

Akademia Humanistyczno Ekonomiczna w Łodzi



ERASMUS+ INCOMING STUDENTS ACADEMIC OFFER - COURSES TAUGHT IN ENGLISH COMPUTER SCIENCE WINTER 2023/2024

COMPUTER SCIENCE BACHELOR

1st year, 2nd semester

Mathematical analysis and linear algebra - lecture

The aim of the course is to present the concept of partial derivative and derivative of functions of several variables and the methods of their determination and application. The students will get acquainted with the concepts of the basics of mathematical analysis and with their properties, and learn the concept of a sequence limit and the techniques of calculating limits, the concept of a limit and a function along with its properties and calculation techniques, the definition of the derivative of a function of one variable and theorems concerning the calculus of derivatives and their applications for optimization purposes.

Mathematical analysis and linear algebra - tutorials

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Theoretical foundations of computer science / Information processing technologies – lecture

The aim of the course is to present the concept of partial derivative and derivative of functions of several variables and the methods of their

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Algorithms and data structures - lecture

The aim of the course is to gain knowledge about the basics of the theory of algorithms (complexity, construction), simple and complex data structures. The students will acquire the ability to plan and construct complex algorithms, as well as learn about the possibility of choosing the optimal data structure for a given problem.

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Occupational health and safety with elements of ergonomics - lectures

The aim of the course is to provide students with knowledge with knowledge in **1** the field of occupational health and safety.

Basics of programming 1 – lecture

The aim of the course is to gain knowledge in the field of the subject. The students will learn to design, design computer programs and create the correct source code, as well as run the created program code using the selected translator.

Basics of programming 1 – tutorials

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Basics of programming 1 – project

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Architecture of computer systems / Functionality, organization and implementation of computer systems – lecture

The aim of the course is to gain knowledge about the construction of computers and methods of data presentation and processing in computer, as well as lowlevel mechanisms of operation, construction and creation of computer programs.

Architecture of computer systems / Functionality, organization and implementation of computer systems – workshops

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2nd year, 4th semester

SQL language / database management system - lecture

The aim of the course is to gain knowledge in the field of the study. The students **2** will learn to process data in a relational database using SQL.

Database systems - lectures

The aim of the course is to gain knowledge in the field of advanced software functionalities for data collection and mining. The course will prepare students for the use of IT tools supporting the collection and data mining, and show how to design databases and explore them. The students will develop the ability to use IT tools dedicated to data collection and mining, as well as shape the attitude of professional use of databases in engineering and business practice.

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Database systems - project

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| Basics of computer graphics – lecture The aim of the course is to familiarize students with the basic elements of computer graphics and their practical applications. | 1 |
| Basics of computer graphics – workshops The aim of the course is to familiarize students with the basic elements of computer graphics and their practical applications. | 2 |
| Basics of computer graphics -project The aim of the course is to familiarize students with the basic elements of computer graphics and their practical applications. | 3 |
| 3rd year, 6th semester | |
| Artificial intelligence – lecture The aim of the course is to familiarize the students with the issues of the basics of artificial intelligence and the solutions used in it in terms of theory and practice. | 2 |
| Artificial intelligence – project The aim of the course is to familiarize the students with the issues of the basics of artificial intelligence and the solutions used in it in terms of theory and practice. | 2 |
| Programming of web applications / Framework for web applications – | |

lecture

The aim of the study transferring knowledge in the field of the subject. The students will learn the ability to program and design web applications - run on web pages /The aim of the course is to gain knowledge about the use of Frameworks. The students will be acquainted with the knowledge of the .NET Framework and other technologies, how to create applications using Ruby on Rails Framework, creating scripts, functional programming, creating systems in the cloud.

Programming of web applications / Framework for web applications - workshops

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Object oriented programming 2 – lecture

The aim of the course is to transfer knowledge in the field of the subject. The students will improve the ability to design computer programs in the OOP - Object Oriented Programming paradigm, creating effective source code and using the advantages of the object-oriented approach.

Object oriented programming 2 – workshops

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