

THE LIST OF COURSES 2025/2026

winter semester: October 2025- February 2026

L - LECTURE; P - PROJECT CLASSES (design classes); A - AUDITORY CLASSES; LAB - LABORATORY CLASSES; M - MASTER STUDIES

No	NAME OF THE COURSE	ECTS	Description
I 005	BASICS OF COMPUTER PROGRAMMING	5	Basics of structured programming. Basics of computer operation, methods of representing numerical and textual data in computer memory. Concept of problem and algorithm and methods of algorithm formulation, basic programming constructs.
I 013	OBJECT- ORIENTED PROGRAMMING	7	Developing the ability to use the basic concepts and constructs of an object-oriented programming language.
I 011	BASICS OF DIGITAL TECHNOLOGY	6	Introducing the fundamentals of digital technology in terms of logic synthesis, structural design principles and computer-based logic and digital circuit design tools.
I 012	BASICS OF TELECOMMUNICATIONS	4	Principles of operation of modern telecommunications systems including teletransmission systems and the principles of signal processing (modulation, redundant coding). The subject familiarises the student with the concept of digital networks with service integration (ISDN), GSM and UMTS mobile phone systems in terms of subscriber access and services offered.
I 007	INTRODUCTION TO COMPUTER SCIENCE	5	Introducing the world of modern computer science, its concepts and topics. Numeral systems. Ways of representing data on the example of signs. Boolean algebra. Turing machine and elements of computer architecture. Elements of formal languages, etc.
I 020	SIGNALS AND INFORMATION THEORY	4	Introducing the classification of signals, their mathematical models, spectrum analysis of analog signals, analog-to-digital and digital-to-analog conversion and the basics of digital filtering.
I 017	EVENT- DRIVEN PROGRAMMING	5	Practical introduction to the event-driven programming in the context of creating interactive and multithreading applications in Java.
I 018	SOCIAL ASPECTS OF THE INTERNET	2	Introducing social, cultural and psychological aspects of the Internet as a new technology organising contemporary everyday life.
I 014	ALGORITHMS AND DATA STRUCTURE	5	Algorithm design and analysis. Introducing basic algorithms and data structures.
I 015	COMPUTER ARCHITECTURE	5	Gaining knowledge and skills necessary to understand and effectively use the features of computer systems in terms of hardware and software.
I 022	PRINCIPLES OF WEB DEVELOPMENT	4	Gaining practical skills in creating HTML web pages in XHTML, HTML 4.01 or HTML5 standard using Cascading Style Sheets (CSS) to format a website.
I 026	IT PROJECT MANAGEMENT	3	Principles of IT project management, planning and scheduling of work in an IT project, basics of budget preparation, risk management in a project. Introducing project management software.
I 025	OPERATING SYSTEMS	4	Basics of modern operating systems operation and design, developing the ability to use system functions to correctly implement simple multiprocess/multithreaded applications using standard input/output channels and file access.
I 024	COMPUTER NETWORKS	4	Providing basic knowledge on the structure, operation and use of computer networks.
I 101	MOBILE APPLICATION PROGRAMMING	5	Basics of issues concerning the functioning and development of mobile applications. Specifics of applications for mobile devices, types of mobile applications, applications running in a mobile device environment, applications running in a server environment with a presentation layer on a mobile device, programming languages for mobile devices, Java, Kotlin, JavaScript, C#, data exchange, specifics of mobile databases, data replication, security of data stored on mobile devices and in communication channels, mobile software design methodology.
I 023	ECONOMIC LAW	2	Concept of law and the interpretation of law, as well as selected legal branches and institutions illustrated by the examples of practical use and application of individual institutions in the field of civil and commercial law, as well as illustrated by rulings of common and administrative courts (WSA and NSA).
I 021	DATABASES	4	Introduction to advanced issues in relational databases. Concepts of index, transaction, nested query, query optimisation, stored procedure, function, view, trigger. Administration of databases including ensuring adequate database performance and security in data access.
Z 012	INFORMATION TECHNOLOGY	3	Basic information of the structure and use of a computer for simple editing (MS WORD), calculation (MS EXCEL) and presentation (MS POWER POINT) tasks
I 027	AUTOMATION AND ROBOTIZATION	2	Gaining knowledge and skills in the basics of mathematical description, principles of operation and applications of automation systems and robots. Acquisition of skills to develop simple control systems based on relays or integrated circuits. To acquire knowledge concerning the use of PLCs.
I 102	DESKOP APPLICATION PROGRAMMING	5	Gaining practical skills in creating dynamic websites in HTML using PHP and JavaScript.
I 302	INTERNET OF THINGS AND MOBILE DEVICE SECURITY	5	Gaining knowledge and practical skills in building network of physical devices, vehicles, appliances, and other physical objects that are embedded with sensors, software, and network connectivity, allowing them to collect and share data and in securing IoT and mobile devices involves protecting them from cyber threats, preventing data breaches, and ensuring the privacy of user data.

I 301	INFORMATION PROTECTION IN COMPUTER NETWORKS II	4	Subject that delves deeper into the methods and technologies used to safeguard data and systems within computer networks
I 029	ELECTRICAL ENGINEERING AND ELECTRONICS	3	Fundamentals of electrical engineering and electronics, skills in computer calculations, interpretation of results, learning about areas of practical application
I 028	SYSTEM AND NETWORK SECURITY	3	Introducing basic security problems of information systems and networks. Information storage: limiting access to computer systems and to data, identification, authentication and authorisation, solutions for user identification and authentication, control of user rights. Security models in computer networks and information systems.
I 030	COMPUTER GRAPHICS	3	Introducing practical graphic design, making elements related to the visualisation of a company/brand/product for both electronic media presentations and printed works.
I 031	SOFTWARE ENGINEERING	3	Structure of an information system model in the UML language. General organisation of the software creation and development process, knows leading CASE-type techniques and tools supporting this process. Basic assumptions of the model-based system architecture (MDA) concept, knows the properties and role of the UML language in this context.
I 032	BASICS OF ARTIFICIAL INTELLIGENCE	2	Basic techniques of artificial intelligence, particularly in the context of their algorithms. Use of artificial intelligence techniques in supporting decision-making processes such as forecasting, planning, diagnostics, control.
Z 003	BASICS OF ECONOMICS	7	Categories and laws of the modern market economy and the functioning of the basic economic actors, i.e. enterprises, households and land management entities.
Z 005	BASICS OF MANAGEMENT	7	Introducing the world of modern computer science, its concepts and topics. Numeral systems. Ways of representing data on the example of signs. Boolean algebra. Turing machine and elements of computer architecture. Elements of formal languages, etc.
Z 009	ORGANISATIONAL SCIENCE	5	Theoretical foundations of organisational theory and organisational science, the forms and general principles of organisation, with particular emphasis on the change process and the function an organisation performs in a dynamic environment, as well as the problems of organisation.
Z 002	MATHEMATICS	8	Categories and laws of the modern market economy and the functioning of the basic economic actors, i.e. enterprises, households and land management entities.
I 002	LOGIC AND SET THEORY	6	Basic concepts of algebra and mathematical analysis, developing the ability to use the mathematical apparatus.
I 019	STATISTICS	4	Introducing the methods of statistical analysis. Discussing the statistical description of the phenomena structure, their dynamics and interdependencies allowing the interpretation and evaluation of the course of phenomena encountered in practice
I 016	PHYSICS	3	Qualitative presentation of the nature of physical phenomena, methods of their study and examples of their use.
I 010	ETHICS	1	The concept of ethics and an introduction to the ethical problems associated with the management profession
Z 029	PHILOSOPHY	2	Basic principles of occupational safety and ergonomics. Methods, techniques and instruments of occupational safety and ergonomics research and their applications in the organisation of workplaces.
Z 001	ENGLISH COURSE	2	Mastering the English language at B2 proficiency level of the Council of Europe's Common European Framework of Reference for Languages (upon completion of the entire course).
Z 001	POLISH COURSE	2	Mastering the Polish language at B2 proficiency level of the Council of Europe's Common European Framework of Reference for Languages (upon completion of the entire course).
Z 004	BASICS OF LAW	2	Basics of law, which may have significant practical relevance in managerial practice.
Z 014	CORPORATE FINANCE	6	Theory and practice of obtaining and managing financial assets by enterprises, with particular emphasis on the assessment of their financial standing and the profitability of their activities, including investments. The course constitutes a compendium of knowledge enabling students to continue their independent studies in this field.
Z 013	OCCUPATIONAL SAFETY AND ERGONOMICS	4	Basic principles of occupational safety and ergonomics. Methods, techniques and instruments of occupational safety and ergonomics research and their applications in the organisation of workplaces.
Z 303	TAX SYSTEM IN POLAND AND IN SELECTED EUROPEAN COUNTRIES	3	Presenting current tax system in Poland, basic issues concerning taxes and tax law, selected elements of tax systems and the tax harmonisation process in the European Union. Particular attention will be paid to the tax structures in force in Poland and selected European countries, as well as to the issue of tax authorities, tax liabilities and tax proceedings.
Z 302	STRATEGIC MANAGEMENT	4	Corporate strategic planning, strategic analysis, diversification strategy, market development strategy, vertical integration strategy, ways and strategies of corporate development, strategy for building competitive advantage, networking strategies, outsourcing, clusters, strategic management systems.
Z 304	EUROPEAN UNION ACTIVITIES	3	Providing information on the activities of the European Union and the rules applying to the Member States. Discussing case studies on topics related to the EU activities.
Z 027	ENVIRONMENTAL MANAGEMENT	2	General model of environmental management in Poland, against the background of EU requirements and environmental management systems in various organisations.

Z 306	INTERNATIONAL FINANCIAL SETTLEMENTS	2	Advanced problems of using different forms of settlement in international economic transactions.
Z 308	SOCIAL COMMUNICATION	2	Developing the competencies of future PR Managers, i.e. press spokesperson, communication experts, PR coordinators, brand image experts. Developing competence in public speaking and cooperation with the media.
Z 309	EU LAW	2	Historical aspects of European integration. The legal nature of the European Union. The sources of European Union law. The Institutional System of the European Union. European Union law and national law. European Union citizenship and the free movement of persons. Customs Union and the free movement of goods. Economic and monetary union; free movement of capital. Free movement of services. Rules of competition.
Z 011	BASICS OF MARKETING	5	The course enables the understanding of the essence of marketing as a comprehensive company orientation, basic marketing tools, marketing strategies and analysis.
Z 006	PSYCHOLOGY	2	Systematising knowledge in the field of social psychology, allowing to develop the ability to analyse basic social phenomena and relations, as well as regularities governing them, from the perspective of social psychology. Students will gain the ability to analyse psychological determinants of behaviour and attitudes, as well as selected applications of psychological knowledge in engineering, HR management, business and education.
C 001	ECOLOGY AND ENVIROMENTAL PROTECTION	1	Systematising and developing knowledge of the basic concepts and principles of ecology, including: issues of distribution of living organisms, relationships between organisms and their environment at the level of populations and biocenoses, and factors threatening the proper character of these relationships. Developing knowledge of the civilizational threats to the environment.
C 004	MATERIALS SCIENCE I	7	Engineering structural and functional materials: metallic, polymeric, ceramic. Acquiring basic knowledge of interatomic and intermolecular bonds, types and description of crystalline structures, structural phenomena, phase transformations, strengthening of materials determining the properties of products. To learn about the principles of selecting materials and ways of giving them specific properties to meet the requirements imposed on them in constructions.
C 005	ENGINEERING MECHANICS	8	Acquiring knowledge of the laws of statics, kinematics and dynamics to describe the motion of a material point and a rigid body under the influence of systems of acting forces and moments. Applications of mechanics for solving various theoretical and practical technical problems.
C 030	MANUFACTURING PROCESSES	8	Basic knowledge and skills concerning manufacturing techniques and processes so as to be able to choose the appropriate manufacturing technique.
C 015	STRENGHT OF MATERAILS II	2	Acquiring the knowledge necessary to assess the state of stress and deformation of structural elements under external loads. Practical skills for strength analysis of statically determinable systems.
C 102	BASES OF THE COMPUTER GRAPHICS	3	Projects in vector and raster graphics of varying degrees of complexity related to the practical application of issues that are required at graphic design jobs. Issues relate to design for electronic and print media.
PM 007	ETHICS IN MANAGEMENT (M)	3	Ethical issues relating to the performing one's professional obligations. The main ethical obligations arising from the duties assigned to the job position.
PM 010	PSYCHOLOGY IN MANAGEMENT (M)	2	Application of psychology in organisational management process. Phenomena related to the behavioral psychology in terms of interpersonal relationships within the organisation and in the context of initiating the cooperation with stakeholders
PM 004	SELECTED PROBLEMS OF CONTEMPORARY CULTURE	2	Theoretical and practical reflection on selected aspects of contemporary culture (i.e. popular culture, visual culture, culture of contemporary media and news, culture vs. politics or culture-creating elements in advertising). During the lecture, various cultural texts will be analysed (e.g. films, TV series, advertising campaigns, social media messages, memes, etc.).
PM 006	CIVIL LAW (M)	2	The subject matter, systematics and structure of civil law, introducing the content of the Civil Code and developing the ability to solve typical legal problems requiring the independent application of civil law provisions.
PM 002	CONCEPTS OF MANAGEMENT (M)	5	Contemporary management concepts and how they can be used in business practice, as well as the methods supporting their application.
PM 009	MACROECONOMICS (M)	4	Economic categories and laws of the modern market economy on a global scale, economic integration and national economies. Understanding the interdependencies between macroeconomic aggregates in terms of statics and dynamics. Developing the ability to predict economic phenomena and determine their consequences within the framework of macroeconomic models.
PM 005	FORECASTING AND SIMULATION (M)	4	The subject matter, systematics and structure of civil law, introducing the content of the Civil Code and developing the ability to solve typical legal problems requiring the independent application of civil law provisions.
PM 008	STATISTICS IN MANAGEMENT (M)	3	Theoretical concepts, methods of calculation and interpretation of statistical results in organisational management.
PM 003	CONTEMPORARY ART (M)	3	The most important trends and issues in contemporary art (painting, cinema, theatre and audiovisual arts) in Poland and abroad. Introducing the main artistic trends, profiles and activities of the most eminent artists in order to teach the students to recognise the main artistic phenomena and movements and to interpret the main artistic trends in contemporary art.
m - master studies			