

Undergraduate programme - COMPUTER SCIENCE - study mode: full-time

Applicable from the academic year 2022/23 (for elective and specialization courses - from the 2021/22 academic year)

| | Course Name | code | hrs. | | 1st YR | | 2nd YR | | 3rd YR | | 4th YR | ECTS score |
|--|--|------|-------|-----------|--------|----|--------|----|--------|----|--------|------------|
| | | | lect | class/lab | 1 | 2 | 3 | 3 | 5 | 6 | 7 | |
| 1 | Calculus | AM | 30 | 30 | EZ | | | | | | | 6 |
| 2 | Foundations of Java Programming | PPJ | 30 | 60 | EZ | | | | | | | 6 |
| 3 | Computer Techniques and Architecture | TAK | 30 | 0 | E | | | | | | | 4 |
| 4 | Introduction to Management | WDZ | 30T | 30 | Z | | | | | | | 3 |
| 5 | Introduction to Information Systems | WSI | 16 | 30 | EZ | | | | | | | 5 |
| 6 | History and Culture of Japan | HKJ | 30 | 0 | Z | | | | | | | 3 |
| 7 | English | ANG | 0 | 60 | Z | | | | | | | 3 |
| 8 | Occupational Health and Safety | BHP | 4 | 0 | Z | | | | | | | 0 |
| 9 | Linear Algebra with Geometry | ALG | 30 | 30 | | EZ | | | | | | 5 |
| 10 | Discrete Mathematics | MAD | 30 | 30 | | EZ | | | | | | 5 |
| 11 | Relational Databases | RBD | 30 | 30 | | EZ | | | | | | 5 |
| 12 | Object Oriented-Programming and Graphical User Interface | GUI | 30 | 30 | | Z | | | | | | 4 |
| 13 | Programming in C and C++ | PJC | 30 | 30 | | Z | | | | | | 4 |
| 14 | Operating Systems | SOP | 30 | 15+15int | | Z | | | | | | 4 |
| 15 | English | ANG | 0 | 60 | | Z | | | | | | 3 |
| 16 | Algorithms and Data Structures | ASD | 30 | 30 | | | EZ | | | | | 5 |
| 17 | Statistical Data Analysis | SAD | 30 | 30 | | | EZ | | | | | 5 |
| 18 | Database Systems | SBD | 30 | 30 | | | EZ | | | | | 6 |
| 19 | Digital Systems and Foundations of Electronics | SYC | 30 | 30 | | | Z | | | | | 4 |
| 20 | Universal Programming Techniques | UTP | 30 | 30 | | | Z | | | | | 4 |
| 21 | Computer Networks and Network Programming in Java | SKJ | 30 | 30 | | | EZ | | | | | 5 |
| 22 | English | ANG | 0 | 60 | | | Z | | | | | 3 |
| 23 | Artificial Intelligence Tools | NAI | 30 | 30 | | | | EZ | | | | 7 |
| 24 | Fundamentals of Python Programming | PPY | 30 | 30 | | | | Z | | | | 4 |
| 25 | Physical Education | WF | 0 | 30 | | | | Z | | | | 0 |
| 26 | Information Systems Design | PRI | 30 | 30 | | | | EZ | | | | 7 |
| 27 | Legal Foundations of Business | PPB | 16int | 0 | | | | Z | | | | 3 |
| 28 | Multimedia | MUL | 30 | 30 | | | | Z | | | | 7 |
| 29 | Foreign language | LEK | 0 | 60 | | | | Z | | | | 3 |
| 30 | Project 1 (for each specialization) | PRO1 | 30 | 30 | | | | | Z | | | 7 |
| 31 | Specialization-specific course 1 | / | 30 | 30 | | | | | EZ | | | 6 |
| 32 | Computer Graphics | GRK | 30 | 30 | | | | | EZ | | | 6 |
| 33 | Software Engineering | BYT | 30 | 30 | | | | | EZ | | | 6 |
| 34 | IT Project Management | ZPR | 30 | 30 | | | | | EZ | | | 4 |
| 35 | Foreign language | LEK | 0 | 60 | | | | | Z | | | 3 |
| 36 | Physical Education | WF | 0 | 30 | | | | | Z | | | 0 |
| 37 | Project 2 (for each specialization) | PRO2 | 30 | 30 | | | | | | Z | | 7 |
| 38 | Specialization-specific course 2 | / | 30 | 30 | | | | | | EZ | | 6 |
| 39 | Modeling and analysis of information systems | MAS | 30 | 30 | | | | | | EZ | | 6 |
| 40 | Information Systems Security | BSI | 30 | 30 | | | | | | EZ | | 6 |
| 41 | Foreign language | LEK | 0 | 60 | | | | | | Z | | 3 |
| 42 | Project 3 (for each specialization) | PRO3 | 30 | 30 | | | | | | | Z | 9 |
| 43 | Internship | | | 160h | | | | | | | | 6 |
| 44 | Human-Computer Interaction | ICK | 30 | 30 | | | | | | | EZ | 4 |
| 45 | Foreign language | LEK | 0 | 30 | | | | | | | Z | 3 |
| Elective courses (6 required) | | | | | | | | | | | | X |
| 1 | Foundations of Computer Simulations | PSM | 30 | 30 | | | | | EZ | | | 4 |
| 2 | Database Applications | APBD | 30 | 30 | | | | | EZ | | | 4 |
| 3 | Distributed Programming Technologies | TPO | 30 | 30 | | | | | EZ | | | 4 |
| 4 | Knowledge Engineering Methods* | MIW | 30 | 30 | | | | | | EZ | | 4 |
| 5 | Machine Learning Foundations* | PUM | 30 | 30 | | | | | | EZ | | 4 |
| 6 | Basics of Bioinformatics** | PBIO | 30 | 30 | | | | | | EZ | | 4 |
| 7 | Business Process Engineering** | IPB | 30 | 30 | | | | | | EZ | | 4 |
| 8 | Machine learning deployment and AutoML**** | SUML | 30 | 30 | | | | | | | EZ | 4 |
| 9 | Automata and Grammars*** | AUG | 30 | 30 | | | | | | | EZ | 4 |
| 10 | Machine learning operations and system architectures*** | ASI | 30 | 30 | | | | | | | EZ | 4 |
| 11 | Content Management Systems**** | CMS | 30 | 30 | | | | | | | EZ | 4 |
| Specialization-specific courses | | | | | | | | | | | | X |
| 1 | Internet Technologies (specialization codes: A, IO, E, G) | TIN | 30 | 30 | | | | | | EZ | | 6 |
| 2 | Advanced Computer Networks (specialization codes: B, H, C) | ZSK | 30 | 30 | | | | | | EZ | | 6 |
| 3 | Intelligent Control Systems (specialization codes: D, F) | ISS | 30 | 30 | | | | | | EZ | | 6 |
| 4 | Participatory Game Design (specialization code: J) | PAPG | 30 | 30 | | | | | | EZ | | 6 |
| 5 | Database Administration (specialization codes: A, IO) | ABD | 30 | 30 | | | | | | | EZ | 6 |
| 6 | Advanced Operating Systems (specialization codes: B, C) | ZSO | 30 | 30 | | | | | | | EZ | 6 |
| 7 | Machine Vision (specialization codes: D, E, F) | WMA | 30 | 30 | | | | | | | EZ | 6 |
| 8 | Unity - Design Patterns and Programming Practices (spec.: J) | UWP | 30 | 30 | | | | | | | EZ | 6 |
| 9 | Mobile Programming (specialization codes: G, H) | PRM | 30 | 30 | | | | | | | EZ | 6 |

T - course conducted remotely using teleconferencing platform

ECTS required: **229**

*Student may choose only one course from each pair marked with the same number of asterisks.

E - exam

Z - graded credit