AKADEMIA TECHNICZNO - ARTYSTYCZNA Nauk Stosowanych w Warszawie
UNIVERSITY OF TECHNOLOGY AND ARTS in Applied Sciences in Warsaw

THE LIST OF COURSES 2025/2026

summer semester: mid-February 2026 - June 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	Providing knowledge and gaining skills in developing applications for mobile devices like smartphones, tablets and digital assistants, most commonly for the Android and iOS operating systems.
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 skills of IoT and its ecosystem, security threats and vulnerabilities associated with IoT and mobile devices issues faced by mobile application developers, embedded system builders, and smart system designers.
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 ENGINEERNG 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 INTELLIGANCE	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	Principles of organisational and management theory, developing the ability to analyse and synthesise organisational problems, developing teamwork skills in solving management problems.
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	Basic concepts of algebra and mathematical analysis, developing the ability to use the mathematical apparatus.
I 002	LOGIC AND SET THEORY	6	Basic concepts of logic and set theory necessary for further computer science education. Propositional calculus, elements of functional calculus, elements of set theory, ordered sets, induction and recursion, logic and set theory antinomies, elements of metalogic.
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	Issues related to philosophy and aesthetics. Raising awareness of the relationship between philosophy and aesthetics and changes in culture and society.
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 008	LOGISTICS	2	The subject enables an effective understanding of the nature and mechanisms of company logistics. The individual contents are analysed, compared and evaluated in terms of the theoretical and practical application of logistics inside and outside the enterprise.
Z 017	ACCOUNTANCY	2	Principles of accounting in a market economy; developing elementary competences in the creation of information on the financial standing of a company.
Z 007	MARKETING RESEARCH	6	The essence of marketing research, its importance and applications in companies, basic sources of information, research methods, techniques and procedures
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
Z 010	BASICS OF FINANCE AND BANKING	2	Basic concepts and categories of finance and banking, treated as theoretical knowledge and applied science. Covering selected issues in the areas of investment project profitability analysis, public finance, international finance and banking. The course provides a compendium of knowledge to enable interested students to pursue independent studies in this field.
Z 018	IT SYSTEMS IN MANAGEMENT	4	Issues related to modern technologies used in the processing and storage of information including IT methods and systems supporting the management of a business organisation in terms of applying modern information technologies.
Z 016	ECONOMIC LAW	3	Encyclopaedic knowledge of the legal system in its broadest sense and of the basic areas of law, providing a basis for orientation in the Polish system of legal interpretation, civil and commercial law.
Z 028	HR MANAGEMENT	1	Basics of human resource management, including: the essence and structure of human resources, market and legal conditions of human resource management, functions and tools of human resource management.
Z 019	QUALITY MANAGEMENT	3	Terms of ensuring product quality arising from legal acts (EU directives, Polish parliamentary acts, ministerial decrees), the requirements of standards (ISO 9000 and EN 45000 series) and the laws of the free market.
Z 020	PRODUCTION AND SERVICE MANAGEMENT	4	Developing skills in the design and practical management of production and service processes, the latest developments and the use of computer-aided tools
Z 021	PROJECT MANAGEMENT	4	Developing the ability to understand the nature and role of projects in management, the principles and modern instruments of project management, defining and planning a project, organising the implementation and steering of projects.
PM 012	MANAGEMENT OF INNOVATION PROCESSES (M	3	Characteristics of innovation and innovation processes, practical skills for managing innovation processes in an organisation. The ability to manage innovation processes plays a key role in the process of generating new solutions to create technological and competitive advantages for companies operating on the global market.
PM 018	CREATIVE PROBLEM SOLVING METHODS (M)	3	The role, essence and conditions of creative action and solution-seeking, technology of mental work, formation of creative thinking groups. The lectures will present selected methods of searching for solutions and solving problems. Basic principles and procedures of conduct leading to the search for new ideas and obtaining new solutions will be indicated. Students will be introduced to practical examples of the use of the presented methods in various fields and the results achieved as a result of their application at home and abroad.
PM 020	ORGANISATIONAL COOPETITION STRATEGIES (M	3	Developing skills and competences needed to cooperate with direct competitors on the domestic market and internationally.
PM 011	MANAGERIAL ACCOUNTING (M)	3	The most important concepts of managerial accounting and the role it plays in the modern enterprise with regard to cost analysis and management. Managerial accounting tools. Developing the ability to use managerial accounting methods and techniques to make managerial decisions on cost management using information generated by the accounting system.

PM 018	KNOWLEDGE MANAGEMENT (M)	1	Distinguishing between knowledge and information, selecting information that is valuable to the organisation, finding sources of information which can contribute to the development of innovation in the organisation
PM 013	INTERNATIONAL MARKETING (M)	3	In-depth study of the essence and elements of international marketing, as well as of marketing strategies in international markets, orientations for the international expansion of companies and ways to implement it.
PM 017	NEGOTIATIONS AND DIPLOMATIC PROTOCOL (M	3	Developing the ability to communicate with a partner during negotiations, conflict resolution skills and to apply different negotiating styles and techniques. The essence and principles of diplomatic protocol and savoir-vivre issues, their application in everyday life and business.
PM 019	INTEGRATED MANAGEMENT SYSTEMS (M)	3	Integration of management systems in the organisation based on different models and types of certification according to ISO standards, among others
PM 015	DECISION MAKING THEORY AND SYSTEMS (M)	3	Methods for solving decision-making problems arising in the area of business organisation, planning and 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 teach the students to recognise the main artistic phenomena and movements and to interpret the main artistic trends in contemporary art.
PM 016	STRATEGIC MANAGEMENT (M)	5	The essence of strategy and strategic management, schools and currents of strategic management, levels and types of classical strategic management tools applied in corporate development in the context of changes related to globalisation methods of strategic analysis of the distant and near environment of an organisation in the context of relations with stakeholders.
PM 209	CORPORATE CYBERSECURITY (M)	4	Outlining the techniques, processes and practices used to protect IT networks, devices, programs and data from attacks, damage or unauthorised access.
PM 210	TRANSNATIONAL CORPORATIONS (M)	4	Mechanisms and principles of the foundation and operation of transnational corporations under conditions of hyperconvergence and globalisation.

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