

THE LIST OF COURSES 2024/2025

winter semester: October 2024 - February 2025

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

No	NAME OF THE COURSE	ECTS	Description
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 003	Mathematics	6	Basic concepts of algebra and mathematical analysis, developing the ability to use the mathematical apparatus.
I 004	Microeconomics	2	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 005	Basics of Computer Programming	7	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 006	Basics of Management	2	Principles of organisational and management theory, developing the ability to analyse and synthesise organisational problems, developing teamwork skills in solving management problems.
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 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 016	Physics I	3	Qualitative presentation of the nature of physical phenomena, methods of their study and examples of their use.
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 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 020	Signal 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.
OS1	ENGLISH LANGUAGE 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).
OS3	POLISH LANGUAGE 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).

THE LIST OF COURSES 2024/2025

winter semester: mid-February 2025 - June 2025<sup>1</sup>

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No	NAME OF THE COURSE	ECTS	Description
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.
I 016	Physics II	2	Qualitative presentation of the nature of physical phenomena, methods of their study and examples of their use.
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 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 024	Computer Networks I	4	Providing basic knowledge on the structure, operation and use of computer networks.
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 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.
OS1	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).
OS3	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).