shows that in economically developed countries the basis of national economies are corporations. They contribute to the concentration of capital and investing it in areas that ensure competitiveness in global and national markets.</i></p> <p><i>The educational component contributes to the development of professional expertise in corporate management and acquisition of practical skills in managing corporate entities.</i></p>
<b>Learning outcomes</b>	<ul style="list-style-type: none"> <li><i>- ability to determine the peculiarities of the functioning of joint stock companies and making effective decisions in the process of managing joint-stock companies;</i></li> <li><i>- ability to identify problems of corporate rights management;</i></li> <li><i>- ability to work in framework of regulations in the field of corporate governance;</i></li> <li><i>- ability to choose an adequate dividend policy.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- to determine the rights and responsibilities of participants in corporate entities;</i></li> <li><i>- to form requirements for disclosure of corporate information;</i></li> <li><i>- to determine the dividend policy of the joint-stock company;</i></li> <li><i>- to analyze the existing ownership structure, control system over the organization;</i></li> <li><i>- to develop a Corporate Governance Code;</i></li> <li><i>- to develop a corporate development strategy.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops)</i>
<b>End-of-semester control</b>	<i>Exam</i>



DESIGN THINKING	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 management</i>
<b>Educational level</b>	<i>2<sup>nd</sup> (Master's Degree )</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Enterprise Development Management</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes the following topics:</i></p> <p><i>Topic 1. Conceptual foundations of design thinking. The origin and evolution of industrial design.</i></p> <p><i>Topic 2. Design thinking as a tool for business development.</i></p> <p><i>Topic 3. Socio-psychological foundations of design thinking models.</i></p> <p><i>Topic 4. Stages of design thinking implementation: Stanford model.</i></p> <p><i>Topic 5. Methods, tools and organization of design thinking sessions.</i></p> <p><i>Topic 6. Strategic aspects of design thinking.</i></p> <p><i>Topic 7. Design management.</i></p> <p><i>Topic 8. The role of designer in the design process. Design leadership.</i></p> <p><i>Topic 9. Design thinking: prospects for development and limitations.</i></p>
<b>Rationale</b>	<i>The discipline provides the acquisition of a set of knowledge and practical skills necessary for the generation and development of innovative ideas in various fields of professional activity including management, innovations, marketing and customer relationship.</i>
<b>Learning outcomes</b>	<p><i>Knowledge:</i></p> <ul style="list-style-type: none"> <li><i>– Conceptual foundations of design thinking;</i></li> <li><i>– Stages of design thinking projects;</i></li> <li><i>– Socio-psychological models of design thinking;</i></li> <li><i>– Sources, mechanisms and methods of generating new ideas in the work environment;</i></li> <li><i>– Modern approaches to manage design team dynamic;</i></li> <li><i>– Key characteristics of creative leadership;</i></li> </ul>
<b>Competencies and skills</b>	<ul style="list-style-type: none"> <li><i>– Ability to analyze generated ideas and assess their potential;</i></li> <li><i>– Ability to comprehensively analyze and evaluate the factors influencing the efficiency of design thinking in the organization;</i></li> <li><i>– Ability to apply development strategies to design thinking at individual and organizational levels;</i></li> <li><i>– Ability to form and manage design teams in the organization.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops)</i>
<b>End-of-semester control</b>	<i>Test</i>

Technology Transfer	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 management</i>
<b>Educational level</b>	<i>2<sup>nd</sup> (Master's Degree )</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Innovation Management</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes the following sections:</i></p> <ul style="list-style-type: none"> <li><i>- the role of technology transfer in the technological development of the enterprise;</i></li> <li><i>- technology transfer system;</i></li> <li><i>- methods and ways to implement technology transfer;</i></li> <li><i>- intellectual property in the technology transfer system.</i></li> <li><i>- means of commercialization in the process of technology transfer.</i></li> <li><i>- technology transfer infrastructure.</i></li> </ul>
<b>Rationale</b>	<p><i>The discipline is designed to form a system of basic knowledge about the transfer process technologies, features of their commercialization and exchange.</i></p> <p><i>The discipline studies the theory and applied aspects of technology transfer, its methods, methods of implementation by enterprises, corporations, universities, technological parks.</i></p>
<b>Learning outcomes</b>	<p><i>knowledge:</i></p> <ul style="list-style-type: none"> <li><i>- features of technology commercialization;</i></li> <li><i>- methods of searching for and attracting technologies to the transfer;</i></li> <li><i>- methods of estimating the cost of technology;</i></li> </ul> <p><i>skills:</i></p> <ul style="list-style-type: none"> <li><i>- search for technologies to attract and transfer them;</i></li> <li><i>- draw up agreements for the acquisition, creation, transfer of rights and sale of technology;</i></li> <li><i>- draw up technology transfer agreements and license agreements;</i></li> <li><i>- to conduct patent search and patent and market research;</i></li> <li><i>- negotiate technology transfer;</i></li> <li><i>- assess the commercial potential of the technology;</i></li> <li><i>- to introduce the transferred technology into economic turnover;</i></li> <li><i>- determine the economic efficiency of technology transfer.</i></li> </ul>
<b>Competencies and skills</b>	<ul style="list-style-type: none"> <li><i>- ability to generate new ideas for choosing, finding and attracting technology;</i></li> <li><i>- ability to diagnose technological processes and technological base of the enterprise;</i></li> <li><i>- ability to develop a technology transfer strategy;</i></li> <li><i>- ability to substantiate organizational and investment mechanisms of transfer technologies;</i></li> <li><i>- ability to implement technology transfer between interacting enterprises, research institutes, design organizations;</i></li> <li><i>- ability to provide consulting services to commercial and non-commercial organizations on technological exchange, the conclusion of agreements on technology transfer;</i></li> <li><i>- ability to determine the feasibility of technological exchange</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops)</i>
<b>End-of-semester control</b>	<i>Test</i>

Environmental Management	
<b>Restrictions (specialty for which the course is offered)</b>	<i>073 management</i>
<b>Educational level</b>	<i>2<sup>nd</sup> (Master's Degree )</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Enterprise management</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, Enterprise Development Management, Strategic Management</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes the following topics:</i></p> <ol style="list-style-type: none"> <li><i>1. Subject and theoretical principles of environmental management;</i></li> <li><i>2. System of state ecological management;</i></li> <li><i>3. Environmental management system at an industrial enterprise;</i></li> <li><i>4. Methods for assessing environmental and economic losses; Socio-economic efficiency of environmental protection measures;</i></li> <li><i>5. Ecological expertise; Environmental accounting, audit and insurance at the enterprise;</i></li> <li><i>6. Environmental marketing;</i></li> <li><i>7. Innovations in environmental management.</i></li> </ol>
<b>Rationale</b>	<i>The educational component contributes to the development of students' competence in theoretical positions and practical approaches to ecologically oriented management of a modern enterprise, building a system of environmental management in the enterprise and implementation of policy of greening economic activity by entities of different hierarchical levels.</i>
<b>Learning outcomes</b>	<p><i>Formation of ecologically oriented managerial style of thinking,</i></p> <p><i>Knowledge of theoretical environmental protection basics</i></p> <p><i>Development of skills needed for green policy implementation at the enterprise</i></p>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- to analyze the impact of environmental factors on the effectiveness of socio-economic systems of different hierarchical levels;</i></li> <li><i>- to assess the environmental costs of the enterprise, its ecological and economic losses;</i></li> <li><i>- to form and implement a policy of greening the enterprise as a tool development of its competitive advantages;</i></li> <li><i>- to evaluate the economic efficiency of investment projects taking into account environmental factor;</i></li> <li><i>- to implement an environmental management system at the enterprise.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops)</i>
<b>End-of-semester control</b>	<i>Test</i>

## 171 Electronics

Measuring Technique	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>3,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Mathematical Analysis", "Physics")</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes:</i></p> <ul style="list-style-type: none"> <li><i>- basic concepts of metrology and methodology;</i></li> <li><i>- basics of measurement techniques in experimental research and processing of their results;</i></li> <li><i>- basics of the theory of measurement errors and measuring instruments;</i></li> <li><i>- basic methods of improving the accuracy of measurements;</i></li> <li><i>- ways to present measurement results with uncertainty;</i></li> <li><i>- organization of state, international and interstate standardization.</i></li> </ul>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in the practice of measurements, methods and means of achieving the required accuracy of measurements in the field of electronics, the basic principles of standardization, the structure of the certification system UkrSEPRO, international cooperation of Ukraine in metrology, standardization, certification and accreditation, international standards ISO 9000.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– O 6 - Apply experimental skills (knowledge of experimental methods and the order of experiments) to test hypotheses and study the phenomena of electronics, be able to use standard equipment, plan, make diagrams; analyze, model and critically evaluate the results</i></li> <li><i>– O 9 - Design complex real-time systems and means of collecting and processing information, consistent with the specified information and software by using software for embedded systems based on microcontrollers</i></li> <li><i>– O 17 - Demonstrate skills in conducting experimental research related to professional activities; to improve measurement methods; control the reliability of the obtained results; systematize and analyze the data obtained experimentally</i></li> <li><i>– O 20 - Apply modern methods of production quality control, conduct testing, certification and examination of production equipment, parts, assemblies and finished electronic and acoustic products and devices</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 2 - Knowledge and understanding of the subject area and understanding of professional activity</i></li> <li><i>– PC 13 - Ability to apply modern methods of production quality control, to conduct testing, certification and examination of production equipment, parts, assemblies and finished electronic products and devices</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Final test</i>

Materials Science in Electronics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Mathematical Analysis", "Analytic Geometry", "Physics", "Chemistry")</i>
<b>Scope of the course</b>	<i>The scope of the course includes the study of electricalphysical and thermophysical parameters and characteristics of materials and the basics of the theory of energy states of charge carriers in them; patterns of electrical conductivity of substances in different conditions and when the temperature changes.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in features of the use of electrical materials and electronic components in devices and devices; the main directions of development of materials science in electronics; organization of state, international and interstate standardization in the field of electronic components.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– O 4 - Evaluate the characteristics and parameters of electronic materials, understand the basics of solid-state, functional, quantum and power electronics, electrical engineering, analog and digital circuitry, converter and microprocessor technology</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– PC 1 - Ability to use knowledge and understanding of scientific facts, concepts, theories, principles and methods for the design and application of devices, devices, components and systems of electronics</i></li> <li><i>– PC 6 - Ability to identify, classify, evaluate and describe processes in electronics devices, devices, components and systems using analytical methods, modeling tools, prototypes and experimental results</i></li> <li><i>– PC 8 - Ability to solve engineering problems in the field of electronics taking into account all aspects of development, design, production, operation and modernization of electronic devices, devices, components and systems</i></li> <li><i>– PC 9 - Ability to determine and evaluate the characteristics and parameters of materials of electronic equipment, analog and digital electronic devices for the design of microprocessor and electronic systems</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Exam</i>

Physical Fundamentals of Electronics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Mathematical Analysis", "Analytic Geometry", "Physics", "Chemistry", "Materials and components of electronics")</i>
<b>Scope of the course</b>	<i>The scope of the course includes the study of physical processes of current passage and the theory of energy states of charge carriers in solid-state electronics, their features in materials of different types of electrical conductivity, different physical state with changes in temperature, charges and electric potential.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in classification of substances by electrical properties; definitions and basic concepts of quantum mechanics; regularities of description of electronic states in a solid body; description of wave processes by the Schrödinger equation; mechanisms of behavior of microparticles and their groups, elements of static physics; distribution functions and laws of statistical averaging; band theory of crystalline materials; band structure of dielectrics, metals and semiconductors; dependence of electrical conductivity of substances on temperature; causes of electrical resistance; processes of relaxation of charge carriers; regularities of the transition of electrons across the boundary of media; the dynamics of processes in the p-n junction and the causes and development of the breakdown of the p-n junction.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– O 4 - Evaluate the characteristics and parameters of electronic materials, understand the basics of solid-state, functional, quantum and power electronics, electrical engineering, analog and digital circuitry, converter and microprocessor technology</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– PC 1 - Ability to use knowledge and understanding of scientific facts, concepts, theories, principles and methods for the design and application of devices, devices, components and systems of electronics</i></li> <li><i>– PC 3 - Ability to integrate knowledge of fundamental sections of physics and chemistry to understand the processes of solid-state, functional, quantum and energy electronics, electrical engineering, field theory</i></li> <li><i>– PC 4 - Ability to take into account social, environmental, ethical, economic and commercial considerations that affect the efficiency and results of engineering activities in the field of electronics</i></li> <li><i>– PC 6 - Ability to identify, classify, evaluate and describe processes in electronics devices, devices, components and systems using analytical methods, modeling tools, prototypes and experimental results</i></li> <li><i>– PC 8 - Ability to solve engineering problems in the field of electronics taking into account all aspects of development, design, production, operation and modernization of electronic devices, devices, components and systems</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Exam</i>



Calculus	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Mathematical Analysis", "Physics", "Informatics I. Personal Computers and Fundamentals of Programming", "Informatics II. Programming and Algorithmic Languages")</i>
<b>Scope of the course</b>	<i>The scope of the course includes acquisition by students of theoretical and practical knowledge, skills and abilities of application of numerical methods of computational mathematics for the decision of applied problems of mathematics, electronics, circuitry, the analysis and synthesis of electronic systems.</i>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in:</i></p> <ul style="list-style-type: none"> <li><i>- analysis of numerical methods of computational mathematics in terms of their convergence and stability;</i></li> <li><i>- estimates of calculation errors that occur at different stages of the use of numerical methods;</i></li> <li><i>- use of application packages of mathematical software.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– O 2 - Apply knowledge and understanding of differential and integral calculus, algebra, functional analysis of real and complex variables, vectors and matrices, vector calculus, differential equations in ordinary and partial derivatives, Fourier series, statistical analysis, information theory, numerical methods, basics of automatic theory regulation to solve theoretical and applied problems of electronics</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– PC 1 - Ability to use knowledge and understanding of scientific facts, concepts, theories, principles and methods for the design and application of devices, devices, components and systems of electronics</i></li> <li><i>– PC 5 - Ability to apply appropriate mathematical, scientific and technical methods, modern information technology and computer software, skills in working with computer networks, databases and Internet resources to solve engineering problems in the field of electronics</i></li> <li><i>– PC 6 - Ability to identify, classify, evaluate and describe processes in electronics devices, devices, components and systems using analytical methods, modeling tools, prototypes and experimental results</i></li> <li><i>– PC 8 - Ability to solve engineering problems in the field of electronics taking into account all aspects of development, design, production, operation and modernization of electronic devices, devices, components and systems</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Final test</i>



Programming of Embedded Systems	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Informatics I. Personal Computers and Fundamentals of Programming", "Informatics II. Programming and Algorithmic Languages")</i>
<b>Scope of the course</b>	<i>The scope of the course includes create objects that combine properties and behavior into an independent union that can then be reused. It is an opportunity to master a tool that allows you to write programs in a modular way, which not only simplifies the writing and understanding of code, but also provides a higher degree of reusability of this code and its application to complex technical objects.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in define object classes, regulate access to data and methods, implement methods, define class hierarchies, use standard language libraries.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– O 7 - Analyze complex digital and analog information-measuring systems with advanced architecture of computer and telecommunication networks taking into account the specification of selected technical means of electronics and relevant technical documentation</i></li> <li><i>– O 8 - Define and identify mathematical models of technological objects in the development of new complex electronic systems in a computer environment and choosing the optimal solution</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 5 - Skills in the use of information and communication technologies</i></li> <li><i>– PC 1 - Ability to use knowledge and understanding of scientific facts, concepts, theories, principles and methods for the design and application of devices, devices, components and systems of electronics</i></li> <li><i>– PC 5 - Ability to apply appropriate mathematical, scientific and technical methods, modern information technology and computer software, skills in working with computer networks, databases and Internet resources to solve engineering problems in the field of electronics</i></li> <li><i>– PC 6 - Ability to identify, classify, evaluate and describe processes in electronics devices, devices, components and systems using analytical methods, modeling tools, prototypes and experimental results</i></li> <li><i>– PC 8 - Ability to solve engineering problems in the field of electronics taking into account all aspects of development, design, production, operation and modernization of electronic devices, devices, components and systems</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Final test</i>

Theory of Electrical Circuits	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	2
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Electronic Devices and Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component "Mathematical Analysis", "Analytic Geometry", "Physics")
<b>Scope of the course</b>	<i>The scope of the course gives the concept of real electrical devices with their simplified models – electronic circuits, provides knowledge of the basic methods of calculating DC and AC circuits – features of these methods and their feasibility for a particular circuit topology. In the process of practical classes and independent work, students consolidate the theoretical knowledge obtained in solving specific problems, and in laboratory studies on the stands with the use of measuring instruments receive visual confirmation of the theory and check theoretical calculations.</i>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in</i></p> <ol style="list-style-type: none"> <li><i>1) knowledge of the fundamental issues of mathematics, which is necessary to master the mathematical apparatus of respective field of knowledge, the ability to use mathematical methods in the chosen profession. Knowledge in the field of informatics and modern information technologies required to work with software and computer networks, databases and Internet resources;</i></li> <li><i>2) knowledge of the basic properties of conducting, semiconducting, dielectric and other materials in electronics;</i></li> <li><i>3) knowledge of electronic technique components and devices, their structure, principles of operation, basic characteristics, methods of analysis and synthesis;</i></li> <li><i>4) knowledge of modern computer technologies and tools for engineering and scientific calculations, data processing, graphics, simulation and optimization, up-to-date instruments of information technology;</i></li> <li><i>5) knowledge of the basics of analog and digital circuit technology, microprocessor technology, measuring instruments, the basics of process automation in technology, design and production;</i></li> <li><i>6) ability to apply modern information and communication technologies for solving engineering problems in the field of electronics;</i></li> <li><i>7) ability to analyse processes in electronic devices and systems using mathematical methods; provide specified operating modes, use and operate electronic devices;</i></li> <li><i>8) ability to solve problems of optimization, modification and updating of electronic devices and systems technology and production; electronic devices structure calculation, simulation and designing;</i></li> <li><i>9) ability to assess the operation of electronic devices and systems; to determine deviations when parameters and modes of operation of electronic devices out of normal mode; to adjust respective electronic devices and systems for achieving normal modes of operation.</i></li> </ol>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– O 1 - Describe the principle of operation using scientific concepts, theories and methods and test the results in the design and application of devices, devices and systems of electronics</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– PC 2 - Ability to perform analysis of the subject area and regulatory documentation required for the design and application of devices, devices, components and electronics systems</i></li> <li><i>– PC 3 - Ability to integrate knowledge of fundamental sections of physics and chemistry to understand the processes of solid-state, functional, quantum and energy electronics, electrical engineering, field theory</i></li> <li><i>– PC 12 - Ability to develop working technical documentation, design work with verification of compliance with standards, specifications and other regulations</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Practical, Laboratory</i>
<b>End-of-semester control</b>	<i>Final test</i>

Nonlinear Electric Circuits and Transient Processes	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>6</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Mathematical Analysis", "Analytic Geometry", "Physics", "Personal Computers and Fundamentals of Programming")</i>
<b>Scope of the course</b>	<i>The scope of the course includes study of the basic properties, laws and methods of calculation of electrical circuits. In the process of studying the course, students get acquainted with the methods of quantitative analysis of steady-state and transient phenomena and processes occurring in linear and nonlinear circuits of direct and alternating currents.</i>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in:</i></p> <ul style="list-style-type: none"> <li><i>- perform calculations of electric and magnetic circuits;</i></li> <li><i>- to make electric circuits according to their basic schemes;</i></li> <li><i>- analyze the operation of circuits in steady-state and transient modes;</i></li> <li><i>- use modern computer technology to solve problems.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– O 1 - Describe the principle of operation using scientific concepts, theories and methods and test the results in the design and application of devices, devices and systems of electronics</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– PC 2 - Ability to perform analysis of the subject area and regulatory documentation required for the design and application of devices, devices, components and electronics systems</i></li> <li><i>– PC 3 - Ability to integrate knowledge of fundamental sections of physics and chemistry to understand the processes of solid-state, functional, quantum and energy electronics, electrical engineering, field theory</i></li> <li><i>– PC 12 - Ability to develop working technical documentation, design work with verification of compliance with standards, specifications and other regulations</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Practical, Laboratory</i>
<b>End-of-semester control</b>	<i>Exam</i>

Term Paper in Nonlinear Electric Circuits and Transient Processes	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>1</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Mathematical Analysis", "Analytic Geometry", "Physics", "Personal Computers and Fundamentals of Programming")</i>
<b>Scope of the course</b>	<i>The scope of the course includes study of the basic properties, laws and methods of calculation of nonlinear electric circuits and transients in linear electric circuits. In the process of studying students get acquainted with the basic elements of nonlinear electrical circuits, their parameters and characteristics, analyze the processes in electrical circuits and study the methods of their analysis and calculation.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in:</i> <ul style="list-style-type: none"> <li><i>- work with reference and educational literature;</i></li> <li><i>- preparation of initial data for programs of calculations of linear and nonlinear electric circuits in constant and transient modes;</i></li> <li><i>- acquisition of skills in using modern software to perform calculations.</i></li> </ul>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li><i>– O 1 - Describe the principle of operation using scientific concepts, theories and methods and test the results in the design and application of devices, devices and systems of electronics</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li><i>– PC 2 - Ability to perform analysis of the subject area and regulatory documentation required for the design and application of devices, devices, components and electronics systems</i></li> <li><i>– PC 3 - Ability to integrate knowledge of fundamental sections of physics and chemistry to understand the processes of solid-state, functional, quantum and energy electronics, electrical engineering, field theory</i></li> <li><i>– PC 12 - Ability to develop working technical documentation, design work with verification of compliance with standards, specifications and other regulations</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>tutorials</i>
<b>End-of-semester control</b>	<i>Final test</i>

Theory of Information	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Mathematical Analysis", "Analytic Geometry", "Informatics I. Personal Computers and Fundamentals of Programming", "Informatics II. Programming and Algorithmic Languages")</i>
<b>Scope of the course</b>	<i>The scope of the course includes formation of students' ability to analyze the parameters of electrical signals and coordinate them with the parameters of the communication channel and transceiver equipment, the ability to choose effective coding methods to ensure the transmission of information in high-speed communication systems and without distortion, the ability to apply the acquired theoretical knowledge of information theory and coding theory for the design of real electronic information systems and communication systems.</i>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in:</i></p> <p><i>1) use of theoretical knowledge for analysis and synthesis of coding and decoding electronic systems, processing of measurement results in information systems, finding optimal coding methods for specific electronic systems.</i></p> <p><i>2) performing technical analysis and obtaining the best solution when choosing the option of building digital and analog electronic systems, the use of modern natural, efficient and noise-tolerant codes in the design of electronic systems and communication systems.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <p><i>– O 2 - Apply knowledge and understanding of differential and integral calculus, algebra, functional analysis of real and complex variables, vectors and matrices, vector calculus, differential equations in ordinary and partial derivatives, Fourier series, statistical analysis, information theory, numerical methods, basics of automatic theory regulation to solve theoretical and applied problems of electronics</i></p>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <p><i>– GC 1 - Ability to apply knowledge in practical situations</i></p> <p><i>– GC 5 - Skills in the use of information and communication technologies</i></p> <p><i>– GC 7 - Ability to search, process and analyze information from various sources</i></p>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Practical</i>
<b>End-of-semester control</b>	<i>Final test</i>

Information Technologies	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Analytic Geometry", "Fundamentals of Probabilistic Data Processing", "Informatics I. Personal Computers and Fundamentals of Programming", "Informatics II. Programming and Algorithmic Languages")</i>
<b>Scope of the course</b>	<i>The scope of the course includes basic thorough knowledge of methods, methods and algorithms for using the MATLAB software package to solve applied problems in mathematics, electronics, circuitry, analysis and synthesis of electronic circuits and systems.</i>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in:</i></p> <ul style="list-style-type: none"> <li><i>- adequate choice of methods for using the software package MATLAB and SIMULINK to solve specific applications;</i></li> <li><i>- analysis of the obtained results in terms of their reliability;</i></li> <li><i>- estimates of calculation errors that occur at different stages of using the software package MATLAB and SIMULINK;</i></li> <li><i>- work independently with scientific and technical literature;</i></li> <li><i>- to use the acquired knowledge when performing engineering and scientific calculations in solving problems of electronics.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– O 4 - Evaluate the characteristics and parameters of electronic materials, understand the basics of solid-state, functional, quantum and power electronics, electrical engineering, analog and digital circuitry, converter and microprocessor technology</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 6 - Ability to learn and master modern knowledge</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Final test</i>



Electronic Systems for Operation and Control	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	1
<b>Number of ECTS credits</b>	5
<b>Language of study</b>	English
<b>Department</b>	Electronic Devices and Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component "Mathematical Analysis", "Power Converters", "Theory of Electrical Circuits")
<b>Scope of the course</b>	<p>The scope of the course includes:</p> <ul style="list-style-type: none"> <li>- the principle of calculating discrete transmission characteristics;</li> <li>- features of use of digital and analog sensors;</li> <li>- principles of synthesis of digital regulators.</li> </ul>
<b>Rationale</b>	<p>The educational component contributes to the development of professional expertise in</p> <ul style="list-style-type: none"> <li>- calculate the parameters of the regulators;</li> <li>- calculate the quality control parameters of regulators;</li> <li>- describe control systems in the space of state variables;</li> <li>- calculate parameters and choose devices for designing system nodes management;</li> <li>- independent work with educational, educational and methodical and reference literature.</li> </ul>
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>– R 1 - Implement projects for modernization of production and technologies in the field of electronics, introduction of the latest information and communication technologies, multimedia.</li> <li>– R 2 - Model and experimentally study phenomena and processes in electronic devices and systems, in technologies of the electronic industry.</li> <li>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</li> <li>– R 5 - Ensure energy and economic efficiency of development, production and operation of electronic equipment.</li> <li>– R 10 - Choose the best research methods, modify, adapt and develop new methods.</li> <li>– R 12 - To generalize modern scientific knowledge in the field of electronics and apply them to solve complex scientific and technical problems, bringing the obtained solutions to the level of competitive developments, implementation of results in business projects.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>– GC 1 - Ability to abstract thinking, analysis and synthesis.</li> <li>– PC 1 - Ability to assess the level of existing technologies in the field of professional activity, the effectiveness of technical solutions.</li> <li>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</li> <li>– PC 4 - Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</li> <li>– PC 6 - Ability to find the necessary information with the help of modern information resources, analyze and evaluate it.</li> <li>– PC 7 - Ability to solve problems of processing and displaying information in modern electronic systems.</li> <li>– PC 9 - Ability to take into account in design and technological, engineering and scientific and technical solutions requirements for safety of life, protection of intellectual property, energy efficiency and environmental friendliness.</li> </ul>
<b>Instructional Materials</b>	syllabus, learning materials (lecture notes etc)
<b>Mode of delivery</b>	Lectures, Practical, Laboratory
<b>End-of-semester control</b>	Exam



Course Project in Electronic Systems for Operation and Control	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>1,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Mathematical Analysis", "Power Converters", "Theory of Electrical Circuits")</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes:</i></p> <ul style="list-style-type: none"> <li><i>- the principle of calculating discrete transmission characteristics;</i></li> <li><i>- features of use of digital and analog sensors;</i></li> <li><i>- principles of synthesis of digital regulators.</i></li> </ul>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in</i></p> <ul style="list-style-type: none"> <li><i>- calculate the parameters of the regulators;</i></li> <li><i>- calculate the quality control parameters of regulators;</i></li> <li><i>- describe control systems in the space of state variables;</i></li> <li><i>- calculate parameters and choose devices for designing system nodes management;</i></li> <li><i>- independent work with educational, educational and methodical and reference literature.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 2 - Model and experimentally study phenomena and processes in electronic devices and systems, in technologies of the electronic industry.</i></li> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> <li><i>– R 6 - Ensure professional development of team members taking into account the world level of scientific and engineering achievements in the field of development and operation of electronic systems.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</i></li> <li><i>– PC 4 - Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</i></li> <li><i>– PC 6 - Ability to find the necessary information with the help of modern information resources, analyze and evaluate it.</i></li> <li><i>– PC 7 - Ability to solve problems of processing and displaying information in modern electronic systems.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>tutorials</i>
<b>End-of-semester control</b>	<i>Final test</i>

Fundamentals of Automatic Control Theory	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>6</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Mathematical Analysis", "Calculus", "Information technology")</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes:</i></p> <ul style="list-style-type: none"> <li><i>- on the peculiarities of the use of basic methods and the scope of machine learning;</i></li> <li><i>- teaching methods with and without a teacher;</i></li> <li><i>- organization of training with reinforcement.</i></li> </ul>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in:</i></p> <ul style="list-style-type: none"> <li><i>- choosing an effective method for solving a given problem in the field of artificial intelligence;</i></li> <li><i>- programming of basic methods of machine learning;</i></li> <li><i>- control and organization of the correctness of the machine learning process.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 2 - Model and experimentally study phenomena and processes in electronic devices and systems, in technologies of the electronic industry.</i></li> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> <li><i>– R 5 - Ensure energy and economic efficiency of development, production and operation of electronic equipment.</i></li> <li><i>– R 10 - Choose the best research methods, modify, adapt and develop new methods.</i></li> <li><i>– R 12 - To generalize modern scientific knowledge in the field of electronics and apply them to solve complex scientific and technical problems, bringing the obtained solutions to the level of competitive developments, implementation of results in business projects.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</i></li> <li><i>– PC 4 - Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</i></li> <li><i>– PC 5 - Ability to ensure the efficiency and quality of measurements in electronic systems.</i></li> <li><i>– PC 6 - Ability to find the necessary information with the help of modern information resources, analyze and evaluate it.</i></li> <li><i>– PC 8 - Ability to assess problem situations in the field of development, design, tune-up, functioning and operation of electronic systems, to formulate proposals for solving problems.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Practical</i>
<b>End-of-semester control</b>	<i>Exam</i>

Power Electronic Systems	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	1
<b>Number of ECTS credits</b>	5
<b>Language of study</b>	English
<b>Department</b>	Electronic Devices and Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component "Analog Circuit Design", "Power Converters", "Microprocessor-based Devices")
<b>Scope of the course</b>	The scope of the course includes acquaintance with schemes and principles of work of converting systems, with methods of regulation and formation of output voltage, The main features and areas of application of conversion systems are considered.
<b>Rationale</b>	The educational component contributes to the development of professional expertise in principles of operation and skills of complete design of feedback inverter circuits and full simulation of their operation; features of real keys, drivers, microcontrollers and operational amplifiers.
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>– R 1 - Implement projects for modernization of production and technologies in the field of electronics, introduction of the latest information and communication technologies, multimedia.</li> <li>– R 2 - Model and experimentally study phenomena and processes in electronic devices and systems, in technologies of the electronic industry.</li> <li>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</li> <li>– R 5 - Ensure energy and economic efficiency of development, production and operation of electronic equipment.</li> <li>– R 8 - Carry out and coordinate the development, selection, use and modernization of the necessary equipment, tools and methods in the organization of the production process, taking into account technical and technological capabilities, modern science-intensive methods, tools and technical solutions.</li> <li>– R 12 - To generalize modern scientific knowledge in the field of electronics and apply them to solve complex scientific and technical problems, bringing the obtained solutions to the level of competitive developments, implementation of results in business projects.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>– GC 1 - Ability to abstract thinking, analysis and synthesis.</li> <li>– PC 1 - Ability to assess the level of existing technologies in the field of professional activity, the effectiveness of technical solutions.</li> <li>– PC 2 - Ability to plan and implement innovative projects in the field of electronics, protect intellectual property rights.</li> <li>– PC 4 - Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</li> <li>– PC 5 - Ability to ensure the efficiency and quality of measurements in electronic systems.</li> <li>– PC 8 - Ability to assess problem situations in the field of development, design, tune-up, functioning and operation of electronic systems, to formulate proposals for solving problems.</li> <li>– PC 9 - Ability to take into account in design and technological, engineering and scientific and technical solutions requirements for safety of life, protection of intellectual property, energy efficiency and environmental friendliness.</li> </ul>
<b>Instructional Materials</b>	syllabus, learning materials (lecture notes etc)
<b>Mode of delivery</b>	Lectures, Laboratory
<b>End-of-semester control</b>	Exam

Power Supply Systems of Electronic Equipment	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Theory of Electrical Circuits", "Electromagnetic Engineering", "Power Electronics", "Power Electronic Systems", "Power Converters", "Design and Technology of Electronic Devices and Systems")</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes:</i></p> <ul style="list-style-type: none"> <li><i>- principles of stabilization of output voltage in single-channel and multi-channel systems;</i></li> <li><i>- methods of reducing the mass and size of PEE EE;</i></li> <li><i>- methods to increase the reliability of PEE EE;</i></li> <li><i>- new element base and modern approaches to the construction of PEE EE.</i></li> </ul>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in:</i></p> <ul style="list-style-type: none"> <li><i>- calculation and design of semiconductor converters of electric energy;</i></li> <li><i>- study of typical topologies of power supply systems;</i></li> <li><i>- study of modes of operation of electricity converters and their functional units.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 1 - Implement projects for modernization of production and technologies in the field of electronics, introduction of the latest information and communication technologies, multimedia.</i></li> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> <li><i>– R 5 - Ensure energy and economic efficiency of development, production and operation of electronic equipment.</i></li> <li><i>– R 14 - Investigate processes in electronic systems using modern experimental methods and equipment, computer modeling methods, perform statistical processing and analysis of experimental results and calculations.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– PC 1 - Ability to assess the level of existing technologies in the field of professional activity, the effectiveness of technical solutions.</i></li> <li><i>– PC 4 - Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</i></li> <li><i>– PC 5 - Ability to ensure the efficiency and quality of measurements in electronic systems.</i></li> <li><i>– PC 6 - Ability to find the necessary information with the help of modern information resources, analyze and evaluate it.</i></li> <li><i>– PC 7 - Ability to solve problems of processing and displaying information in modern electronic systems.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Final test</i>

Scientific Research I. Fundamentals of Scientific Research	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational components of First level (Bachelor's degree), successful defense of a qualifying diploma project and awarding a bachelor's degree)</i>
<b>Scope of the course</b>	<i>The scope of the course includes acquisition of relevant knowledge, skills, abilities and experience aimed at forming an integrated competence of the graduate - the ability to solve complex specialized problems and practical problems of professional activity in the field of electronics and / or in the learning process involving research and / or innovation in the field electronics and is characterized by complexity and uncertainty of conditions and requirements.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in: to carry out scientific search of literary sources and security documents in the field of professional orientation and to obtain practical skills of writing scientific articles in professional scientific publications, including those included in world scientometric databases; apply in research modern information technologies, software, programming languages and computer-aided design tools, have skills in using software and working in computer networks, be able to use Internet resources, distance learning platforms, various educational environments, databases and depositories; conduct research, evaluate results and present them to the scientific community.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 3 - To cooperate with the customer in the formulation of the technical task and discussion of technical solutions and results of projects, to lead a reasoned professional and scientific discussion.</i></li> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> <li><i>– R 6 - Ensure professional development of team members taking into account the world level of scientific and engineering achievements in the field of development and operation of electronic systems.</i></li> <li><i>– R 7 - Carry out information and scientific research using scientific, technical and reference literature, databases and knowledge, other sources of information; critically comprehend and interpret existing knowledge and data, form directions of research and development taking into account domestic and foreign experience.</i></li> <li><i>– R 8 - Carry out and coordinate the development, selection, use and modernization of the necessary equipment, tools and methods in the organization of the production process, taking into account technical and technological capabilities, modern science-intensive methods, tools and technical solutions.</i></li> <li><i>– R 9 - Coordinate the work of teams of performers in the field of research, design, development, analysis, calculation, modeling, production and testing of electronic devices and systems.</i></li> <li><i>– R 10 - Choose the best research methods, modify, adapt and develop new methods.</i></li> <li><i>– R 11 - Analyze technical and economic indicators, reliability, ergonomics, patent purity, market requirements, investment climate and compliance of design solutions, research and development with certain goals and norms of the legislation of Ukraine.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– GC 2 - Ability to communicate in the state language both orally and in writing.</i></li> <li><i>– GC 4 - Ability to perform research at the appropriate level.</i></li> <li><i>– GC 6 - Ability to generate new ideas (creativity).</i></li> <li><i>– PC 1 - Ability to assess the level of existing technologies in the field of professional activity, the effectiveness of technical solutions.</i></li> <li><i>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</i></li> <li><i>– PC 6 - Ability to find the necessary information with the help of modern information resources, analyze and evaluate it.</i></li> <li><i>– PC 9 - Ability to take into account in design and technological, engineering and scientific and technical solutions requirements for safety of life, protection of intellectual property, energy efficiency and environmental friendliness.</i></li> <li><i>– PC 11 - Ability to plan and perform research using modern experimental methods and tools and methods of computer modeling, analyze research results, substantiate conclusions and recommendations.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures, Practical</i>
<b>End-of-semester control</b>	<i>Final test</i>



## Scientific Research II. Research Work on Master Thesis Subject

<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational components of First level (Bachelor's degree), successful defense of a qualifying diploma project and awarding a bachelor's degree)</i>
<b>Scope of the course</b>	<i>The scope of the course includes formation of students' abilities to conduct research in electronics in order to create new scientific knowledge and results.</i>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in:</i></p> <ul style="list-style-type: none"> <li><i>- apply in scientific practice mathematical, scientific and technical methods, means of automated and automatic design, as well as computer programs for research of electronic devices, devices and systems;</i></li> <li><i>- use in scientific practice the creative and innovative potential for research and synthesis of solutions;</i></li> <li><i>- to apply in scientific practice modern information technologies and computer software;</i></li> <li><i>- apply in scientific practice the skills of working with electronic measuring instruments and automated diagnostic computer control and measuring systems; - to ensure the improvement of computer literacy and to promote the practice of using modern software, information and communication technologies in professional teams, working and research groups engaged in research and development of electronic devices, devices and systems;</i></li> <li><i>- apply modern information technologies, software, programming languages and computer design tools in research, have the skills to use software and work in computer networks, be able to create databases and use Internet resources.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 3 - To cooperate with the customer in the formulation of the technical task and discussion of technical solutions and results of projects, to lead a reasoned professional and scientific discussion.</i></li> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> <li><i>– R 6 - Ensure professional development of team members taking into account the world level of scientific and engineering achievements in the field of development and operation of electronic systems.</i></li> <li><i>– R 7 - Carry out information and scientific research using scientific, technical and reference literature, databases and knowledge, other sources of information; critically comprehend and interpret existing knowledge and data, form directions of research and development taking into account domestic and foreign experience</i></li> <li><i>– R 8 - Carry out and coordinate the development, selection, use and modernization of the necessary equipment, tools and methods in the organization of the production process, taking into account technical and technological capabilities, modern science-intensive methods, tools and technical solutions.</i></li> <li><i>– R 9 - Coordinate the work of teams of performers in the field of research, design, development, analysis, calculation, modeling, production and testing of electronic devices and systems.</i></li> <li><i>– R 10 - Choose the best research methods, modify, adapt and develop new methods.</i></li> <li><i>– R 11 - Analyze technical and economic indicators, reliability, ergonomics, patent purity, market requirements, investment climate and compliance of design solutions, research and development with certain goals and norms of the legislation of Ukraine.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– GC 2 - Ability to communicate in the state language both orally and in writing.</i></li> <li><i>– GC 4 - Ability to perform research at the appropriate level.</i></li> <li><i>– GC 6 - Ability to generate new ideas (creativity).</i></li> <li><i>– PC 1 - Ability to assess the level of existing technologies in the field of professional activity, the effectiveness of technical solutions.</i></li> <li><i>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</i></li> <li><i>– PC 6 - Ability to find the necessary information with the help of modern information resources, analyze and evaluate it.</i></li> <li><i>– PC 9 - Ability to take into account in design and technological, engineering and scientific and technical solutions requirements for safety of life, protection of intellectual property, energy efficiency and environmental friendliness.</i></li> <li><i>– PC 11 - Ability to plan and perform research using modern experimental methods and tools and methods of computer modeling, analyze research results, substantiate conclusions and recommendations.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>Lectures, Practical</i>
<b>End-of-semester control</b>	<i>Final test</i>

Specialized and Industrial Microprocessor Systems	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Microprocessor-based Devices", "Microprocessor Technology", "Digital Information Systems", "Personal Computers")</i>
<b>Scope of the course</b>	<i>The scope of the course includes study of the principles of operation and means of designing multimicrocontroller systems and systems with computers.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise aimed at forming the integrated competence of the graduate - the ability to solve complex specialized problems and practical problems of developing multiprocessor systems based on on-board and industrial computers, including distributed multimicrocontroller systems and industrial systems for various purposes, e.g. wireless control of pump station frequency converters, control of lighting systems and microsatellite systems.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– GC 2 - Ability to communicate in the state language both orally and in writing.</i></li> <li><i>– PC 1 - Ability to assess the level of existing technologies in the field of professional activity, the effectiveness of technical solutions.</i></li> <li><i>– PC 5 - Ability to ensure the efficiency and quality of measurements in electronic systems.</i></li> <li><i>– R 7 - Carry out information and scientific research using scientific, technical and reference literature, databases and knowledge, other sources of information; critically comprehend and interpret existing knowledge and data, form directions of research and development taking into account domestic and foreign experience.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Exam</i>



Microprocessor Systems Based on ARM Processors	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Microprocessor-based Devices", "Microprocessor Technology", "Digital Information Systems", "Personal Computers")</i>
<b>Scope of the course</b>	<i>The scope of the course includes^</i> <i>- Design of devices based on ARM processors;</i> <i>- Mastering modern methods of developing distributed microcontroller systems.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise aimed at the formation of integrated competence of the graduate - the ability to solve complex specialized problems and practical problems of developing systems based on ARM processors.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i> <i>– GC 2 - Ability to communicate in the state language both orally and in writing.</i> <i>– PC 1 - Ability to assess the level of existing technologies in the field of professional activity, the effectiveness of technical solutions.</i> <i>– PC 5 - Ability to ensure the efficiency and quality of measurements in electronic systems.</i> <i>– R 7 - Carry out information and scientific research using scientific, technical and reference literature, databases and knowledge, other sources of information; critically comprehend and interpret existing knowledge and data, form directions of research and development taking into account domestic and foreign experience.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Exam</i>

Display and Data Recording Devices	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Analog Circuit Design", "Digital Circuit Design", "Personal Computers and Fundamentals of Programming", "Electronic Systems", "Microprocessor Technology")</i>
<b>Scope of the course</b>	<i>The scope of the course includes study of the principles of construction and operation of information display and registration devices, acquisition of practical skills of work with them and acquaintance with the basics of their design.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in develop control and analysis systems for display, recording and data transmission devices.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 1 - Implement projects for modernization of production and technologies in the field of electronics, introduction of the latest information and communication technologies, multimedia.</i></li> <li><i>– R 2 - Model and experimentally study phenomena and processes in electronic devices and systems, in technologies of the electronic industry.</i></li> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– GC 2 - Ability to communicate in the state language both orally and in writing.</i></li> <li><i>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</i></li> <li><i>– PC 5 - Ability to ensure the efficiency and quality of measurements in electronic systems.</i></li> <li><i>– R 7 - Carry out information and scientific research using scientific, technical and reference literature, databases and knowledge, other sources of information; critically comprehend and interpret existing knowledge and data, form directions of research and development taking into account domestic and foreign experience.</i></li> <li><i>– PC 8 - Ability to assess problem situations in the field of development, design, tune-up, functioning and operation of electronic systems, to formulate proposals for solving problems..</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Final test</i>

Information Visualization and Detection Systems	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Analog Circuit Design", "Digital Circuit Design", "Personal Computers and Fundamentals of Programming", "Electronic Systems", "Microprocessor Technology")</i>
<b>Scope of the course</b>	<i>The scope of the course includes study of the principles of construction and operation of information visualization and detection systems, acquisition of practical skills to work with them and acquaintance with the basics of their design</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in develop control and analysis systems for display, recording and data transmission devices.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 1 - Implement projects for modernization of production and technologies in the field of electronics, introduction of the latest information and communication technologies, multimedia.</i></li> <li><i>– R 2 - Model and experimentally study phenomena and processes in electronic devices and systems, in technologies of the electronic industry.</i></li> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– GC 2 - Ability to communicate in the state language both orally and in writing.</i></li> <li><i>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</i></li> <li><i>– PC 5 - Ability to ensure the efficiency and quality of measurements in electronic systems.</i></li> <li><i>– R 7 - Carry out information and scientific research using scientific, technical and reference literature, databases and knowledge, other sources of information; critically comprehend and interpret existing knowledge and data, form directions of research and development taking into account domestic and foreign experience.</i></li> <li><i>– PC 8 - Ability to assess problem situations in the field of development, design, tune-up, functioning and operation of electronic systems, to formulate proposals for solving problems..</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Final test</i>

Components of Electronic Control Systems	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Power electronics and signal processing")</i>
<b>Scope of the course</b>	<i>The scope of the course includes knowledge about modern principles of construction of devices of converting equipment and their separate knots, the analysis of models of electronic components and the account of their parameters about designing of converters.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in the design and calculation of specialized power converters, the choice of topology of converters and the type of individual components in accordance with the input data of the calculation.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 1 - Implement projects for modernization of production and technologies in the field of electronics, introduction of the latest information and communication technologies, multimedia.</i></li> <li><i>– R 2 - Model and experimentally study phenomena and processes in electronic devices and systems, in technologies of the electronic industry.</i></li> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– GC 2 - Ability to communicate in the state language both orally and in writing.</i></li> <li><i>– GC 5 - Ability to search, process and analyze information from various sources.</i></li> <li><i>– PC 1 - Ability to assess the level of existing technologies in the field of professional activity, the effectiveness of technical solutions.</i></li> <li><i>– PC 6 - Ability to find the necessary information with the help of modern information resources, analyze and evaluate it.</i></li> <li><i>– PC 9 - Ability to take into account in design and technological, engineering and scientific and technical solutions requirements for safety of life, protection of intellectual property, energy efficiency and environmental friendliness.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Practical</i>
<b>End-of-semester control</b>	<i>Exam</i>

Specialized Power Electronic Devices and Systems	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Power electronics and signal processing")</i>
<b>Scope of the course</b>	<i>The scope of the course includes to get acquainted with new achievements and developments in the field of power electronics. In the process of studying the discipline, students get acquainted with modern principles of construction of devices of power converting technique and their separate components, modern methods of their analysis, calculation and design.</i>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in:</i></p> <ul style="list-style-type: none"> <li><i>- ability to assess the level of existing technologies in the field of professional activity, the effectiveness of technical solutions;</i></li> <li><i>- ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems;</i></li> <li><i>- ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 1 - Implement projects for modernization of production and technologies in the field of electronics, introduction of the latest information and communication technologies, multimedia.</i></li> <li><i>– R 2 - Model and experimentally study phenomena and processes in electronic devices and systems, in technologies of the electronic industry.</i></li> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– GC 2 - Ability to communicate in the state language both orally and in writing.</i></li> <li><i>– GC 5 - Ability to search, process and analyze information from various sources.</i></li> <li><i>– PC 1 - Ability to assess the level of existing technologies in the field of professional activity, the effectiveness of technical solutions.</i></li> <li><i>– PC 6 - Ability to find the necessary information with the help of modern information resources, analyze and evaluate it.</i></li> <li><i>– PC 9 - Ability to take into account in design and technological, engineering and scientific and technical solutions requirements for safety of life, protection of intellectual property, energy efficiency and environmental friendliness.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Practical</i>
<b>End-of-semester control</b>	<i>Exam</i>

Design and Technology of Electronic Devices and Systems	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	1
<b>Number of ECTS credits</b>	5
<b>Language of study</b>	English
<b>Department</b>	Electronic Devices and Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component "Electronic control systems and regulation", "Mathematical modeling of systems and processes", "The basics of self-regulation theory")
<b>Scope of the course</b>	The scope of the course includes modern means of design. Stages of design. Design of printed circuit boards. Materials for the manufacture of boards for the purpose. Technology of manufacturing units and blocks of electronic modules.
<b>Rationale</b>	The educational component contributes to the development of professional expertise in ability to gain knowledge and skills for the manufacture of electronic devices from start to finish, the creation of robot technical components and the element base of electronic equipment for various purposes. The training course is based on a modern platform for the development of electronic and printed circuit boards Altium Designer. Aimed at development, creation, production and application.
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>– R 1 - Implement projects for modernization of production and technologies in the field of electronics, introduction of the latest information and communication technologies, multimedia.</li> <li>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</li> <li>– R 8 - Carry out and coordinate the development, selection, use and modernization of the necessary equipment, tools and methods in the organization of the production process, taking into account technical and technological capabilities, modern science-intensive methods, tools and technical solutions.</li> <li>– R 12 - To generalize modern scientific knowledge in the field of electronics and apply them to solve complex scientific and technical problems, bringing the obtained solutions to the level of competitive developments, implementation of results in business projects.</li> <li>– R 13 - Organize and manage research, innovation and investment activities, business projects and production processes taking into account technical, technological and economic factors.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>– GC 1 - Ability to abstract thinking, analysis and synthesis.</li> <li>– GC 2 - Ability to communicate in the state language both orally and in writing.</li> <li>– GC 5 - Ability to search, process and analyze information from various sources.</li> <li>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</li> <li>– PC 4 - Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</li> <li>– PC 8 - Ability to assess problem situations in the field of development, design, tune-up, functioning and operation of electronic systems, to formulate proposals for solving problems.</li> <li>– PC 9 - Ability to take into account in design and technological, engineering and scientific and technical solutions requirements for safety of life, protection of intellectual property, energy efficiency and environmental friendliness.</li> </ul>
<b>Instructional Materials</b>	syllabus, learning materials (lecture notes etc)
<b>Mode of delivery</b>	Lectures, Practical, Laboratory
<b>End-of-semester control</b>	Exam



Design of Robotic Electronic Systems	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	1
<b>Number of ECTS credits</b>	5
<b>Language of study</b>	English
<b>Department</b>	Electronic Devices and Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component "Electronic control systems and regulation", "Mathematical modeling of systems and processes", "The basics of self-regulation theory")
<b>Scope of the course</b>	The scope of the course includes modern means of design, development and construction of robotic electronic systems and devices. Selection of components for development, study of their functionality and purpose. Stages of creation - from the design of printed circuit boards to the manufacture of an existing device. Selection of materials, the process of manufacturing the board, supporting documentation, design environment Altium designer, modern microcontroller devices, layout or implementation in the existing system or the manufacture of a separate operating device.
<b>Rationale</b>	The educational component contributes to the development of professional expertise in the design and construction of robotic sensors and control systems. Design and construction experience is as important as conceptual understanding. Therefore, this is a practical course. Each concept follows several schemes for design and construction, so that your confidence and understanding will have a solid foundation in actual skills. The training course is built on a modern platform for the development of electronic and printed circuit boards Altium Designer. Aimed at development, creation, production and application.
<b>Learning outcomes</b>	Expected learning outcomes include: – R 1 - Implement projects for modernization of production and technologies in the field of electronics, introduction of the latest information and communication technologies, multimedia. – R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources. – R 8 - Carry out and coordinate the development, selection, use and modernization of the necessary equipment, tools and methods in the organization of the production process, taking into account technical and technological capabilities, modern science-intensive methods, tools and technical solutions. – R 12 - To generalize modern scientific knowledge in the field of electronics and apply them to solve complex scientific and technical problems, bringing the obtained solutions to the level of competitive developments, implementation of results in business projects. – R 13 - Organize and manage research, innovation and investment activities, business projects and production processes taking into account technical, technological and economic factors.
<b>Competencies and skills</b>	Upon successful completion of the course students are expected to be able to: – GC 1 - Ability to abstract thinking, analysis and synthesis. – GC 2 - Ability to communicate in the state language both orally and in writing. – GC 5 - Ability to search, process and analyze information from various sources. – PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems. – PC 4 - Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems. – PC 8 - Ability to assess problem situations in the field of development, design, tune-up, functioning and operation of electronic systems, to formulate proposals for solving problems. – PC 9 - Ability to take into account in design and technological, engineering and scientific and technical solutions requirements for safety of life, protection of intellectual property, energy efficiency and environmental friendliness.
<b>Instructional Materials</b>	syllabus, learning materials (lecture notes etc)
<b>Mode of delivery</b>	Lectures, Practical, Laboratory
<b>End-of-semester control</b>	Exam



Internet of Things Technology in Electronics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Analog Circuit Design", "Digital Circuit Design", "Personal Computers and Fundamentals of Programming", "Electronic Systems", "Microprocessor Technology")</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes:</i></p> <ul style="list-style-type: none"> <li><i>- Computer networks,</i></li> <li><i>- Modern platforms for building systems with microcontrollers,</i></li> <li><i>- Use of digital communication systems,</i></li> <li><i>- Use of cloud technologies.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in to build a system for solving distributed problems with the ability to manage and monitor via the Internet</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– GC 2 - Ability to communicate in the state language both orally and in writing.</i></li> <li><i>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</i></li> <li><i>– PC 4 - Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</i></li> <li><i>– PC 5 - Ability to ensure the efficiency and quality of measurements in electronic systems.</i></li> <li><i>– PC 7 - Ability to solve problems of processing and displaying information in modern electronic systems.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Final test</i>

Internet Technology in Industry	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Analog Circuit Design", "Digital Circuit Design", "Personal Computers and Fundamentals of Programming", "Electronic Systems", "Microprocessor Technology")</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes:</i></p> <ul style="list-style-type: none"> <li><i>- General information about the information transmission system.</i></li> <li><i>- Modern information transmission systems.</i></li> <li><i>- Computer networks.</i></li> <li><i>- Internet and its technologies.</i></li> <li><i>- Wireless networks for telemetry transmission and scheduling.</i></li> <li><i>- Industrial automation platforms.</i></li> <li><i>- Use of cloud platforms for storage and processing information.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in Automated scheduling and monitoring systems (SCADA-systems, Supervisory Control and Data Acquisition - remote control and data collection)</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– GC 2 - Ability to communicate in the state language both orally and in writing.</i></li> <li><i>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</i></li> <li><i>– PC 4 - Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</i></li> <li><i>– PC 5 - Ability to ensure the efficiency and quality of measurements in electronic systems.</i></li> <li><i>– PC 7 - Ability to solve problems of processing and displaying information in modern electronic systems.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Laboratory</i>
<b>End-of-semester control</b>	<i>Final test</i>

Mathematical Modeling of Systems and Processes	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	2
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Electronic Devices and Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational components of First level (Bachelor's degree))
<b>Scope of the course</b>	The scope of the course includes formation of students' methodology, general principles, content and structure of scientific research of physical processes, electronic devices, devices and electronic systems through the study, assimilation and use of methods and tools of theoretical and experimental research.
<b>Rationale</b>	<p>The educational component contributes to the development of professional expertise in:</p> <ul style="list-style-type: none"> <li>- apply in scientific practice mathematical, scientific and technical methods, automatic design tools and computer programs for the development of electronic devices, devices and systems;</li> <li>- use in scientific practice the creative and innovative potential for the synthesis of solutions and for the development of electronic devices, devices and systems, including primary converters, amplifiers, analog and digital devices, pulse technology and other devices;</li> <li>- apply in scientific practice modern information technologies and computer software for the development of electronic devices, devices and systems;</li> <li>- apply in scientific practice the skills of working with electronic measuring instruments and automated diagnostic computer control and measuring systems; - to ensure the improvement of computer literacy and to promote the practice of using modern software, information and communication technologies in professional teams, working and research groups engaged in research and development of electronic devices, devices and systems;</li> <li>- apply modern information technologies, software, programming languages and computer design tools in research, have the skills to use software and work in computer networks, be able to create databases and use Internet resources.</li> </ul>
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>– R 6 - Ensure professional development of team members taking into account the world level of scientific and engineering achievements in the field of development and operation of electronic systems.</li> <li>– R 14 - Investigate processes in electronic systems using modern experimental methods and equipment, computer modeling methods, perform statistical processing and analysis of experimental results and calculations.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>– GC 1 - Ability to abstract thinking, analysis and synthesis.</li> <li>– GC 2 - Ability to communicate in the state language both orally and in writing.</li> <li>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</li> <li>– PC 4 - Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</li> <li>– PC 11 - Ability to plan and perform research using modern experimental methods and tools and methods of computer modeling, analyze research results, substantiate conclusions and recommendations.</li> </ul>
<b>Instructional Materials</b>	syllabus, learning materials (lecture notes etc)
<b>Mode of delivery</b>	Lectures, Practical
<b>End-of-semester control</b>	Exam

Supplementary Topics of Information Electronics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>6</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Circuit Design", "Information Technologies", "Theory of Information", "Digital Information Systems", "Microprocessor Technology", "Electronic Systems", "Electronic Systems for Operation and Control")</i>
<b>Scope of the course</b>	<i>The scope of the course includes formation of the appropriate level of knowledge and ability to use basic knowledge about methods and means of creating digital devices based on programmable logic matrices.</i>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in:</i></p> <ul style="list-style-type: none"> <li><i>- independently work with reference scientific and technical literature, search Internet resources to acquire new knowledge on programmable logic matrices;</i></li> <li><i>- use the acquired knowledge in the development of digital devices based on programmable logic matrices;</i></li> <li><i>- choose existing types of programmable logic matrices according to the acquired knowledge.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 1 - Implement projects for modernization of production and technologies in the field of electronics, introduction of the latest information and communication technologies, multimedia.</i></li> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> <li><i>– R 14 - Investigate processes in electronic systems using modern experimental methods and equipment, computer modeling methods, perform statistical processing and analysis of experimental results and calculations.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– GC 2 - Ability to communicate in the state language both orally and in writing.</i></li> <li><i>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</i></li> <li><i>– PC 4 - Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</i></li> <li><i>– PC 11 - Ability to plan and perform research using modern experimental methods and tools and methods of computer modeling, analyze research results, substantiate conclusions and recommendations.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (lecture notes etc)</i>
<b>Mode of delivery</b>	<i>Lectures, Practical</i>
<b>End-of-semester control</b>	<i>Exam</i>

Course Project in Supplementary Topics of Information Electronics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>1.5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Electronic Devices and Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component "Circuit Design", "Information Technologies", "Theory of Information", "Digital Information Systems", "Microprocessor Technology", "Electronic Systems", "Electronic Systems for Operation and Control")</i>
<b>Scope of the course</b>	<i>The scope of the course includes formation of the appropriate level of knowledge and ability to use basic knowledge about methods and means of creating digital devices based on programmable logic matrices.</i>
<b>Rationale</b>	<p><i>The educational component contributes to the development of professional expertise in:</i></p> <ul style="list-style-type: none"> <li><i>- independently work with reference scientific and technical literature, search Internet resources to acquire new knowledge on programmable logic matrices;</i></li> <li><i>- use the acquired knowledge in the development of digital devices based on programmable logic matrices;</i></li> <li><i>- choose existing types of programmable logic matrices according to the acquired knowledge.</i></li> </ul>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</i></li> <li><i>– R 6 - Ensure professional development of team members taking into account the world level of scientific and engineering achievements in the field of development and operation of electronic systems.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– GC 1 - Ability to abstract thinking, analysis and synthesis.</i></li> <li><i>– GC 5 - Ability to search, process and analyze information from various sources.</i></li> <li><i>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</i></li> <li><i>– PC 4 -Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</i></li> <li><i>– PC 8 - Ability to assess problem situations in the field of development, design, tune-up, functioning and operation of electronic systems, to formulate proposals for solving problems.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus</i>
<b>Mode of delivery</b>	<i>tutorials</i>
<b>End-of-semester control</b>	<i>Final test</i>

Scientific Research II. Research Work on Master Thesis Subject	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	2
<b>Number of ECTS credits</b>	3.5
<b>Language of study</b>	English
<b>Department</b>	Electronic Devices and Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational components of First level (Bachelor's degree))
<b>Scope of the course</b>	The scope of the course includes formation of students' abilities to conduct research in electronics in order to create new scientific knowledge and results.
<b>Rationale</b>	<p>The educational component contributes to the development of professional expertise in:</p> <ul style="list-style-type: none"> <li>- apply in scientific practice mathematical, scientific and technical methods, means of automated and automatic design, as well as computer programs for research of electronic devices, devices and systems;</li> <li>- use in scientific practice the creative and innovative potential for research and synthesis of solutions;</li> <li>- to apply in scientific practice modern information technologies and computer software;</li> <li>- apply in scientific practice the skills of working with electronic measuring instruments and automated diagnostic computer control and measuring systems; - to ensure the improvement of computer literacy and to promote the practice of using modern software, information and communication technologies in professional teams, working and research groups engaged in research and development of electronic devices, devices and systems;</li> <li>- apply modern information technologies, software, programming languages and computer design tools in research, have the skills to use software and work in computer networks, be able to create databases and use Internet resources.</li> </ul>
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>– R 3 - To cooperate with the customer in the formulation of the technical task and discussion of technical solutions and results of projects, to lead a reasoned professional and scientific discussion.</li> <li>– R 4 - Develop low-waste, energy-saving and environmentally friendly technologies taking into account the requirements of human safety, rational use of raw materials, energy and other resources.</li> <li>– R 6 - Ensure professional development of team members taking into account the world level of scientific and engineering achievements in the field of development and operation of electronic systems.</li> <li>– R 7 - Carry out information and scientific research using scientific, technical and reference literature, databases and knowledge, other sources of information; critically comprehend and interpret existing knowledge and data, form directions of research and development taking into account domestic and foreign experience</li> <li>– R 8 - Carry out and coordinate the development, selection, use and modernization of the necessary equipment, tools and methods in the organization of the production process, taking into account technical and technological capabilities, modern science-intensive methods, tools and technical solutions.</li> <li>– R 9 - Coordinate the work of teams of performers in the field of research, design, development, analysis, calculation, modeling, production and testing of electronic devices and systems.</li> <li>– R 10 - Choose the best research methods, modify, adapt and develop new methods.</li> <li>– R 11 - Analyze technical and economic indicators, reliability, ergonomics, patent purity, market requirements, investment climate and compliance of design solutions, research and development with certain goals and norms of the legislation of Ukraine.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>– GC 1 - Ability to abstract thinking, analysis and synthesis.</li> <li>– GC 2 - Ability to communicate in the state language both orally and in writing.</li> <li>– GC 4 - Ability to perform research at the appropriate level.</li> <li>– GC 6 - Ability to generate new ideas (creativity).</li> <li>– PC 1 - Ability to assess the level of existing technologies in the field of professional activity, the effectiveness of technical solutions.</li> <li>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</li> <li>– PC 6 - Ability to find the necessary information with the help of modern information resources, analyze and evaluate it.</li> <li>– PC 9 - Ability to take into account in design and technological, engineering and scientific and technical solutions requirements for safety of life, protection of intellectual property, energy efficiency and environmental friendliness.</li> <li>– PC 11 - Ability to plan and perform research using modern experimental methods and tools and methods of computer modeling, analyze research results, substantiate conclusions and recommendations.</li> </ul>
<b>Instructional Materials</b>	syllabus
<b>Mode of delivery</b>	tutorials
<b>End-of-semester control</b>	Final test



Fundamentals of Machine Learning	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	2
<b>Number of ECTS credits</b>	3.5
<b>Language of study</b>	English
<b>Department</b>	Electronic Devices and Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component "Mathematical analysis", "Calculus", "Information technology")
<b>Scope of the course</b>	<p>The scope of the course includes knowledge:</p> <ul style="list-style-type: none"> <li>- on the peculiarities of the use of basic methods and the scope of machine learning;</li> <li>- teaching methods with and without a teacher;</li> <li>- organization of training with reinforcement.</li> </ul>
<b>Rationale</b>	<p>The educational component contributes to the development of professional expertise in:</p> <ul style="list-style-type: none"> <li>• ability to plan and conduct research using modern experimental methods and tools and methods of computer modeling, analyze research results, substantiate conclusions and recommendations;</li> <li>• ability to acquire modern scientific knowledge of the latest developments in computer and microprocessor technology, software and hardware for information visualization and apply them to solve scientific and technical problems;</li> <li>• ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems. As a result of studying the materials of the module the student should receive</li> </ul>
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>– R 5 - Ensure energy and economic efficiency of development, production and operation of electronic equipment.</li> <li>– R 12 - To generalize modern scientific knowledge in the field of electronics and apply them to solve complex scientific and technical problems, bringing the obtained solutions to the level of competitive developments, implementation of results in business projects.</li> <li>– R 14 - Investigate processes in electronic systems using modern experimental methods and equipment, computer modeling methods, perform statistical processing and analysis of experimental results and calculations.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>– GC 1 - Ability to abstract thinking, analysis and synthesis.</li> <li>– GC 2 - Ability to communicate in the state language both orally and in writing.</li> <li>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</li> <li>– PC 4 - Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</li> <li>– PC 7 - Ability to solve problems of processing and displaying information in modern electronic systems.</li> <li>– PC 11 - Ability to plan and perform research using modern experimental methods and tools and methods of computer modeling, analyze research results, substantiate conclusions and recommendations.</li> </ul>
<b>Instructional Materials</b>	syllabus, learning materials (lecture notes etc)
<b>Mode of delivery</b>	Lectures, Laboratory
<b>End-of-semester control</b>	Final test



Modern trends in Computer and Microprocessor Technology	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	2
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Electronic Devices and Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component "Microprocessor Technology", "Microprocessor-based Devices")
<b>Scope of the course</b>	<p>The scope of the course includes:</p> <ul style="list-style-type: none"> <li>- main trends in the development of computer and microprocessor technology;</li> <li>- general principles of construction and operation of the latest computer and microcontroller systems;</li> <li>- methods and means of hardware development and software for systems with microprocessors and computers.</li> </ul>
<b>Rationale</b>	<p>The educational component contributes to the development of professional expertise in:</p> <ul style="list-style-type: none"> <li>- independently work with scientific and technical literature on microprocessor and computer systems for various purposes;</li> <li>- to conduct a comparative analysis of different architectures and microprocessors (microcontrollers),</li> <li>- have practical skills in choosing the element base of microcontrollers and control platforms</li> <li>- use the acquired knowledge in the design and construction of new computer and microprocessor systems</li> <li>- develop software for computer and microprocessor systems.</li> </ul>
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>– R 5 - Ensure energy and economic efficiency of development, production and operation of electronic equipment.</li> <li>– R 12 - To generalize modern scientific knowledge in the field of electronics and apply them to solve complex scientific and technical problems, bringing the obtained solutions to the level of competitive developments, implementation of results in business projects.</li> <li>– R 14 - Investigate processes in electronic systems using modern experimental methods and equipment, computer modeling methods, perform statistical processing and analysis of experimental results and calculations.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>– GC 1 - Ability to abstract thinking, analysis and synthesis.</li> <li>– GC 2 - Ability to communicate in the state language both orally and in writing.</li> <li>– PC 3 - Ability to systematically solve problems of development, analysis, calculation, modeling of electronic power, information, control and multimedia systems.</li> <li>– PC 4 -Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic systems.</li> <li>– PC 5 - Ability to ensure the efficiency and quality of measurements in electronic systems.</li> </ul>
<b>Instructional Materials</b>	syllabus, learning materials (lecture notes etc)
<b>Mode of delivery</b>	Lectures, Practical
<b>End-of-semester control</b>	Final test

Computational Mathematics	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>3</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Acoustic and Multimedia Electronic Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i> <i>- Mathematical Analysis</i> <i>- Analytical Geometry</i> <i>- Informatics</i>
<b>Scope of the course</b>	<i>The purpose of studying this course is to acquire theoretical and practical knowledge of computational mathematics, which allows students to form knowledge of the rules of the most effective or optimal solution of mathematical modeling problems.</i>
<b>Rationale</b>	<i>The task of computational mathematics is to find a generalized solution of the equations that make up the mathematical model, specifying specific numerical values by constants in equations corresponding to invariant quantities. If it is possible to find such a generalized theoretical solution, it becomes possible to investigate the values of these parameters, which ensured the maximum adequacy of the model (technical object).</i> <i>Modern computational mathematics consists of many sections, the most important of which are the calculation and interpolation of functions, computational methods of linear algebra, numerical methods for solving algebraic and transcendental equations, numerical differentiation and integration, numerical solution of differential and integrated equations, methods in which study numerous ways to find extreme values of functionals.</i>
<b>Learning outcomes</b>	<i>The purpose of the discipline is the formation of students' competencies:</i> <i>GC5. Skills in the use of information and communication technologies.</i> <i>GC9 Ability to work in a team.</i> <i>GC10 Implementation of safe activities.</i> <i>GC14 Ability to preserve and multiply moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, techniques and technologies. active recreation and a healthy lifestyle.</i> <i>SC5. Ability to apply appropriate mathematical, scientific and technical methods, modern information technology and computer software, skills in working with computer networks, databases and Internet resources to solve engineering problems in the field of electronics.</i>
<b>Competencies and skills</b>	<i>Program learning outcomes provided in the educational program of the specialty 171 Electronics:</i> <i>R5. Use information and communication technologies, applied and specialized software products to solve problems of design and debugging of electronic systems, demonstrate skills of programming, analysis and display of measurement and control results</i> <i>R18. Apply methods of mathematical modeling and optimization of electronic systems for the development of automated and robotic production systems</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (presentation)</i>
<b>Mode of delivery</b>	<i>Lectures, praticesc</i>
<b>End-of-semester control</b>	<i>Test</i>

PHYSICAL FUNDAMENTALS OF ELECTRONICS	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	2
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Department of Acoustic and Multimedia Electronic Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component "Physics", "Mathematical Analysis" and "Measurement Techniques", is closely related to the "Theory of Electrical Circuits")
<b>Scope of the course</b>	The scope is the basis for further study of "Circuits"
<b>Rationale</b>	<p>The discipline "Physical Fundamentals of Electronics" is essential in the formation of professional knowledge and skills of bachelors who master the specialty 171 Electronics in educational programs "Acoustic electronic systems and acoustic information processing technologies" and "Electronic multimedia systems and the Internet of Things".</p> <p>The subject of the discipline - physical bases of construction and functioning of basic semiconductor, acousto- and piezoelectronic devices, methods of calculation and measurement of their characteristics and electrical parameters.</p>
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <p>P1. Describe the principle of operation using scientific concepts, theories and methods and verify the results in the design and application of devices, devices and electronics systems.</p> <p>P3. Find solutions to practical problems of electronics by applying appropriate models and theories of electrodynamics, analytical mechanics, electromagnetism, statistical physics, solid state physics.</p> <p>P4. Evaluate the characteristics and parameters of electronic materials, understand the basics of solid-state electronics, electrical engineering, analog and digital circuitry, converter and microprocessor technology.</p> <p>P5. Use information and communication technologies, applied and specialized software products to solve problems of design and debugging of electronic systems, demonstrate programming skills, analysis and display of measurement and control results.</p> <p>P6. Apply experimental skills (knowledge of experimental methods and procedures for conducting experiments) to test hypotheses and study the phenomena of electronics, be able to use standard equipment, plan, draw diagrams, analyze, model and critically evaluate the results.</p>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <p>SC1. Ability to use knowledge and understanding of scientific facts, concepts, theories, principles and methods for the design and application of devices, devices and systems of electronics.</p> <p>SC2. Ability to perform analysis of the subject area and regulatory documentation required for the design and application of devices, devices and electronics systems.</p> <p>SC3. Ability to integrate knowledge of fundamental sections of physics and chemistry to understand the processes of solid-state, functional and power electronics, electrical engineering.</p> <p>SC5. Ability to apply appropriate mathematical, scientific and technical methods, modern information technology and computer software, skills in working with computer networks, databases and Internet resources to solve engineering problems in the field of electronics.</p> <p>SC6. Ability to identify, classify, evaluate and describe processes in electronics devices, devices and systems using analytical methods, modeling tools, prototypes and experimental results.</p> <p>SC9. Ability to determine and evaluate the characteristics and parameters of materials of electronic equipment, analog and digital electronic devices for the design of microprocessor and electronic systems.</p>
<b>Instructional Materials</b>	syllabus, learning materials (textbook, tutorials)
<b>Mode of delivery</b>	lectures, laboratory works
<b>End-of-semester control</b>	Exam

## The Probabilistic Basics of Data Processing

<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Acoustic and Multimedia Electronic Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i> <i>- Mathematical Analysis</i> <i>- Analytical Geometry</i> <i>- Informatics</i>
<b>Scope of the course</b>	<i>The scope of the course includes 150 hours</i>
<b>Rationale</b>	<i>The educational component "Probabilistic bases of data processing" studies the fundamental sections of mathematics, which studies the patterns of random phenomena. The course provides knowledge of the basics of probability theory, the theory of random variables and mathematical statistics. It allows you to gain practical skills in calculating the probabilities of complex events using axioms and theorems of probability theory, on the analysis and description of random variables, including in limit cases, on the analysis of stochastic dependence and to expand the mathematical culture associated with randomness and uncertainty..</i>
<b>Learning outcomes</b>	<i>Students will possess abstract mathematical thinking, mathematical culture and scientific worldview, semantics, methods, practical skills and theoretical provisions of probability theory and mathematical statistics, which are necessary for the future specialist to conducting research within the framework of professional activity and mastering special disciplines.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <i>GC 6. Ability to learn and master modern knowledge.</i> <i>SC1. Ability to use knowledge and understanding of scientific facts, concepts, theories, principles and methods for the design and application of devices, devices and systems of electronics.</i> <i>SC5. Ability to apply appropriate mathematical, scientific and technical methods, modern information technology and computer software, skills in working with computer networks, databases and Internet resources to solve engineering problems in the field of electronics</i> <i>SC6. Ability to identify, classify, evaluate and describe processes in electronics devices, devices and systems using analytical methods, modeling tools, prototypes and experimental results</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials -reference book, handbook, video lectures</i>
<b>Mode of delivery</b>	<i>Lectures, workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Test</i>

Fundamentals of Non-Destructive Testing	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	3
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Acoustic and Multimedia Electronic Systems
<b>Assumed knowledge and prerequisites</b>	<p>English B2</p> <ul style="list-style-type: none"> <li>- Theoretical foundations of acoustics</li> <li>- Electroacoustic transducers</li> <li>- Applied mechanics</li> <li>- Physics</li> <li>- Mathematical analysis</li> <li>- Analytical geometry</li> </ul>
<b>Scope of the course</b>	The nature and development of defects. Physical features of influence of defects on various fields, in particular: magnetic, acoustic, radiation and others. Methods of detecting defects of different nature and location are considered
<b>Rationale</b>	The operation of any device, tool, equipment depends on their integrity and quality of production. The presence of defects affects the ability to use the devices and safety for the user. Quality control is mandatory not only during production, but also during operation of products.
<b>Learning outcomes</b>	<p>According to OPP "Acoustic electronic systems and technologies of acoustic information processing" the student will improve the knowledge provided in the standard of specialty 171 Electronics as:</p> <p>GC4. Knowledge of international standards in the field of electronics, methods of quality assurance of electronic devices and systems.</p> <p>GC8. Knowledge of the structure of matter, basic physical and chemical processes and phenomena on which the functioning of electronic devices and systems is based.</p> <p>GC11. Knowledge of means of measuring the characteristics of materials and devices of electronics, their adjustment and diagnostics, modern technologies for obtaining materials, production of components and devices of electronic equipment.</p>
<b>Competencies and skills</b>	<p>The student will consolidate and improve their special competencies and skills provided in specialty standard 171 Electronics:</p> <p>SC1. Ability to use knowledge and understanding of scientific facts, concepts, theories, principles and methods for the design and application of devices, devices and systems of electronics.</p> <p>SC6. Ability to identify, classify, evaluate and describe processes in electronics devices, devices and systems using analytical methods, modeling tools, prototypes and experimental results.</p> <p>SC9. Ability to determine and evaluate the characteristics and parameters of materials of electronic equipment, analog and digital electronic devices for the design of microprocessor and electronic systems.</p> <p>SC10. Ability to apply in practice industry standards and quality standards of functioning of devices and systems of electronics.</p> <p>SC 11. Ability to monitor and diagnose the condition of equipment, use modern electronic components and hardware, perform maintenance, repair and maintenance of electronic devices and systems, install, configure and repair analog, digital and optical modules, develop and manufacture printed circuit boards, develop software for microcontrollers</p>
<b>Instructional Materials</b>	syllabus, learning materials (presentation)
<b>Mode of delivery</b>	lectures
<b>End-of-semester control</b>	Test

Fundamentals of Defectology	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Acoustic and Multimedia Electronic Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i> <i>- Theoretical foundations of acoustics</i> <i>- Electroacoustic transducers</i> <i>- Applied mechanics</i> <i>- Physics</i> <i>- Mathematical analysis</i> <i>- Analytical geometry</i>
<b>Scope of the course</b>	<i>The nature and development of defects. Influence of defects on the operation of devices in the field of electronics. Requirements for product quality assurance</i>
<b>Rationale</b>	<i>The process of production and operation of electronics products is not possible without different levels of product quality control procedures. The quality of the product is not only satisfied with the functional purpose of the device, but also maintaining the health of the user</i>
<b>Learning outcomes</b>	<i>According to OPP "Acoustic electronic systems and technologies of acoustic information processing" the student will improve the knowledge provided in the standard of specialty 171 Electronics as:</i> <i>GC4. Knowledge of international standards in the field of electronics, methods of quality assurance of electronic devices and systems.</i> <i>GC8. Knowledge of the structure of matter, basic physical and chemical processes and phenomena on which the functioning of electronic devices and systems is based.</i> <i>GC11. Knowledge of means of measuring the characteristics of materials and devices of electronics, their adjustment and diagnostics, modern technologies for obtaining materials, production of components and devices of electronic equipment.</i>
<b>Competencies and skills</b>	<i>The student will consolidate and improve their special competencies and skills provided in specialty standard 171 Electronics:</i> <i>SC1. Ability to use knowledge and understanding of scientific facts, concepts, theories, principles and methods for the design and application of devices, devices and systems of electronics.</i> <i>SC6. Ability to identify, classify, evaluate and describe processes in electronics devices, devices and systems using analytical methods, modeling tools, prototypes and experimental results.</i> <i>SC9. Ability to determine and evaluate the characteristics and parameters of materials of electronic equipment, analog and digital electronic devices for the design of microprocessor and electronic systems.</i> <i>SC10. Ability to apply in practice industry standards and quality standards of functioning of devices and systems of electronics.</i> <i>SC 11. Ability to monitor and diagnose the condition of equipment, use modern electronic components and hardware, perform maintenance, repair and maintenance of electronic devices and systems, install, configure and repair analog, digital and optical modules, develop and manufacture printed circuit boards, develop software for microcontrollers</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (presentation)</i>
<b>Mode of delivery</b>	<i>lectures</i>
<b>End-of-semester control</b>	<i>Test</i>



Circuitry	
<b>Restrictions (specialty for which the course is offered)</b>	171 "Electronics"
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	3
<b>Number of ECTS credits</b>	4.5
<b>Language of study</b>	English
<b>Department</b>	Department of Acoustic and Multimedia Electronic Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component " ")
<b>Scope of the course</b>	The scope of the course includes methods of engineering design and research of analog electronic devices
<b>Rationale</b>	The educational component contributes to the development of professional expertise in design and research of analog electronic devices used in audio and video technology, technology for processing and transmitting information, Internet of Things systems.
<b>Learning outcomes</b>	Principles of design of modern electronic systems, perspective directions of development of their element base; methods and technologies of analysis, synthesis, modeling, calculation and optimization of electronic systems
<b>Competencies and skills</b>	Upon successful completion of the course students are expected to be able to: <ul style="list-style-type: none"> <li>– demonstrate and use knowledge of the principles of modern electronic systems design;</li> <li>– solve problems of development, optimization and updating of structural units of electronic systems;</li> <li>– assess problem situations and shortcomings in the development, design, commissioning, operation and operation of electronic systems, to formulate proposals for solving problems and eliminating shortcomings.</li> </ul>
<b>Instructional Materials</b>	syllabus, learning materials (textbook, reference book)
<b>Mode of delivery</b>	lectures (seminars/workshops)
<b>End-of-semester control</b>	Exam



Special Programming Languages for Embedded Systems	
<b>Restrictions (specialty for which the course is offered)</b>	171 "Electronics"
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	3
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Department of Acoustic and Multimedia Electronic Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component " ")
<b>Scope of the course</b>	The scope of the course includes C language, programming environments in the C language of microcontrollers for embedded systems with low power consumption. Use of various sensors and peripherals in embedded systems.
<b>Rationale</b>	The educational component contributes to the development of professional expertise in a basic training course for an electronics programmer, necessary for the acquisition of practical skills in designing embedded systems on microcontrollers.
<b>Learning outcomes</b>	Expected learning outcomes include: a set of practical knowledge, skills, abilities necessary for the design of embedded systems, information processing and transmission, Internet of Things
<b>Competencies and skills</b>	Upon successful completion of the course students are expected to be able to: <ul style="list-style-type: none"> <li>– show fundamental knowledge of the principles of modern Internet of Things embedded systems design;</li> <li>– solve problems of development, optimization and updating of structural units of microcontrollers systems of Internet of Things.</li> </ul>
<b>Instructional Materials</b>	syllabus, learning materials (textbook, reference book)
<b>Mode of delivery</b>	lectures (seminars/workshops)
<b>End-of-semester control</b>	Test

Base of Microprocessor Technology	
<b>Restrictions (specialty for which the course is offered)</b>	171 "Electronics"
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	4
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Department of Acoustic and Multimedia Electronic Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component " ")
<b>Scope of the course</b>	The scope of the course includes the main characteristics of microcontrollers and microprocessors, microcontroller programming tools, the basics of operation of Arduino boards and the use of various sensors and peripherals.
<b>Rationale</b>	The educational component contributes to the development of professional expertise in design of microcontrollers systems used in audio and video technology, technology for processing and transmitting information, IoT.
<b>Learning outcomes</b>	Expected learning outcomes include: a set of practical knowledge, skills, abilities necessary for the design of microcontrollers systems, using of various sensors and peripherals
<b>Competencies and skills</b>	Upon successful completion of the course students are expected to be able to: <ul style="list-style-type: none"> <li>– design of microcontrollers systems, solve problems of development, optimization and updating of their structural units;</li> <li>– demonstrate knowledge of the principles of Arduino based microcontrollers systems design.</li> </ul>
<b>Instructional Materials</b>	syllabus, learning materials (textbook, reference book)
<b>Mode of delivery</b>	lectures (seminars/workshops)
<b>End-of-semester control</b>	Exam

Power Supply and Electromagnetic Compatibility of Multimedia Equipment	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	4
<b>Number of ECTS credits</b>	4,5
<b>Language of study</b>	English
<b>Department</b>	Department of Acoustic and Multimedia Electronic Systems
<b>Assumed knowledge and prerequisites</b>	English B2
<b>Scope of the course</b>	<i>The scope of the course includes 36 hours of lectures, 18 hours of practical works, 81 hours of self-study, settlement graphic work.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise and competencies on the purpose, principles of technical means and basics of calculating the parameters of technical means of electronic power supplies, without which the normal functioning of electronic equipment is impossible, acquaintance with the physical foundations and features of hardware power supplies for electronic systems, training in the operation of such means</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <p><i>General competencies:</i></p> <p><i>GC 1. Ability to apply knowledge in practical situations.</i></p> <p><i>GC 2. Ability to understand the subject area and understanding of professional activity.</i></p> <p><i>GC 6. Ability to learn and master modern knowledge.</i></p> <p><i>Professional competencies:</i></p> <ul style="list-style-type: none"> <li><i>- ability to perform analysis of the subject area and regulatory documentation required for the design and application of devices, devices and systems of electronics (PC2);</i></li> <li><i>- ability to integrate knowledge of fundamental sections of physics and chemistry to understand the processes of solid-state, functional and power electronics, electrical engineering. (PC3)</i></li> <li><i>- ability to apply in practice national, industry standards and quality standards of functioning of devices and systems of electronics (PK10)</i></li> <li><i>- ability to monitor and diagnose the condition of equipment, use modern electronic components and hardware, perform prevention, repair and maintenance of electronic devices and systems, install, configure and repair analogue, digital and optical modules, develop and manufacture printed circuit boards, develop software for microcontrollers. (PK11)</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <p><b>KNOWLEDGE:</b></p> <ul style="list-style-type: none"> <li><i>- knowledge and understanding of differential and integral calculus, algebra, functional analysis of real and complex variables, vectors and matrices, vector calculus, differential equations in ordinary and partial derivatives, Fourier series, statistical analysis, information theory, numerical methods for solving theoretical and applied tasks of electronics (K2)</i></li> </ul> <p><b>SKILLS:</b></p> <ul style="list-style-type: none"> <li><i>- to find solutions to practical problems of electronics by applying appropriate models and theories of electrodynamics, analytical mechanics, electromagnetism, statistical physics, solid state physics (S3);</i></li> <li><i>- apply experimental skills (knowledge of experimental methods and procedures for conducting experiments) to test hypotheses and study the phenomena of electronics, be able to use standard equipment, plan, make diagrams; analyze, model and critically evaluate the results (S6).</i></li> </ul> <p>—</p>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book)</i>
<b>Mode of delivery</b>	<i>lectures /workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>

Information Support of Telecommunication Systems	
<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	First level (Bachelor's degree)
<b>Year of study</b>	4
<b>Number of ECTS credits</b>	4.5
<b>Language of study</b>	English
<b>Department</b>	Department of Acoustic and Multimedia Electronic Systems
<b>Assumed knowledge and prerequisites</b>	English
<b>Scope of the course</b>	<i>The scope of the course includes 135 hours</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in securing the functionality of information systems for standard models – by the way of implementation of CGI, SSI, introduction of new WEB-supplements on modern platforms for intelligent telecom systems.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li>- <i>Creating new WEB applications.</i></li> <li>- <i>Support and modification of existing WEB applications.</i></li> <li>- <i>Use of modern WEB technology to ensure the workflow of the electronics engineer.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>- <i>Choose the most efficient and rational algorithms for the task.</i></li> <li>- <i>Be able to create sites in different environments and place them on the Internet.</i></li> <li>- <i>Maintain, create new and modify existing WEB sites.</i></li> <li>- <i>Use modern WEB technologies to ensure the workflow of the electronics engineer.</i></li> <li>- <i>Provide "visualization" of experimental data.</i></li> <li>- <i>Create documentation describing the program code.</i></li> <li>- <i>Practically apply the acquired knowledge to solve problems of data conversion and analysis in telecommunications systems and networks, in particular communication systems, radio and television.</i></li> </ul> <p>–</p>
<b>Instructional Materials</b>	<i>syllabus, learning materials -reference book, handbook, video lectures</i>
<b>Mode of delivery</b>	<i>Lectures, workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Test</i>

Acoustic Equipment of Studios and Rooms	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Acoustic and Multimedia Electronic Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i> <i>- Theoretical foundations of acoustics</i> <i>- Applied acoustics</i> <i>- Electroacoustic equipment</i> <i>- Theoretical foundations of electronics</i> <i>- Probability theory and data processing</i>
<b>Scope of the course</b>	<i>What will be studied: Basics of operation of devices for modification, routing and processing of acoustic signals</i>
<b>Rationale</b>	<i>Music and speech signals are perceived comfortably by a person under many conditions, including: signal level, its transparency, clarity and others. Technically, to provide a comfortable acoustic signal is the task of sound operators, which they solve with the help of special equipment.</i>
<b>Learning outcomes</b>	<i>The purpose of the discipline is the formation of students' competencies:</i> <i>GC8. Principles of construction of modern electronic systems, microprocessor control and management systems, perspective directions of development of their element base; methods and technologies of analysis, synthesis, modeling, calculation and optimization of electronic systems;</i> <i>GC10. Standards for design, technological training and production of electronic devices and systems; norms and rules of preparation and maintenance of technical documentation</i>
<b>Competencies and skills</b>	<i>Program learning outcomes provided in the educational program of the specialty 171 Electronics:</i> <i>SC3. Ability to system thinking, solving problems of development, optimization and updating of structural units of electronic power and information systems.</i> <i>SC7. Ability to demonstrate and use fundamental knowledge of the principles of construction of modern electronic systems, control and management systems, systems for conversion and storage of electricity, promising areas of development of their element base.</i> <i>SC18. Ability to assess problem situations and shortcomings in the development, design, commissioning, operation and operation of electronic systems, to formulate proposals for solving problems and eliminating shortcomings.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (presentation)</i>
<b>Mode of delivery</b>	<i>Lectures, practices</i>
<b>End-of-semester control</b>	<i>Exam</i>

Hardware for Wireless Security Systems	
<b>Restrictions (specialty for which the course is offered)</b>	171 "Electronics"
<b>Educational level</b>	Second level / Master's degree
<b>Year of study</b>	3
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Department of Acoustic and Multimedia Electronic Systems
<b>Assumed knowledge and prerequisites</b>	English B2 (Completion of educational component " ")
<b>Scope of the course</b>	<i>The scope of the course includes design of devices on 8 and 32-bit microcontrollers, which have a wireless channel of data reception and transmission and the ability to connect various sensors.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in the most popular protocols for exchanging information between digital devices and a microcontroller. Study of digital sensors of physical quantities - temperature, humidity, light, gases, current, PIR-sensors, accelerometers, etc.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li>– <i>the ability to design microcontroller systems is one of the necessary skills of a modern electronics engineer.</i></li> <li>– <i>an opportunity to learn how to create devices for security systems, information collection systems and the Internet of Things</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>– <i>design of microcontrollers systems, knowledge of the most popular protocols for exchanging information between digital devices and a microcontroller;</i></li> <li>– <i>knowledge the design principles of modern microcontrollers systems for the Internet of Things.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops)</i>
<b>End-of-semester control</b>	<i>Exam</i>

## TECHNOLOGIES FOR CREATING EDUCATIONAL COMPUTER GAMES AND AUGMENTED REALITY DESIGN

<b>Restrictions (specialty for which the course is offered)</b>	171 Electronics
<b>Educational level</b>	<i>Second level / Master's degree</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4.5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Acoustic and Multimedia Electronic Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English</i>
<b>Scope of the course</b>	<i>The scope of the course includes 135 hours</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in in the field of applications' development with Extended Reality content - an environment that allows a person to perceive himself as included and interacting with some artificially created reality or its individual parts</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>–study of theoretical aspects of computer game technologies and virtual and augmented reality;</i></li> <li><i>- study the functionality of frameworks for creating VR (Virtual Reality), MR (Mixed Reality), AR (Augmented Reality) applications;</i></li> <li><i>- the formation of skills and abilities to design hardware and software components for the formation of XR-content with varying degrees of immersion in cyberspace</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- design games and applications for virtual and augmented reality;</i></li> <li><i>- develop and debug effective algorithms for developing games and applications of virtual and augmented reality;</i></li> <li><i>- choose tools for developing and creating games and applications for virtual and augmented reality;</i></li> <li><i>- use different software development kits (SDK) for the implementation of information systems with immersive content, depending on the designated for future virtual and augmented reality functional applications;</i></li> <li><i>- be able to design and create user interfaces for visualization and management of virtual objects in immersive environments;</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials -reference book, handbook, video lectures</i>
<b>Mode of delivery</b>	<i>Lectures, workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Test</i>



Software for Wireless Security Systems	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 "Electronics"</i>
<b>Educational level</b>	<i>Second level / Master's degree</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of Acoustic and Multimedia Electronic Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2 (Completion of educational component " ")</i>
<b>Scope of the course</b>	<i>The scope of the course includes Study of professional tools for programming 8-bit and 32-bit microcontrollers. Programming of microcontrollers with built-in transceiver. Creating programs to work with various sensors and peripherals.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in learning how to create software for wireless security systems as well as for the Internet of Things.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: learning programming environments, libraries in the C language of STM32, CC1310 microcontrollers for embedded systems with low power consumption</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li><i>– design of microcontrollers systems based on STM32, CC1310 microcontrollers;</i></li> <li><i>– demonstrate deep knowledge of professional tools for programming 8-bit and 32-bit microcontrollers.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops)</i>
<b>End-of-semester control</b>	<i>Test</i>

Mathematical Modeling of Systems and Processes	
<b>Restrictions (specialty for which the course is offered)</b>	<i>171 Electronics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Acoustic and Multimedia Electronic Systems</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<i>The purpose of the discipline is to study the basic concepts of building mathematical models. Improving the skills of using software environments for computer and imitation research.</i>
<b>Rationale</b>	<i>Modern scientific and technical problems require quite complex numerical research. The design of modern devices requires preliminary multi-level research using complex numerical research.</i>
<b>Learning outcomes</b>	<p><i>The purpose of the discipline is the formation of students' competencies:</i></p> <p><i>GC1. Ability to abstract thinking, analysis and synthesis;</i></p> <p><i>GC5. Ability to search, process and analyze information from various sources;</i></p> <p><i>GC6. Ability to generate new ideas (creativity);</i></p> <p><i>SC3. Ability to systematically solve problems of development, analysis, calculation, modeling of electronic devices, components, devices and systems for various purposes;</i></p> <p><i>SC4. Ability to use information, computer and multimedia technologies, methods of modeling, intellectualization, artificial intelligence, experimental methods for research and analysis of processes in electronic devices, components, devices and systems;</i></p> <p><i>SC11. Ability to plan and conduct research using modern experimental methods and tools and methods of computer modeling, analyze research results, substantiate conclusions and recommendations.</i></p>
<b>Competencies and skills</b>	<p><i>Program learning outcomes provided in the educational program of the specialty 171 Electronics:</i></p> <p><i>R2. Model and experimentally study phenomena and processes in electronic devices, devices and systems, in technologies of the electronic industry.</i></p> <p><i>R3. Collaborate with the customer during the formulation of the terms of reference and discussion of technical solutions and results of projects, to lead a reasoned professional and scientific discussion.</i></p> <p><i>R7. Carry out information and scientific research using scientific, technical and reference literature, databases and knowledge, other sources of information, critically interpret and interpret existing knowledge and data, form areas of research and development based on domestic and foreign experience.</i></p> <p><i>R14. Investigate processes in electronic components, devices and systems using modern experimental methods and equipment, computer modeling methods, perform statistical processing and analysis of experimental results and calculations.</i></p>
<b>Instructional Materials</b>	<i>syllabus, learning materials (presentation)</i>
<b>Mode of delivery</b>	<i>Lectures, practices</i>
<b>End-of-semester control</b>	<i>Exam</i>

## 172 Telecommunications and Radio Engineering

Informatics - 2	
<b>Restrictions (specialty for which the course is offered)</b>	<i>172 Telecommunications and Radiotechnics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>7</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Design of Electronic Digital Equipment</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B1</i>
<b>Scope of the course</b>	<i>The scope of the course includes algorithms fundamentals, basics of C and C++ programming language</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in programming</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li><i>– implement search and sorting algorithms</i></li> <li><i>– build and traverse graphs and trees</i></li> <li><i>– write and debug code using C/C++ programming languages</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li><i>– implement and analyze fundamental algorithms</i></li> <li><i>– implement simple applications using C/C++ programming languages</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials: video lectures</i>
<b>Mode of delivery</b>	<i>lectures, workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>

Functional and Logical Design	
<b>Restrictions (specialty for which the course is offered)</b>	<i>172 Telecommunications and Radiotechnics</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Design of Electronic Digital Equipment</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B1, completion of educational component "Informatics - 1"</i>
<b>Scope of the course</b>	<i>The scope of the course includes number systems and binary arithmetic, Boolean algebra, methods for definition and optimizing of binary functions, methods of finite state automata synthesis. Examples of design of basic digital devices using the acquired knowledge</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in digital devices design</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>– <i>Do synthesis of basic combinational logic devices (de- coders, multiplexers, adders, multipliers, dividers, shifters etc)</i></li> <li>– <i>Do synthesis of basic sequential logic devices (flip-flops, registers, counters etc)</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>– <i>define and minimize Boolean functions</i></li> <li>– <i>design basic digital devices</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, video lectures</i>
<b>Mode of delivery</b>	<i>lectures, workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>

Informatics - 1	
<b>Restrictions (specialty for which the course is offered)</b>	<i>172 Telecommunications and Radiotechnics</i>
<b>Educational level</b>	<i>first (Bachelor)</i>
<b>Year of study</b>	<i>1</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Design of Electronic Digital Equipment (DEDEC)</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B1</i>
<b>Scope of the course</b>	<i>The subject of the discipline is the basics of programming in C, algorithmization.</i>
<b>Rationale</b>	<i>Knowledge in the field of programming is extremely relevant today and in the near future in the labor market. Even if you are not going to become a programmer, according to employers, programming skills are required, as business processes require digital approaches.</i>
<b>Learning outcomes</b>	<i>Create program applications of varying complexity using C language.</i>
<b>Competencies and skills</b>	<ul style="list-style-type: none"> <li>- be able to use all constructions of the C language, regardless of syntactic and semantic complexity;</li> <li>- master the skills of software product optimization;</li> <li>- use Arduino IDE for programming and testing;</li> <li>- master the skills of creating documentation for a software product;</li> </ul>
<b>Instructional Materials</b>	<i>Presentations, laboratory works, video lectures</i>
<b>Mode of delivery</b>	<i>lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Environmental Safety of Engineering Activity	
<b>Restrictions (specialty for which the course is offered)</b>	<i>172 Telecommunications and Radiotechnics</i>
<b>Educational level</b>	<i>first (Bachelor)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Design of Electronic Digital Equipment (DEDEC)</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B1</i>
<b>Scope of the course</b>	<i>Principles of business processes creating different products at the International standard ISO 14001 (environmental management system)</i>
<b>Rationale</b>	<i>Knowledge in the field of international standardization is extremely relevant today, as companies are actively trying to enter world markets and to implement environmental management systems.</i>
<b>Learning outcomes</b>	<i>As a result of studying the discipline the student must know:</i> <ul style="list-style-type: none"> <li><i>- basics of product certification and standardization;</i></li> <li><i>- regulatory framework for product quality management and certification;</i></li> <li><i>- procedure for implementing standards;</i></li> <li><i>- the procedure for developing methods and standards of the enterprise;</i></li> <li><i>- International standards of ISO 9000, ISO 14000.</i></li> </ul>
<b>Competencies and skills</b>	<i>Students will be able to prepare various types of production for international certification, identify the processes necessary for the environmental management system, evaluate their effectiveness, control processes and products, and keep records.</i>
<b>Instructional Materials</b>	<i>Access to lectures and presentations on the discipline.</i>
<b>Mode of delivery</b>	<i>lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Fundamentals of Circuits Theory	
<b>Restrictions (specialty for which the course is offered)</b>	<i>172 Telecommunications and Radiotechnics</i>
<b>Educational level</b>	<i>first (Bachelor)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>8</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Design of Electronic Digital Equipment (DEDEC)</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B1</i>
<b>Scope of the course</b>	<i>The scope of the course includes basic methods of circuit analysis and design</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in methods of circuit analysis as a basis of modern systems of automated circuit design of radio electronic devices</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include: application of basic methods for calculating the characteristics of radio electronic circuits in main modes of operation</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to: apply the acquired knowledge and skills to bring circuit design solutions in correspondence with the requirements of the terms of reference for the creation of radio electronic devices</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials: video lectures</i>
<b>Mode of delivery</b>	<i>lectures, seminars, workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>



## 141 Electric Power Engineering, Electrotechnics and Electromechanics

MATHEMATICAL METHODS OF OPTIMIZATION IN POWER ENGINEERING	
<b>Restrictions (specialty for which the course is offered)</b>	<i>141 Electrical energetics, electrical engineering and electromechanics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Power Supply Department</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Completion of educational components "Mathematical Modeling and Decision Making in Power Supply Systems", "Relay Protection and Automation for Power Supply Control in Electric Power Distribution Systems"</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes the following chapters:</i></p> <ol style="list-style-type: none"> <li><i>1. Introduction to optimization;</i></li> <li><i>2. Classical optimization techniques;</i></li> <li><i>3. Selected methods of linear programming;</i></li> <li><i>4. Selected methods of nonlinear programming;</i></li> <li><i>5. Dynamic programming.</i></li> </ol>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in mathematical methods that are used to solve optimization problems in the field of electrical power systems.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– knowledge about theories of large systems, system analysis and mathematical methods that are used to solve optimization problems in the field of electrical power systems;</i></li> <li><i>– knowledge about approaches to optimal planning and conducting experiments, methods of processing and evaluation of experimental research results using modern information technologies, current norms and requirements for the execution of reports;</i></li> <li><i>– acquire a skill to apply methods of optimization of modes of operation and to use computer technology for their implementation in managing the electrical distribution systems.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to develop general competencies: ability to abstract thinking, analysis and synthesis (1); ability to make informed decisions (2); and to achieve professional competencies: ability to demonstrate knowledge and understanding of mathematical principles and methods necessary for use in electrical energetics, electrical engineering and electromechanics (1); ability to investigate and define the problem and identify constraints, including those related to environmental protection, sustainable development, health and safety, and risk assessments in electrical energetics, electrical engineering and electromechanics (2); ability to make decisions on the optimal distribution of electrical energy to consumers at all levels of the electric power sector, taking into account energy efficiency and environmental factors, minimizing the level of electrical energy losses, ensuring the reliability and quality of electric power supply (3).</i></p>
<b>Instructional Materials</b>	<i>Syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>

MATHEMATICAL MODELING OF PROCESSES AND SYSTEMS IN POWER ENGINEERING	
<b>Restrictions (specialty for which the course is offered)</b>	<i>141 Electrical energetics, electrical engineering and electromechanics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Power Supply Department</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Completion of educational components "Mathematical Modeling and Decision Making in Power Supply Systems", "Relay Protection and Automation for Power Supply Control in Electric Power Distribution Systems"</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes the following chapters:</i></p> <ol style="list-style-type: none"> <li><i>1. Introduction to mathematical modelling of processes and systems in power engineering;</i></li> <li><i>2. Mathematical optimisation methods;</i></li> <li><i>3. CAD systems for mathematical modelling;.</i></li> <li><i>4. Energy models of buildings;</i></li> <li><i>5. Dynamic models.</i></li> </ol>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in mathematical methods of modelling of processes and systems in power engineering.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– knowledge about modern methods of system analysis, algorithms for calculating the parameters of elements and design of modern electric power distribution systems for using individual software products and CAD systems;</i></li> <li><i>– knowledge about fundamentals of design and operation of power electrical equipment of different classes of nominal voltages, rules of technical operation of electrical power facilities, standards of design activities in the field of electrical networks and electric power distribution systems;</i></li> <li><i>– knowledge about analytical methods for determining and numerical methods for calculating processes parameters in electrical power, electrotechnical and electromechanical equipment, its complexes and systems.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to develop general competencies: ability to abstract thinking, analysis and synthesis (1); ability to learn and to acquire modern knowledge (2); and to achieve professional competencies: ability to demonstrate knowledge and understanding of mathematical principles and methods necessary for use in electrical energetics, electrical engineering and electromechanics (1); ability to plan, organize and carry out scientific research in the field of Electric Power Engineering, Electrical Engineering and Electromechanics (2); ability to use software for computer modeling, automated design, automated production and automated manufacturing of elements of electrical power, electrical and electromechanical systems (3).</i></p>
<b>Instructional Materials</b>	<i>Syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>

THEORY OF NONLINEAR ELECTRIC AND MAGNETIC CIRCUITS	
<b>Restrictions (specialty for which the course is offered)</b>	<i>141 Electrical energetics, electrical engineering and electromechanics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Power Supply Department</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Completion of educational components "Mathematical Modeling and Decision Making in Power Supply Systems", "Theoretical Fundamentals of Electrical Engineering", "Mathematical Tasks of Power Engineering", "Mathematical Methods of Optimization in Power Engineering"</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes the following chapters:</i></p> <ul style="list-style-type: none"> <li><i>– the main features nonlinear electric and magnetic circuits;</i></li> <li><i>– harmonics in power systems;</i></li> <li><i>– nonsinusoidal circuits, Fourier series;</i></li> <li><i>– circuit response to a nonsinusoidal input;</i></li> <li><i>– graphical analysis nonlinear electric circuits;</i></li> <li><i>– power factor in electrical power systems with non-linear loads;</i></li> <li><i>– power quality analysis &amp; monitoring;</i></li> <li><i>– electromagnetism, inductances &amp; transformers;</i></li> <li><i>– analysis magnetic circuits;</i></li> <li><i>– magnetic circuits transformers.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional knowledge of methods of analysis and modelling of nonlinear and magnetic circuits.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- knowledge of the theory of analysis of quality parameters of electricity parameters, in particular, the presence and influence of higher harmonics in power systems, the use of signal decomposition in the Fourier series, analysis and monitoring of electricity quality, the analysis of magnetic circuits.</i></li> <li><i>- knowledge of the features of nonlinear electric and magnetic circuits, modern methods of analysis of electromagnetic processes in processes in nonlinear and magnetic circuits;</i></li> <li><i>- knowledge of analytical methods of determination and numerical methods of calculation of process parameters in nonlinear and magnetic circuits, which are elements of equivalent schemes of replacement of power supply and distribution systems.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>– apply the obtained theoretical knowledge, scientific and technical methods for solving scientific and technical problems and problems of Electric Power Engineering, Electrical Engineering and Electromechanics;</i></li> <li><i>– analyze technical and economic indicators and to carry out examination of design solutions in the field of Electric Power Engineering, Electrical Engineering and Electromechanics;</i></li> <li><i>– demonstrate knowledge and understanding of mathematical principles and methods necessary for use in Electric Power Engineering, Electrical Engineering and Electromechanics;</i></li> <li><i>– use software for computer modelling, automated design, automated production and automated manufacturing of elements of electrical power, electrical and electromechanical systems.</i></li> </ul>
<b>Instructional Materials</b>	<i>Syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>

HIGHER SCHOOL PEDAGOGY	
<b>Restrictions (specialty for which the course is offered)</b>	<i>141 Electrical energetics, electrical engineering and electromechanics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Psychology and Pedagogic Department</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<i>The scope of the course includes the following topics: Introduction to Higher School Pedagogy; Principles and Methods of Teaching; Organizational Forms of Training in High School; Psychological and Didactic Foundations of the Learning Process; Methodical Support of the Educational Process; The Main Characteristics of the Training Quality Control System; The Pedagogical Activity of a Teacher in High School; New Pedagogical Technologies.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in the development, and implementation of all types of classes and control measures in higher education institutions, analysis, and selection of effective didactic teaching methods, critical evaluation of classes. An integral competence of studying this discipline is the ability to perform the duties of a teacher of a higher education institution.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <i>– Skills to organize and manage the cognitive activity of students, to form in students critical thinking and the ability to carry out educational activities with all its components;</i> <i>– Ability to implement educational programs and curricula in accordance with state standards of higher education, as well as to develop and conduct all types of classes and tests in a higher educational institution.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course, students are expected to be able to: – organize and analyze their pedagogical activities; – determine appropriate methods and means of training and control; – organize and manage the cognitive activity of students; – analyze educational and educational-methodical literature and to use it in pedagogical practice; – monitor and evaluate learning outcomes.</i>
<b>Instructional Materials</b>	<i>Syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>Lectures, seminars (workshops)</i>
<b>End-of-semester control</b>	<i>Final test</i>

INTEGRATED RESOURCE PLANNING IN POWER ENGINEERING	
<b>Restrictions (specialty for which the course is offered)</b>	<i>141 Electrical energetics, electrical engineering and electromechanics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Power Supply Department</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Completion of educational components "Mathematical Modelling and Decision Making in Power Supply Systems"</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes the following chapters:</i></p> <ol style="list-style-type: none"> <li><i>1. Introduction to integrated resource planning in power engineering;</i></li> <li><i>2. Electricity charging in the context of Integrated Resource Planning;</i></li> <li><i>3. Tariffs in power supply contracts;</i></li> <li><i>4. System differentiation of electricity tariffs;</i></li> <li><i>5. Dynamic pricing.</i></li> </ol>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in mathematical methods of modelling of processes and systems in power engineering.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– knowledge about the main clauses of normative and legislative documents that regulate innovation activity in Ukraine;</i></li> <li><i>– knowledge about current standards, regulatory acts and regulations, according to which activities in the field of Electrical Power Engineering, Electrical Engineering and Electromechanics are carried out in Ukraine;</i></li> <li><i>– knowledge about approaches to optimal planning and conducting experiments, methods of processing and evaluation of experimental research results using modern information technologies, current norms and requirements for the execution of reports of researches.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to develop general competencies: ability to abstract thinking, analysis and synthesis (1); ability to learn and to acquire modern knowledge (2); and to achieve professional competencies: ability to demonstrate knowledge and understanding of mathematical principles and methods necessary for use in electrical energetics, electrical engineering and electromechanics (1); ability to demonstrate awareness and ability to use regulatory acts, norms, rules and standards in Electric Power Engineering, Electrical Engineering and Electromechanics (2); ability to manage projects and evaluate their results (3).</i></p>
<b>Instructional Materials</b>	<i>Syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Final test</i>

INTELLIGENT TECHNOLOGIES FOR ELECTRICITY DISTRIBUTION	
<b>Restrictions (specialty for which the course is offered)</b>	141 Electrical energetics, electrical engineering and electromechanics
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	2
<b>Number of ECTS credits</b>	4
<b>Language of study</b>	English
<b>Department</b>	Power Supply Department
<b>Assumed knowledge and prerequisites</b>	English B2. Completion of educational components "Mathematical Modelling and Decision Making in Power Supply Systems", "Electric Systems and Electrical Networks", "Relay Protection and Power System Automation", "Information Systems and Technologies in Electric Power Industry", "Alternative Energy Sources in Power Supply Systems"
<b>Scope of the course</b>	<p>The scope of the course includes the following sections and topics:</p> <p>Section 1. Intellectualization and optimization of functioning of power systems, electric networks, power supply systems; research methods of intelligent energy systems and complexes.</p> <p>Topic 1. Tasks of intellectualization and optimization of modes of operation of power systems, electric networks, power supply systems according to the modern concept of Smart Grid.</p> <p>Topic 2. Modern research methods of intelligent energy systems and complexes, regulatory and legal support.</p> <p>Section 2. Effective functioning of intelligent energy systems and complexes; technological basis and control methods according to the Smart Grid concept.</p> <p>Topic 3. Methods of formation and ensuring the effective functioning of intelligent energy systems and complexes; elements of the technological basis for the implementation of the Smart Grid concept.</p> <p>Topic 4. Modern methodology for managing intelligent energy systems and complexes according to the requirements of the Smart Grid concept.</p>
<b>Rationale</b>	The subject of the discipline is to: acquire skills of independent research and technical tasks for building intelligent power supply systems through the use of modern equipment for flexible control of electricity transmission technologies, implementation of the concept of distributed generation, the concept of autonomous power supply systems (Microgrid) renewable energy sources.
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>- scientific bases of the modern concept of modernization of power supply systems according to the Smart Grid concept, creation of innovative equipment for flexible control of modes and increase of throughput of electric power systems and networks;</li> <li>- principles of operation, devices and main characteristics of innovative equipment for construction and flexible control of modes and increase of capacity of electric power systems and networks (formation of modern technological base according to the Smart Grid concept);</li> <li>- information and communication technologies for implementing the provisions of the Smart Grid concept;</li> <li>- hierarchy and content of tasks to improve the efficiency of power systems and power supply systems;</li> <li>- mathematical description of the main elements of innovative power systems and power supply systems, focused on solving problems of energy efficiency.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>– perform original research, achieve scientific results that create new knowledge in electrical engineering and related interdisciplinary areas and can be published in leading scientific journals in electrical engineering and related fields;</li> <li>– present and discuss orally and in writing the results of scientific research and / or innovative developments in Ukrainian and English, deep understanding of English scientific texts in the field of research;</li> <li>– use modern information technologies, databases and other electronic resources, specialized software in scientific and educational activities;</li> <li>– identify, pose and solve research problems in the field of electrical engineering, evaluate and ensure the quality of research.</li> </ul> <p><u>Knowledge:</u> advanced conceptual and methodological knowledge in electrical engineering and at the frontiers of subject areas, as well as research skills, sufficient for conducting scientific and applied research at the level of the latest world achievements in the relevant field, gaining new knowledge and / or implementing innovations.</p> <p><u>Skills:</u> (1) plan and perform experimental and / or theoretical research in electrical engineering and related interdisciplinary areas using modern tools, critically analyze the results of their own research and the results of other researchers in the context of the whole set of modern knowledge on the research problem; (2) to deeply understand the general principles and methods of technical sciences, as well as the methodology of scientific research, to apply them in their own research in the field of electrical engineering and in teaching practice.</p>
<b>Instructional Materials</b>	Syllabus, learning materials
<b>Mode of delivery</b>	Lectures, workshops
<b>End-of-semester control</b>	Final test



INNOVATIONS IN ENERGY SECTOR	
<b>Restrictions (specialty for which the course is offered)</b>	<i>141 Electrical energetics, electrical engineering and electromechanics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>2</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Power Supply Department</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2.</i>
<b>Scope of the course</b>	<i>The scope of the course includes the following topics: Introduction to energy innovations; technological innovations and their impact on energy demand, determinants of demand for primary energy resources, as well as the distribution of demand around the world, energy supply and market distribution. key technological and commercial attractiveness factors of fossil fuels innovations, key technological and commercial attractiveness factors of renewable energy sources, stakeholders and strategies in energy business innovations</i>
<b>Rationale</b>	<i>The educational component contributes to formation of understanding and ability to analyze impact factors that drive innovations in energy sector, the importance of local innovation clusters, local resources and practices of energy leaders in development of innovative energy infrastructure..</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li><i>– ability to access incremental and disruptive innovation potential</i></li> <li><i>– monitoring of energy startups and r'n'd</i></li> <li><i>– understand needs of local and global energy sector</i></li> <li><i>– impact of energy relative innovations on sustainable development goals</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course, students are expected to be able to: – organize and analyze innovation trends – apply methods and approaches for analysis based on the evaluation of available information – access microgrid and local grid energy project</i>
<b>Instructional Materials</b>	<i>Syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>Lecture, seminars (workshops)</i>
<b>End-of-semester control</b>	<i>Final test</i>



PRACTICAL COURSE OF FOREIGN LANGUAGE FOR SCIENTIFIC COMMUNICATION	
<b>Restrictions (specialty for which the course is offered)</b>	<i>141 Electrical energetics, electrical engineering and electromechanics</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>2</i>
<b>Number of ECTS credits</b>	<i>1.5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Department of English for Engineering No. 1</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2+/C1</i>
<b>Scope of the course</b>	<i>The scope of the course includes further scientific work of the graduate of master's degree and, accordingly, provides mastering of language knowledge and speech skills at the level necessary for effective communication in a foreign language academic environment. The syllabus of the discipline is built following the national doctrine of educational development in Ukraine, taking into account new advanced methods and technologies of teaching and integrating all stages of the educational process.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in foreign language speech competencies for general academic purposes in listening, speaking, reading, writing and translation at an advanced level (B2 + / C1), improving knowledge of scientific terminology and skills to work with different genres of scientific literature, as well as acquiring linguistic and sociocultural -strategic and pragmatic competencies necessary for the successful implementation of communicative intentions during academic and scientific communication.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include the ability to acquire knowledge, develop and improve communication skills and abilities in various academic environment, to effectively process the authentic scientific sources, develop and improve skills and abilities required for other academic and professionally-oriented communication.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li><i>- understand the main ideas and recognize relevant information during discussions, debates, reports, conversations, lectures;</i></li> <li><i>- make individual presentations on a wide range of academic and professional topics; understand authentic texts from scientific-academic, popular science, specialized journals and Internet sources;</i></li> <li><i>- determine the content and relevance of new sources, articles and reports and analyze information on a wide range of educational and professional topics for further use; write essays based on the authentic scientific literature on the speciality, reports on professional topics, articles, abstracts, abstracts, academic essays; prepare and produce academic and professional correspondence (letters, e-mails, reports, technical documentation, etc.).</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, reference book, video lectures, podcasts)</i>
<b>Mode of delivery</b>	<i>seminars/workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

## 184 Mining

Intellectual Property and Patenting	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (1 semester)</i>
<b>Number of ECTS credits</b>	<i>2 (60 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	
<b>Assumed knowledge and prerequisites</b>	<i>English B2.</i>
<b>Scope of the course</b>	<i>The scope of the course includes lectures and control tasks</i>
<b>Rationale</b>	<i>Formation of students of heretical specialties professional knowledge of the general provisions of the law intellectual property, its institutions, concepts and types, objects and subjects, grounds for occurrence, conditions and procedure of the use of its results, order and methods of protection violated rights</i>
<b>Learning outcomes</b>	<i>Manage processes and project environments during organization of innovation activities, decision-making and organization of actions on the process of assessment, acquisition of rights and introduction of intellectual property in economic circulation</i>
<b>Competencies and skills</b>	<i>Application of management technologies during creation, protection, use and protection of objects intellectual property. Control progress planned deadlines and compliance with the established rules and requirements of regulatory documents in the field of intellectual property.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (reference book, regulatory documents etc)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops)</i>
<b>End-of-semester control</b>	<i>Test</i>

Practical course of Foreign Language on Business Communication	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>3 (90 hours)</i>
<b>Language of study</b>	<i>English, Ukraine</i>
<b>Department</b>	
<b>Assumed knowledge and prerequisites</b>	<i>English B2.</i>
<b>Scope of the course</b>	<i>The scope of the course includes lectures and control tasks</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in branch of reconstruction of underground construction</i>
<b>Learning outcomes</b>	<i>After the course, you will write articles on a narrow specialty</i>
<b>Competencies and skills</b>	<i>Ability to communicate fluently on special topics</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (reference book, regulatory documents etc)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops)</i>
<b>End-of-semester control</b>	<i>Test</i>

Management of startup projects	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>3 (90 hours)</i>
<b>Language of study</b>	<i>English, Ukraine</i>
<b>Department</b>	
<b>Assumed knowledge and prerequisites</b>	<i>English B2.</i>
<b>Scope of the course</b>	<i>The scope of the course includes lectures and control tasks the the formation of a system of theoretical knowledge and applied skills and abilities to create and manage startup projects.</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in branch of reconstruction of underground construction</i>
<b>Learning outcomes</b>	<i>Ability to implement ideas</i>
<b>Competencies and skills</b>	<i>The ability to find ideas that can come from anywhere - from the work you do, from your reading, your knowledge area or experience in attracting</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (reference book, regulatory documents etc)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops)</i>
<b>End-of-semester control</b>	<i>Test</i>

Geotechnical Structures Construction	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (1 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Knowledge of the basics of construction, building materials and structures, underground and aboveground structures.</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes:</i></p> <ul style="list-style-type: none"> <li>- <i>Types and classifications of buildings and structures of mining enterprises;</i></li> <li>- <i>spatial planning solutions of the mine surface;</i></li> <li>- <i>principles of construction of the general plan of a surface of the mining enterprises;</i></li> <li>- <i>technological complexes and constructive decisions of the main and auxiliary trunks;</i></li> <li>- <i>constructive decisions of dill;</i></li> <li>- <i>complexes of concentrators;</i></li> <li>- <i>construction of energy facilities;</i></li> <li>- <i>construction of transport facilities;</i></li> <li>- <i>construction and operation of bunkers and silos;</i></li> <li>- <i>design and construction of the surface complex of subways.</i></li> </ul>
<b>Rationale</b>	<p><i>Mining companies have a complex complex of surface buildings and structures, which in some cases reaches up to 40% of the total cost of the enterprise. A significant part of production processes is provided by buildings and structures of the surface complex. Reducing the cost of construction of surface complex depends on the use of modern methods of design and construction of mining facilities, which is the subject of the discipline.</i></p>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li>- <i>plan the development of the surface complex of mining and underground transport enterprises;</i></li> <li>- <i>design the parameters of the general plan of the surface;</i></li> <li>- <i>to carry out generalization and analysis of volume-planning decisions of surface constructions of the underground;</i></li> <li>- <i>to make a comparative assessment of construction technologies and technical and economic indicators of construction;</i></li> <li>- <i>to manage the construction of mining facilities.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>- <i>assess the technological and transport basis of the master plan of the surface of mining enterprises;</i></li> <li>- <i>to characterize constructive types and functions of technological complexes of the main and auxiliary trunks;</i></li> <li>- <i>to substantiate effective constructive decisions and technologies of installation of buildings and constructions of a surface complex;</i></li> <li>- <i>substantiate the methods of construction and operation of energy and transport facilities;</i></li> <li>- <i>substantiate the effective design parameters of the surface complex of subways;</i></li> <li>- <i>choose material and energy-saving construction technologies;</i></li> <li>- <i>assess the economic parameters of the construction of surface facilities of mining enterprises.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (reference book, regulatory documents etc)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops)</i>
<b>End-of-semester control</b>	<i>Exam</i>

Underground Enterprises Reconstruction	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (1 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Before studying the discipline the student must be acquainted with the underground construction, technology of the build.</i>
<b>Scope of the course</b>	<i>The scope of the course includes lections and control tasks</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in branch of reconstruction of underground construction</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li><i>– Causes and consequences of emergency construction</i></li> <li><i>– Methods and means of accident elimination</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li><i>– Regulatory requirements for the operation of buildings</i></li> <li><i>– to develop a reconstruction project</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (reference book, regulatory documents etc)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops)</i>
<b>End-of-semester control</b>	<i>Exam</i>

Specialized Course On Underground Construction	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Before studying the discipline the student must be acquainted with the special technology of the build, underground construction.</i>
<b>Scope of the course</b>	<i>The scope of the course includes lections and control tasks</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in branch of special methods of underground construction</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li><i>– scope of the special methods of construction</i></li> <li><i>– technology of works for Special methods of construction</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li><i>– Regulatory requirements for the special methods of construction</i></li> <li><i>– to develop a projecting for the special methods of construction</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (reference book, regulatory documents etc)</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Exam</i>



Computer-Aided Design System	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (1 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Completion of educational component: Geomechanical processes in rock massifs, Mathematical modeling of geomechanical processes</i>
<b>Scope of the course</b>	<i>In accordance with the purpose of training masters requires the formation of the following abilities:</i> <ul style="list-style-type: none"> <li><i>- The use of Ansys Fluent shows its suitability for modeling combustion and gasification of coal fuel in unconventional coal processing methods.</i></li> <li><i>- Prerequisites and postrequisites of the discipline (place in the structural and logical scheme of education according to the relevant educational program)</i></li> </ul>
<b>Rationale</b>	<i>The subject study of the discipline are methods of predicting the behavior of soils in the construction of geotechnical objects in these soils.</i>
<b>Learning outcomes</b>	<i>The use Ansys Fluent for predicting and designing dynamic problems</i>
<b>Competencies and skills</b>	<i>Program competencies: ability to identify, pose and solve research problems in the field of mining, evaluate and ensure the quality of research, formation of additional competencies about modern tools and technologies of search, processing and analysis of information, information systems of geomonitoring.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Test</i>

Special Methods of Building	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. It is based on the study of disciplines "Materials science and basics of construction", "Materials and constructions of mine structures", "Technology of construction of mine workings", "Construction of urban underground structures" and "Technology, mechanization and organization of underground construction".</i>
<b>Scope of the course</b>	<i>The scope of the course includes is the formation of students ability to professionally possess prostheses and practical skills in the construction of underground structures using special methods, to have basic knowledge of fundamental sciences to the extent necessary for the development of general professional disciplines, to choose methods and methods of fixing the soil during the passage of underground excavations.</i>
<b>Rationale</b>	<i>The main purpose of the discipline is to form professional competencies necessary for independent research work, the result of which is the writing and defines of a master's thesis, and research work in the research team</i>
<b>Learning outcomes</b>	<i>Use basic knowledge of fundamental sciences to the extent necessary for the development of general professional disciplines; choose constructive schemes "wall in the soil" depending on the geological conditions and the purpose of the structures; to substantiate special methods of construction in the construction of underground structures; choose the method of fixing the soil array during mining; apply the acquired theoretical knowledge in the substantiation and design of underground structures and objects of special purpose in conditions of dense urban development and in difficult mining and geological conditions.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to the methods of construction of urban underground structures in special ways, which are used in difficult geological conditions, in conditions of dense urban development and in the construction of special purpose objects; skills of a designer engineer in the field of underground construction.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Exam</i>

Municipal Underground Structures Engineering	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (1 semester)</i>
<b>Number of ECTS credits</b>	<i>3.5 (105 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. It is based on the study of disciplines " Applied Mechanics (TMM + Resistance of Materials)", "Materials Science and Fundamentals of Construction", "Foundations and Foundations", "Materials and Structures of Mine Structures". Requires students of basic training in natural and technical sciences of geoengineering disciplines and is the basis for the final cycle of dissertation preparation.</i>
<b>Scope of the course</b>	<i>During the teaching of theoretical material, a research method is used aimed at studying the literature, sources, conducting observations, performing search actions. And also practical classes, consultations, independent preparation in library and on the basis of the Internet - resources, independent individual work are provided.</i>
<b>Rationale</b>	<i>A specialist with modern methods of mathematical modeling of geomechanical processes, able to adequately choose a mathematical model, choose the optimal type of foundation, properly carry out work on its construction, anticipate possible consequences arising from the operation of structures and effectively influence their development.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>- <i>Ability to abstract thinking, analysis, synthesis and evaluation of modern scientific achievements, generating new knowledge in solving research and practical problems;</i></li> <li>- <i>Ability to identify, pose and solve research problems in the field of mining, evaluate and ensure the quality of research.</i></li> <li>- <i>Ability to apply modern information technologies for geomonitoring and research of array properties.</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li>- <i>Plan and perform experimental and / or theoretical research in mining and related interdisciplinary areas using modern tools, critically analyze the results of their own research and the results of other researchers in the context of the whole set of modern knowledge about the research problem.</i></li> <li>- <i>Develop and research conceptual, mathematical and computer models of processes and systems, effectively use them to gain new knowledge and / or create innovative products in geoengineering.</i></li> <li>- <i>Apply modern tools and technologies for searching, processing and analyzing information, information systems for geomonitoring and research of array properties.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Exam</i>

Course project in Municipal Underground Structures Engineering	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (1 semester)</i>
<b>Number of ECTS credits</b>	<i>1.5 (45 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. It is based on the study of disciplines " Municipal Underground Structures Engineering ".</i>
<b>Scope of the course</b>	<p><i>The course project must be prepared for defense within the period set by the teacher. An explanatory note and a drawing are submitted to defend the course project.</i></p> <p><i>The explanatory note includes the following components: title page, assignments for the course project, table of contents, including the names of all sections and paragraphs with page numbers, introduction, which indicates the purpose and objectives of the course project; the theoretical part, which describes the theoretical information on the topic of the project; and drawings to the project. At the end of the explanatory note the conclusion on results of work is presented</i></p>
<b>Rationale</b>	<i>Course design also aims to teach students to quickly and confidently use the relevant reference books, state standards, tables, standard projects and other materials that the specialist uses in his professional activity, to instill in students the skills of calculations, feasibility studies, explanatory notes etc.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Apply the acquired knowledge and skills of calculations of building structures of underground structures, taking into account the load and impacts, purpose and their characteristics</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- use basic knowledge about the purpose and characteristics of underground structures to choose the organization, method and technology of construction of underground structures;</i></li> <li><i>- perform calculations of elements of building structures in accordance with the norms (according to the boundary conditions of the first and second groups);</i></li> <li><i>- use software to display the results of calculations in graphical form.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials</i>
<b>Mode of delivery</b>	<i>lectures (seminars/workshops /tutorials)</i>
<b>End-of-semester control</b>	<i>Test</i>

Scientific Work on the Topic of Master's Thesis	
<b>Restrictions (specialty for which the course is offered)</b>	184 Mining
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	1 (1, 2 semester)
<b>Number of ECTS credits</b>	4 (120 hours)
<b>Language of study</b>	English
<b>Department</b>	Geoengineering
<b>Assumed knowledge and prerequisites</b>	English B2.
<b>Scope of the course</b>	<p>In accordance with the purpose of training masters requires the formation of the following abilities:</p> <ul style="list-style-type: none"> <li>- formation of abilities to create new knowledge, the ratio of this knowledge with existing domestic and foreign research, the use of knowledge in conducting expert work, for the practical use of methods and theories;</li> <li>- formation of abilities of self-improvement, expansion of limits of own scientific and professional knowledge, use of methods and means of knowledge, various forms and methods of training and self-control, new educational technologies, for own intellectual development and increase of cultural level;</li> <li>- development of abilities for cooperation within the framework of interdisciplinary projects, work in related fields.</li> </ul>
<b>Rationale</b>	The main purpose of the discipline is to form professional competencies necessary for independent research work, the result of which is the writing and defense of a master's thesis, and research work in the research team
<b>Learning outcomes</b>	The subject of the discipline - teaching students to work independently with literary sources, with a variety of devices, plan their work, analyze and summarize the results of research and present them in the form of a master's thesis.
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to:</p> <ul style="list-style-type: none"> <li>- Ability to abstract thinking, analysis, synthesis and evaluation of modern scientific achievements, generating new knowledge in solving research and practical problems;</li> <li>- Ability to identify, pose and solve research problems in the field of mining, evaluate and ensure the quality of research.</li> <li>- Ability to apply modern information technologies for geomonitoring and research of array properties.</li> <li>- Plan and perform experimental and / or theoretical research in mining and related interdisciplinary areas using modern tools, critically analyze the results of their own research and the results of other researchers in the context of the whole set of modern knowledge about the research problem.</li> <li>- Develop and research conceptual, mathematical and computer models of processes and systems, effectively use them to gain new knowledge and / or create innovative products in geoengineering.</li> <li>- Apply modern tools and technologies for searching, processing and analyzing information, information systems for geomonitoring and research of array properties.</li> </ul>
<b>Instructional Materials</b>	<p>syllabus, learning materials</p> <p><a href="https://classroom.google.com/c/MjUyNjU2ODI4OTM3?cjc=3tdbc2y">https://classroom.google.com/c/MjUyNjU2ODI4OTM3?cjc=3tdbc2y</a></p>
<b>Mode of delivery</b>	lectures (seminars/workshops /tutorials)
<b>End-of-semester control</b>	Test

Designing of Underground Transport Systems	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Knowledge of tunneling technologies, regulatory requirements for subway structures, geotechnical principles of mountain behavior, geological processes around underground structures.</i>
<b>Scope of the course</b>	<i>Methods for forecasting the development of urban transport flows. Substantiation of options for laying subway lines in urban conditions (radial, radial, ring, etc.). Step-by-step method of designing the launch complex of the subway section. Drawing up a project for the construction of underground structures of the subway: distillery tunnel, shallow station, train depot, ventilation structures, utilities.</i>
<b>Rationale</b>	<i>The modern development of megacities is ensured by the simultaneous construction of underground infrastructure, which should be included in a complex citywide network of utilities. The construction of subways in urban conditions is accompanied by a large-scale impact on surface and underground structures, which requires their renovation for further development, relocation for modernization. The discipline is aimed at solving a set of complex problems of development of urban transport systems related to the underground infrastructure of cities.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>- <i>to make a forecast of the development of transport networks of the metropolis,</i></li> <li>- <i>to determine the possibilities of using underground structures to solve them</i></li> <li>- <i>use a systematic approach to underground infrastructure planning.</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to skills:</i> <ul style="list-style-type: none"> <li>- <i>Plan the development of underground infrastructure of large cities.</i></li> <li>- <i>Design complexes of underground structures of metro networks.</i></li> <li>- <i>Ensure sanitary requirements</i></li> <li>- <i>Use the acquired knowledge and skills (competencies) part of the subway on surface and underground structures.</i></li> </ul>
<b>Instructional Materials</b>	<i>Textbooks, tutorials, Google Classroom courses</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>

Management of Technological Processes of Opencast Mining	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. By the beginning of the study of the discipline "Management of technological processes of opencast mining", the student should be familiar with the basics of mining in the development of deposits in an open way, the conditions of occurrence of minerals, methods of opening and preparing deposits for development, technologies for conducting mine workings, have a general idea of technological processes open pit mining.</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes :</i></p> <ul style="list-style-type: none"> <li><i>- Fundamentals of scientific and technical management of the activities of an enterprise for the extraction of minerals;</i></li> <li><i>- Organization of production during open pit mining;</i></li> <li><i>- Management of individual technological processes for the development of mineral deposits;</i></li> <li><i>- Operational business planning at mining enterprises.</i></li> </ul>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in mastering the optimization methods of management of technological processes in subsoil use in order to achieve the most effective technical and economic indicators of mining.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Organize the activities of mining enterprises and technical management of systems and technologies of open pit mining;</i></li> <li><i>- Control individual technological processes in space and time;</i></li> <li><i>- Develop and implement start-up projects at an open pit mining enterprise;</i></li> <li><i>- Justify the feasibility and efficiency of making engineering decisions in production.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- to use the acquired knowledge for the organization of management of mining production and individual technological processes of open pit mining;</i></li> <li><i>- use modern resource-saving technologies for mining;</i></li> <li><i>- to implement mathematical methods of optimization in the management of technological processes in mining;</i></li> <li><i>- to apply modern information technologies and geoinformation systems for the planning of mining operations.</i></li> </ul>
<b>Instructional Materials</b>	<i>Textbooks, tutorials, video lectures, Moodle courses</i>
<b>Mode of delivery</b>	<i>Lectures, seminars</i>
<b>End-of-semester control</b>	<i>Exam</i>



Environmental Safety of Subsoil Use	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Before studying the discipline the student must be acquainted with the general knowledge in the field of ecology, the basics of mining, basic knowledge of general chemistry.</i>
<b>Scope of the course</b>	<i>Fundamentals of a systematic approach to the issues of ecological safety of subsoil use at all levels and determination of conditions and clarification of regularities of formation of ecological danger in the specified sphere; issues of environmental safety in the implementation of special subsoil use in Ukraine; international experience in the field of ecologically safe subsoil use, eco-technologies in the mining industry; features of practical application of principles of ecological management in subsoil use</i>
<b>Rationale</b>	<i>The study of the discipline will allow students to navigate in modern methods and approaches to environmentally safe subsoil use to make informed and socially responsible decisions in professional activities.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- to determine the main properties of natural and anthropogenically altered ecosystems in terms of the formation of ecological danger;</i></li> <li><i>- to analyze the emergence of environmentally hazardous situations in the field of subsoil use;</i></li> <li><i>- to identify the most typical components of environmental danger for a particular region, to determine its levels;</i></li> <li><i>- to determine the structure and functional tasks of environmental safety management bodies;</i></li> <li><i>- to develop specific measures for environmental safety management in the field of subsoil use;</i></li> <li><i>- apply software products and modern techniques to analyze the state of environmental safety</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to skills:</i></p> <ul style="list-style-type: none"> <li><i>- assess the risks to the environment and human health from activities in the field of subsoil use;</i></li> <li><i>- substantiate management decisions based on the use of the necessary analytical and methodological tools;</i></li> <li><i>- use the acquired knowledge to ensure environmental safety, principles of organization and basic laws of environmental safety management.</i></li> </ul>
<b>Instructional Materials</b>	<i>Textbooks, tutorials, video lectures, Google Classroom courses</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>

Designing of Connection between Ground and Underground Facilities	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Knowledge of the basics of construction and construction of urban underground structures and ground facilities, technology of construction of mine workings, mechanization and organization of underground construction.</i>
<b>Scope of the course</b>	<i>Research of possibilities and directions of use of underground space of megacities in the system of regional development of land relations</i>
<b>Rationale</b>	<p><i>The problem of using the underground space of cities is most relevant in their central, most visited areas, where capital support and historically valuable buildings predominate, as well as in various specialized centers and in public transport complexes. In this case, underground structures can be located almost everywhere, including under buildings, streets and squares, as well as under water.</i></p> <p><i>Many objects of engineering-transport, social and industrial infrastructure are located safely and interconnected underground, integration of underground and above-ground constructions is provided. All this allows to use the territorial resource efficiently, to significantly save the area of scarce urban lands, to promote the protection of especially valuable lands and objects, to reduce gas pollution and noise in the territories.</i></p>
<b>Learning outcomes</b>	<i>Apply the acquired theoretical knowledge during the substantiation and design of underground structures and their connection with the objects of ground infrastructure in the conditions of dense urban development and in difficult mining and geological conditions</i>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to skills:</i></p> <ul style="list-style-type: none"> <li><i>- to choose planning schemes of interconnected objects of engineering-transport social and industrial infrastructure, integration of underground and above-ground constructions;</i></li> <li><i>- to determine the efficiency of the use of underground space;- Develop measures to select the technological parameters of the excavator face and the mode of operation of the excavator</i></li> </ul>
<b>Instructional Materials</b>	<i>Textbooks, tutorials, video lectures, Google Classroom courses</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Exam</i>

Logistics of Mining Transport Systems	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Completion of educational component "Physics", "Geomechanics", "Theoretical Mechanics", "Fundamentals of Mining", "Technological Processes of Mining", "Mechanics of Continuous Media" and others.</i>
<b>Scope of the course</b>	<ul style="list-style-type: none"> <li>- <i>Technological processes for increasing the efficiency of the movement of goods, resource saving and energy saving, logistics of mining and transport systems, the latest highly efficient equipment based on the advanced foreign achievements of the leading mining countries of the world. Prospects and development of the latest industrial transport systems.</i></li> <li>- <i>prevention of the negative impact of mining and transport systems on the environment and human health.</i></li> </ul>
<b>Rationale</b>	<i>Mastering knowledge about modern mountain transport systems, the latest types and vehicles, their efficiency and intensification, taking into account the modern development of the mining industry, which require immediate rational and safe technical, economic and environmental use.</i>
<b>Learning outcomes</b>	<i>On the basis of the knowledge gained during the training, choose reasonable ways and solutions to ensure high efficiency of modern mining and transport systems, taking into account the environmental safety of their impact on the environment.</i>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to skills:</i></p> <ul style="list-style-type: none"> <li>- <i>to analyze the technological process of mining and transport systems, to determine the level of their influence on the main technical, economic and environmental indicators of the enterprise;</i></li> <li>- <i>to determine the main indicators of the transport system, qualitative and quantitative assessments of the impact on the efficiency of the movement of goods;</i></li> <li>- <i>to offer promising methods and solutions for the operation of specific transport systems and vehicles.</i></li> </ul>
<b>Instructional Materials</b>	<i>Textbooks, tutorials, Google Classroom,</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Utilization and Processing of Mining Wastes	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Knowledge of waste management and handling, assessment of their impact on the environment, regulation of anthropogenic load on the environment, modeling and forecasting of the state, continuum mechanics, geomechanics</i>
<b>Scope of the course</b>	<i>To obtain basic knowledge, skills and confidence in solving the urgent problem of our time - the completeness of preservation of the subsoil and the completeness of mining, utilization and handling of waste from the mining industry, calculations of the main parameters of processing and disposal of waste. technologies with the aim of preserving the environment and human health, the use in the future of additional knowledge gained on their main production activities.</i>
<b>Rationale</b>	<i>The purpose of studying the discipline "Utilization and processing of mining waste" is to develop students' engineering knowledge on the introduction of waste-free and low-waste technologies; processing, use and disposal of waste from the mining industry, taking into account responsibility for the condition and protection of the environment.</i>
<b>Learning outcomes</b>	<i>To obtain basic knowledge, skills and confidence in solving the urgent problem of our time - the completeness of preservation of the subsoil and the completeness of mining, utilization and handling of waste from the mining industry, calculations of the main parameters of processing and disposal of waste. technologies with the aim of preserving the environment and human health, the use in the future of additional knowledge gained on their main production activities.</i>
<b>Competencies and skills</b>	<i>The combination and use of knowledge on management and waste management within the framework of their main profession, the development of a new high-quality state of ecological thinking among students, to ensure ecological safety and environmental protection.</i>
<b>Instructional Materials</b>	<i>Textbook: "Solid waste landfills" <a href="http://ela.kpi.ua/handle/123456789/2618">http://ela.kpi.ua/handle/123456789/2618</a>) tutorials, Google Classroom,</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Modernization of Underground Networks	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Knowledge of the basics of underground construction, geological concepts and processes, underground structures.</i>
<b>Scope of the course</b>	<i>Urban underground infrastructure, engineering networks. A systematic approach to planning the development of underground networks. Ways to ensure the stability and reliability of geotechnical structures. Repair and modernization of networks using trenchless technologies. Monitoring the condition of underground engineering structures.</i>
<b>Rationale</b>	<i>Modern cities, especially megacities, have a complex and vulnerable network of underground utilities, which needs further development, renovation and repair. The discipline is aimed at solving complex problems of urban urban development: territorial, transport, water supply, energy, environmental, etc., related to the underground infrastructure of cities.</i>
<b>Learning outcomes</b>	<i>Analyze the problems of the urban environment and the possibility of using underground geotechnical structures to solve them; Assess the development and condition of underground networks; Use a systematic approach to underground infrastructure planning; Monitor the condition of underground engineering structures; Apply methods of modernization of underground networks (in particular - trenchless technologies).</i>
<b>Competencies and skills</b>	<i>Plan the development of underground infrastructure of large cities; Design the parameters of underground networks; To form monitoring systems for the condition of underground engineering structures; Choose effective ways to modernize underground networks; Ensure the replacement of the most dangerous ground transport and engineering communications - underground.</i>
<b>Instructional Materials</b>	<i>Textbook, Google Classroom,</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Resource-Saving Technologies for Mining and Processing of Rocks	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Before studying the discipline "Resource-saving technologies of mining and processing of rocks" the student must be acquainted with the basics of mining in an open way, mining and geological conditions of development of mineral deposits, have a general idea of technology and mechanization of opencast mining.</i>
<b>Scope of the course</b>	<p><i>The scope of the course includes:</i></p> <ul style="list-style-type: none"> <li><i>- Existing technologies of extraction and processing of rocks</i></li> <li><i>- Modern requirements for the completeness and quality of mining</i></li> <li><i>- Ukrainian and international experience in the development and implementation of resource-saving subsoil use technologies</i></li> <li><i>- Criteria for resource conservation, their provision in mining</i></li> </ul>
<b>Rationale</b>	<i>Global mining trends are aimed at maximizing the use and extraction of mineral reserves and further maximum possible restoration of the disturbed natural landscape of the area where mining was carried out. Therefore, knowledge and development of resource-saving technologies for mining and processing of rocks is necessary for mining professionals.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>-To evaluate existing open pit mining technologies in terms of energy efficiency and resource conservation</i></li> <li><i>- To define criteria for resource conservation</i></li> <li><i>- To develop and implement energy and resource-saving technologies at the mining enterprise for mining and processing of minerals in an open way</i></li> <li><i>- To establish measures to increase the completeness of extraction of minerals, maximum use of waste processing and reclamation of the earth's surface</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to skills:</i></p> <ul style="list-style-type: none"> <li><i>- use the acquired knowledge to develop resource-saving technologies for mining and processing of minerals</i></li> <li><i>- determine the indicators of efficiency of enterprises according to the criterion of resource saving</i></li> <li><i>- carry out optimization of technological processes of mining and processing of rocks in an open way according to the criteria of energy efficiency and resource conservation.</i></li> </ul>
<b>Instructional Materials</b>	<i>Textbooks, tutorials, Google Classroom courses</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Environmental Protection Technologies for Opencast Mining	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Completion of educational component "General ecology", "Atmospheric protection technology", "Hydrosphere protection technology", "Safety of work in mining".</i>
<b>Scope of the course</b>	<i>The scope of the course includes technologies of rock destruction, and their impact on the environment. The impact of technological processes and characteristics of blasting on the environment. Ways to reduce the negative impact of drilling and blasting on the environment. Features of operation of quarry transport. Ways to reduce the negative impact on the environment of rock movement processes. Ways to reduce the negative impact on the environment of mining waste storage processes</i>
<b>Rationale</b>	<i>Carrying out open development of mineral deposits, it is necessary to take into account the protection and preservation of the environment, the rational use of technological equipment for certain technological processes. It is necessary to know which machines and mechanisms that meet the requirements of current environmental legislation should be used, as well as other necessary environmental protection measures.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include be able to substantiate environmental technologies based on an understanding of the mechanisms of human impact on the environment and the processes occurring in it. Implement scientifically sound technical, technological and organizational measures to prevent environmental pollution. To choose technologies of environmental protection, to search for the newest technical-technological and organizational decisions directed on introduction in manufacture of perspective ecological developments and the modern equipment. Analyze the areas of improvement of existing natural protection and nature restoration technologies to ensure environmental safety during opencast mining.</i>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to:</i> <ul style="list-style-type: none"> <li><i>- To analyze the parameters of drilling and blasting operations and the environmental consequences of their action.</i></li> <li><i>- Analyze the impact of quarry transport on the environment.</i></li> <li><i>- Be able to set career options with minimal impact on the environment.</i></li> <li><i>- Determine the parameters of nature and resource-saving system of field development.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, Google Classroom)</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>



Designing Underground Structures of Special Purpose	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Knowledge of technologies "wall in soil", "lowering well", "supporting core", "supported vault" of trench tunneling, regulatory requirements for structures, geotechnical bases of behavior of the massif, geological processes around underground structures.</i>
<b>Scope of the course</b>	<i>The scope of the course includes design of large underground facilities for specific operating conditions depending on the purpose. Substantiation of options for construction of special purpose objects in the conditions of urban development. Design of underground fire tanks, underground warehouses, hazardous industries, civil defense depots. Drawing up of the project of construction of underground designs taking into account influence of the operating factors: water pressure, corrosion of harmful substances, action of an explosive wave, etc.</i>
<b>Rationale</b>	<i>The modern development of megacities is ensured by the simultaneous construction of underground infrastructure, which should be included in a complex citywide network of utilities. Construction in urban conditions is accompanied by a large-scale impact on surface and underground structures. The discipline is aimed at solving a set of complex problems of urban systems development related to the underground infrastructure of cities.</i>
<b>Learning outcomes</b>	<i>Plan the development of underground infrastructure of large cities. Design complexes of underground structures. To provide sanitary requirements of activity of the personnel of surface and underground constructions.</i>
<b>Competencies and skills</b>	<i>To make the forecast of development of influence of a massif on a construction, to define possibilities of use of underground constructions. Use a systematic approach to underground infrastructure planning.</i>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, Google Classroom)</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Mathematical Methods for Optimizing the Processes of Geoengineering Systems	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Before studying the discipline "Mathematical methods for optimizing the processes of geoengineering systems" the student must be acquainted with the basics of mining, processes of opencast mining, methods for optimizing processes and systems</i>
<b>Scope of the course</b>	<ul style="list-style-type: none"> <li>- <i>Extreme variational principles in modeling the processes of engineering ecosystems</i></li> <li>- <i>Optimization criteria for complex ecosystems</i></li> <li>- <i>Restrictions on state change and change of management in optimization models of processes of engineering ecosystems</i></li> <li>- <i>Multidimensional unconditional gradient optimization</i></li> </ul>
<b>Rationale</b>	<i>The basis of resource-saving technologies in the quarry should be the optimization of process parameters in real time. Therefore, mining specialists need knowledge of both analytical and numerical special methods of mathematical analysis. The choice of the principle, method and criterion of optimization requires in-depth training of masters in mining.</i>
<b>Learning outcomes</b>	<p><i>According to the results of studying the discipline "Mathematical methods of optimization of processes of geoengineering systems" students will be able to:</i></p> <ul style="list-style-type: none"> <li>- <i>use modeling and optimization methods to research and increase the efficiency of technological processes in the career;</i></li> <li>- <i>establish a system of restrictions and conditions necessary for the development of a model of technological processes;</i></li> <li>- <i>get the ability to own a package of programs for optimization of technological processes.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li>- <i>Perform analysis of technological processes in the quarry to select the method of optimization of operational parameters</i></li> <li>- <i>Apply modern approaches and methods of modeling and optimization of technological processes</i></li> <li>- <i>Choose optimization criteria for a specific set of technological processes</i></li> <li>- <i>Develop measures to increase the efficiency of the technological process in accordance with the results of optimization modeling</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, Google Classroom)</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Optimization of Quarrying Processes in the Quarry	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Before studying the discipline " Optimization of mining operations in the opencast mine " the student must be acquainted with geomechanics, the current state of mining, taking into account the properties of rocks, organizational, technical and technological conditions at the enterprise for mining, as well as the state of energy costs when excavating rock mass in the opencast mine.</i>
<b>Scope of the course</b>	<i>The optimization of mining processes in the quarry is aimed at studying the patterns and dependences of the digging process with an excavator type power shovel using models and taking into account the dynamics of resistance of soil.</i>
<b>Rationale</b>	<i>Students develop engineering knowledge about the processes of mining in the quarry, energy costs during rock excavation, the impact of lump rock on energy consumption during excavation. Calculation of productivity of digging process and excavation works in general for excavators of power shovel type.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- To use the received knowledge on optimization of processes of extraction of minerals in a quarry for increase of technical and economic and ecological efficiency of work of the mining enterprise</i></li> <li><i>- Ensure energy savings when operating the excavator in optimal mode</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- Develop measures to select the technological parameters of the excavator face and the mode of operation of the excavator</i></li> <li><i>- Calculation of variable operational productivity of excavators like power shovel and establishment of rational modes of their work</i></li> <li><i>- Optimization of excavator productivity in the quarry according to the criterion of energy intensity</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, Google Classroom)</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

## Resource Management of a Geotechnical Enterprise

<b>Restrictions (specialty for which the course is offered)</b>	184 Mining
<b>Educational level</b>	Second level (Master's degree)
<b>Year of study</b>	1 (2 semester)
<b>Number of ECTS credits</b>	4 (120 hours)
<b>Language of study</b>	English
<b>Department</b>	Geoengineering
<b>Assumed knowledge and prerequisites</b>	English B2. Knowledge of understanding the essence of the enterprise, general knowledge of economics and organization of production
<b>Scope of the course</b>	<p>The scope of the course includes:</p> <ul style="list-style-type: none"> <li>- place, role and novelty of the resource concept of geotechnical enterprises in the theory of strategic management.</li> <li>- characteristics of the resources of geotechnical enterprises according to the following classification features: participation in the production process; by economic content; by role in the enterprise; on the possibility of display; according to the specifics of value formation; by existence in time; on the possibility of reproduction; by sources of formation, by the nature of organization and regulation;</li> <li>- description of resources as an object of management, disclosure of the logic of the ratio of resources and factors of production;</li> <li>- resource exchange as an object of economic management, characteristics of the state of national resource exchange;</li> <li>- management of technical resources of a geotechnical enterprise, methodical approaches to the assessment and management of technical resources as a basis for improving the efficiency of industrial enterprises;</li> <li>- management of material resources of the geotechnical enterprise, methodical and analytical support of processes of management of material resources;</li> <li>- management of labor resources of the geotechnical enterprise, system of indicators of an estimation of labor resources of the enterprise, management of motivation of work at the enterprise, the organization of work of personnel service of the enterprise;</li> <li>- management of organizational resources of the geotechnical enterprise, indicators of a condition and development of organizational system and its elements, an estimation of economic efficiency of measures for realization of organizational reserves;</li> <li>- features of information resources management, efficiency of information resources management in the value management system of the enterprise;</li> <li>- resource saving management, basics of resource saving strategy, system of indicators of resource intensity of goods and production;</li> <li>- management of financial resources of a geotechnical enterprise, the cost and structure of financial capital, methodological aspects of assessing the value of financial capital, determining the optimal structure of financial capital. indicators for assessing the effectiveness of the formation and use of financial capital;</li> <li>- investment management of a geotechnical enterprise, subjects and objects of investment activity, investment profit and its formation, essence and functions of investment management of the enterprise, investment policy of the enterprise, investment attractiveness of the enterprise, investment strategy and its formation, management of real investments, financial investment management, foreign investment management.</li> </ul>
<b>Rationale</b>	Market conditions for the operation of geotechnical enterprises require the achievement of the most efficient use of enterprise resources, ensuring the stable development of economic activity, timely identification and resolution of problems arising in the process of enterprise management. Successful management of production and economic, production, sales and financial activities of the enterprise should be based on the use of structured and reliable data on resource provision and management of the enterprise, its change and forecast dynamics of development. The discipline of resource management of a geotechnical enterprise is aimed at solving these tasks.
<b>Learning outcomes</b>	<p>Expected learning outcomes include:</p> <ul style="list-style-type: none"> <li>- to analyze the indicators of resource provision of the geotechnical enterprise;</li> <li>- to evaluate the effectiveness of resource management in retrospective and future aspects of the enterprise and organization;</li> <li>- development and implementation of management decisions that are related to the resource provision of strategic development of the enterprise in conditions of uncertainty;</li> <li>- to evaluate the resource flows of the enterprise by different methods;</li> <li>- to ensure balance and synchronicity of positive and negative cash flows of the enterprise in terms of individual intervals;</li> <li>- to determine the amount of operating, insurance, investment and cash balances and make decisions on the directions of their use;</li> <li>- to determine the economic effect of the introduction of innovations, intellectual investment.</li> </ul>
<b>Competencies and skills</b>	<p>Upon successful completion of the course students are expected to be able to knowledge:</p> <ul style="list-style-type: none"> <li>- methodologies for assessing and analyzing the resources of the geotechnical enterprise;</li> <li>- composition and structure of resources;</li> <li>- application of modern tools for management and optimization of use, generation of ideas for designing the processes of resource supply and resource conservation in the enterprise.</li> </ul> <p>skills:</p> <ul style="list-style-type: none"> <li>- to manage resources at enterprises,</li> <li>- to assess the value of resources and the risks associated with reducing the effectiveness of their use;</li> <li>- to analyze the consequences of decision-making on resource management of the enterprise;</li> <li>- application of modern digital technologies in socio-economic research, design, distribution and optimization of resource flows.</li> </ul>
<b>Instructional Materials</b>	syllabus, learning materials (textbook, Google Classroom)
<b>Mode of delivery</b>	Lectures, workshops
<b>End-of-semester control</b>	Test

Geo-information Systems of Superuse	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Before studying the discipline "Geoinformation systems of subsoil use" the student should be acquainted with the basics of technology of development of mineral deposits in an open way, the existing forms of the deposit and the conditions of its occurrence, have an idea of information technology in mining.</i>
<b>Scope of the course</b>	<i>Systematized approach to information on the quantity, quality, degree of geological and technical and economic study of minerals in the field. The level of industrial development of subsoil. Computer hardware that ensures the functioning of databases and software information systems.</i>
<b>Rationale</b>	<i>Working with the geographic information system of mineral deposits does not require specialized software, but the acquired knowledge of geology, construction, industrial waste, etc., is necessary to assess the geographic information system of subsoil use in general. Database management, its filling process and resource updating are possible from smartphones and tablets via a mobile mapping application.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Carry out reasonable development of development plans of the mining enterprise and directions of further geological study of subsoil.</i></li> <li><i>- To provide rational and complex development of deposits in the course of their industrial use.</i></li> <li><i>- Use information and communication technologies in subsoil use.</i></li> <li><i>- Perform geodetic monitoring of the earth's surface, natural objects, engineering structures.</i></li> <li><i>- Be able to assess the quality of topographic and cartographic products.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to skills:</i></p> <ul style="list-style-type: none"> <li><i>- perform work on accounting, storage and analytical processing of statistical, geological, geophysical, hydrogeological and engineering-geological results of subsoil research.</i></li> <li><i>- monitor the geological environment and mineral resources of the districts.</i></li> <li><i>- carry out reference and information services to users by providing information on request in the form of passports or their individual parts.</i></li> <li><i>- identify violators of subsoil use with the ability to leave a photo fact of the violation, the coordinates of the situation, etc.</i></li> <li><i>- solve specific tasks in the planning and execution of survey work and computer processing of survey results in geographic information systems.</i></li> </ul>
<b>Instructional Materials</b>	<i>Textbooks, tutorials, video lectures, Google Classroom courses</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Information Technologies in Nature Protection	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Basic knowledge of higher mathematics, physics, computer science, ecology, basics of open pit mining, forms and conditions of deposits</i>
<b>Scope of the course</b>	<i>World experience in the application of digital technologies in mining, a set of mathematical models of mining processes, a package of applied computer programs for the implementation of these models.</i>
<b>Rationale</b>	<i>At the present stage of mining development, digital technologies of technological processes are being introduced in the world. Therefore, the formation of future specialists of theoretical and practical knowledge in the field of digital technologies in nature management is important and necessary</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Be able to implement digital technologies in the processes of opencast mining;</i></li> <li><i>- Be able to use information from technical documentation and reference files; work with information from various sources and use the basic functionality of network technologies;</i></li> <li><i>- Be able to use Internet resources to collect, visualize and use spatial information</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to skills:</i></p> <ul style="list-style-type: none"> <li><i>– To develop projects on environmental protection and manage complex actions for their implementation.</i></li> <li><i>- To determine ways to solve applied problems in the field of nature management on the basis of the modern direction of information technology development.</i></li> </ul>
<b>Instructional Materials</b>	<i>Textbooks, tutorials, video lectures, Moodle courses, Google Classroom,</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Geoinformation Systems of Construction Objects	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Knowledge of geological concepts and processes, ideas about mining, underground structures and basics of construction, informatics.</i>
<b>Scope of the course</b>	<i>Geoinformation systems that designed to collect, store, analyze and visualize (issue) spatial data. Scientific substantiation, design, creation, operation and use of information systems.</i>
<b>Rationale</b>	<i>The discipline is the basis for the formation of engineering approaches to the automated design of construction projects for various purposes. Reduces the risks associated with human exposure.</i>
<b>Learning outcomes</b>	<i>Expected learning outcomes include:</i> <ul style="list-style-type: none"> <li>- <i>assess the location of social infrastructure in the areas of construction, taking into account the existing infrastructure of the surrounding areas;</i></li> <li>- <i>to design engineering communications of the building area taking into account a relief of district and type of soil.</i></li> </ul>
<b>Competencies and skills</b>	<i>Upon successful completion of the course students are expected to be able to skills:</i> <ul style="list-style-type: none"> <li>- <i>determine the required amount of equipment, forces and means to perform construction work;</i></li> <li>- <i>assess the impact of construction projects on the environment;</i></li> <li>- <i>to determine the nearest suppliers of construction and finishing materials, specialized organizations that provide engineering and other services necessary during the construction process.</i></li> </ul>
<b>Instructional Materials</b>	<i>Textbooks, tutorials, Google Classroom courses, monographs</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>



Designing of Opencast Mining Enterprises	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Knowledge of the basics of mining and development of mineral deposits in the open way, basic knowledge of geology, geomechanics, computer and mathematical modeling, knowledge in the field of ecology</i>
<b>Scope of the course</b>	<i>Purpose and content of a pit project, organization of design work, design methods, including computer-aided design systems, mathematical models of deposits, design of mine workings and systems for the development of mineral deposits, economic foundations of a pit project, land reclamation</i>
<b>Rationale</b>	<i>The study of the discipline will allow the student to navigate in modern methods and approaches to the design of highly productive and environmentally friendly mining enterprises</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>- Apply the acquired knowledge in the organization and justification of the career project;</i></li> <li><i>- select and apply methods to determine the contours, depth and productivity of the quarry;</i></li> <li><i>- apply existing technologies of mineral development in the extraction of minerals.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- collect and analyze the initial and necessary for the design of the mining enterprise information;</i></li> <li><i>- to compile project documentation, feasibility study of design decisions taking into account the regulatory framework;</i></li> <li><i>- substantiate the contours of the quarry and its depth on the basis of existing methods;</i></li> <li><i>- substantiate and determine the optimal productivity of the quarry and the speed of development of mining operations on the basis of existing design methods;</i></li> <li><i>- to analyze and choose the schemes of disclosure and development systems taking into account the mining and technical parameters.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, Google Classroom)</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

Thermodynamics of Stability of Quarry Sides and Dumps	
<b>Restrictions (specialty for which the course is offered)</b>	<i>184 Mining</i>
<b>Educational level</b>	<i>Second level (Master's degree)</i>
<b>Year of study</b>	<i>1 (2 semester)</i>
<b>Number of ECTS credits</b>	<i>4 (120 hours)</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Geoengineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2. Before studying the discipline of the basics of thermodynamics, general knowledge about the development of minerals in the open way, the mechanics of deformation and destruction of rocks</i>
<b>Scope of the course</b>	The sides of the quarry, as objects of protection, change their hermodynamic characteristics both under the influence of static and dynamic man-made influences, and over time. This negatively affects their stability and, as a consequence, the safety of mining. The developed stochastic dynamic models of deformation and destruction of rocks will allow to predict and provide stability of sides of quarries for all time of development of minerals.
<b>Rationale</b>	<p><i>The educational component contributes to the acquisition of knowledge - the structure of the field of deformations and stresses in the contour part of the quarry wall;</i></p> <ul style="list-style-type: none"> <li><i>- Theories of the limiting state of rocks;</i></li> <li><i>- criteria for the static stability of the quarry walls;</i></li> <li><i>- Stochastic dynamic non-stationary models of pit wall stability;</i></li> <li><i>- Carnot cycle during deformation and destruction of a rock element;</i></li> <li><i>- entropy criterion for the evolution of career sides;</i></li> <li><i>- a strong dynamic model of the evolution of the sides of a career in time;</i></li> <li><i>- Calculation of the parameters of the pit walls, taking into account the forecast of its stability.</i></li> </ul>
<b>Learning outcomes</b>	Based on the results of knowledge acquired in the discipline, the master can choose the most adequate mathematical model and engineering methods for forecasting the stability of quarry sides in the process of quarry design and during the current control of stability of quarry sides and dumps during operation
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to:</i></p> <ul style="list-style-type: none"> <li><i>- Apply modern mathematical models of modeling</i></li> <li><i>- Develop engineering techniques to assess the current state of the quarry sides and the reliability of its change over time in the development of mineral reserves</i></li> <li><i>- Introduce in the quarry a scientifically sound procedure for working off stocks with minimal costs to protect the sides from collapsing</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (textbook, Google Classroom)</i>
<b>Mode of delivery</b>	<i>Lectures, workshops</i>
<b>End-of-semester control</b>	<i>Test</i>

## 163 Biomedical Engineering

Registration and Processing of Biosignals and Medical Images	
<b>Restrictions (specialty for which the course is offered)</b>	<i>163 Biomedical Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Biomedical Engineering (the course is taught by the Department of Electronic Engineering of the Faculty of Electronics)</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2, programming skills</i>
<b>Scope of the course</b>	<i>The scope of the course includes 26 hours of lectures, 28 hours of practical, 28 hours of laboratory</i>
<b>Rationale</b>	<i>The educational component "Registration and processing of biosignals and medical images" contributes to the development of professional expertise in knowledge of methods for processing and analysis of biomedical signals of different nature. The main purpose of the discipline is to form a holistic view of signals and methods of their study, as well as the acquisition of knowledge, skills, abilities and experience in using methods of registration, processing and analysis of biosignals and images in practice.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include knowledge of:</i></p> <ol style="list-style-type: none"> <li><i>1. types and parameters of signals and images of different nature, including biomedical;</i></li> <li><i>2. methods of mathematical description of linear stationary discrete systems;</i></li> <li><i>3. methods of spectral, spectral-temporal, wavelet and correlation analysis, conditions and limitations in their application;</i></li> <li><i>4. the essence of frequency-dependent signal processing using filters;</i></li> <li><i>5. basic approaches to stochastic, nonlinear and multivariate signal analysis and pattern recognition;</i></li> <li><i>6. trends in signal theory and application of signal research methods in the specialty.</i></li> </ol>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to have:</i></p> <ul style="list-style-type: none"> <li><i>– Ability to apply knowledge in practical situations.</i></li> <li><i>– Knowledge and understanding of the subject area and understanding of professional activity.</i></li> <li><i>– Skills in the use of information and communication technologies.</i></li> <li><i>– Ability to perform research at the appropriate level.</i></li> <li><i>– Ability to search, process and analyze information from various sources.</i></li> <li><i>– Ability to generate new ideas (creativity).</i></li> <li><i>– Ability to make well-grounded decisions.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (video lectures, tutorial for laboratory works)</i>
<b>Mode of delivery</b>	<i>Lectures, workshops , tutorials</i>
<b>End-of-semester control</b>	<i>Test</i>

## Analog and Digital Circuits Design-1. Analog Circuit Design

<b>Restrictions (specialty for which the course is offered)</b>	<i>Biomedical Engineering</i>
<b>Educational level</b>	<i>First level (Bachelor's degree)</i>
<b>Year of study</b>	<i>3</i>
<b>Number of ECTS credits</b>	<i>4,5</i>
<b>Language of study</b>	<i>English</i>
<b>Department</b>	<i>Biomedical Engineering</i>
<b>Assumed knowledge and prerequisites</b>	<i>English B2</i>
<b>Scope of the course</b>	<i>The scope of the course includes 36 hours of lectures, 18 hours of practical, 18 hours of laboratory</i>
<b>Rationale</b>	<i>The educational component contributes to the development of professional expertise in analysis of analog circuits, development of analog circuits of functional units and electronic devices.</i>
<b>Learning outcomes</b>	<p><i>Expected learning outcomes include:</i></p> <ul style="list-style-type: none"> <li><i>– Possession of engineering methods for calculation of elements of devices and systems of medical use and a choice of classical and newest constructional materials.</i></li> <li><i>– Knowledge of design tools for devices, appliances and systems of medical and biological purposes.</i></li> <li><i>– Knowledge of methods of designing digital and microprocessor systems for medical purposes .</i></li> <li><i>– Apply knowledge of the basics of mathematics, physics and biophysics, bioengineering, chemistry, engineering graphics, mechanics, resistance and strength of materials, properties of gases and liquids, electronics, computer science, obtaining and analyzing signals and images, automatic control, systems analysis and decision making methods at the level required to solve the problems of biomedical engineering.</i></li> <li><i>– Understanding of theoretical and practical approaches to the creation and management of medical equipment and medical technique.</i></li> </ul>
<b>Competencies and skills</b>	<p><i>Upon successful completion of the course students are expected to be able to have:</i></p> <ul style="list-style-type: none"> <li><i>– Ability to apply knowledge in practical situations.</i></li> <li><i>– Knowledge and understanding of the subject area and understanding of professional activity.</i></li> <li><i>– Ability to communicate in the state language both orally and in writing.</i></li> <li><i>– Skills in the use of information and communication technologies.</i></li> <li><i>– Ability to perform research at the appropriate level.</i></li> <li><i>– Ability to search, process and analyze information from various sources.</i></li> <li><i>– Ability to generate new ideas (creativity).</i></li> <li><i>– Ability to make well-grounded decisions.</i></li> <li><i>– Ability to communicate with representatives of other professional groups of different levels (with experts from other fields of knowledge / types of economic activity).</i></li> <li><i>– Safe activities skills.</i></li> </ul>
<b>Instructional Materials</b>	<i>syllabus, learning materials (manual for the students for Laboratory works on the course "Analog Circuit Design", presentation of lectures, auxiliary materials for practice)</i>
<b>Mode of delivery</b>	<i>lectures (tutorials)</i>
<b>End-of-semester control</b>	<i>Exam</i>