



Subject card

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| Subject name and code | Computer System Organization - laboratory, PG_00047622 | | | | | | |
| Field of study | Automatic Control, Cybernetics and Robotics | | | | | | |
| Date of commencement of studies | October 2022 | | Academic year of realisation of subject | | 2024/2025 | | |
| Education level | first-cycle studies | | Subject group | | Optional subject group Subject group related to scientific research in the field of study | | |
| Mode of study | Full-time studies | | Mode of delivery | | at the university | | |
| Year of study | 3 | | Language of instruction | | Polish | | |
| Semester of study | 6 | | ECTS credits | | 1.0 | | |
| Learning profile | general academic profile | | Assessment form | | assessment | | |
| Conducting unit | Department of Automatic Control -> Faculty of Electronics, Telecommunications and Informatics | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr inż. Krzysztof Cisowski | | | | |
| | Teachers | | dr inż. Krzysztof Cisowski | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 0.0 | 0.0 | 15.0 | 0.0 | 0.0 | 15 |
| | E-learning hours included: 0.0 | | | | | | |
| Learning activity and number of study hours | Learning activity | Participation in didactic classes included in study plan | | Participation in consultation hours | | Self-study | SUM |
| | Number of study hours | 15 | | 1.0 | | 9.0 | 25 |
| Subject objectives | The main aim of the subject is to gain knowledge about the most common computer systems organization and basic knowledge of computer system components and principles of their operation. The knowledge is applied for designing of computer PC programs. | | | | | | |
| Learning outcomes | Course outcome | | Subject outcome | | Method of verification | | |
| | [K6_U03] can design, according to required specifications, and make a simple device, facility, system or carry out a process, specific to the field of study, using suitable methods, techniques, tools and materials, following engineering standards and norms, applying technologies specific to the field of study and experience gained in the professional engineering environment | | The student describes and knows how to use in practice the design methods, in accordance with the given specification, and perform a simple device, object, system typical for the field of automation, or implement the process using appropriately selected methods, techniques, tools and materials, using engineering standards and norms, applying technologies relevant to the field of automation and using experience gained in an environment professionally engaged in engineering activities | | [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment | | |
| | [K6_U04] can apply knowledge of programming methods and techniques as well as select and apply appropriate programming methods and tools in computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study | | Student describes and put to use in practice elements of computer system architecture. Student describes and knows how to use in practice the elementary principles of programming a computer system. Student describes and knows how to use it in practice a system of inputs and outputs of the computer system. Student describes and put to use in practice the interrupt system. Student describes and put to use in practice PC computers and the PC BIOS programming module | | [SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment | | |

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| Subject contents | The implementation of 6 projects in the form of computer programs written in any programming environment of computers PC. Topics of projects: model of software simulator of the microprocessor, extension the area of operation of the simulator by application of ten selected BIOS interrupts, program that uses the technique of creating a graphical user interface, application that simulates a serial communication compatible with the RS232 standard, "dependent on the time" application (eg . tester of human psychomotor skills), simulator of "production line" position of dispatcher. | | |
| Prerequisites and co-requisites | Knowledge of the basic issues of digital technology and programming in one of languages: C++, C#, Visual C++ or Java etc. | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | Average rating of the projects | 50.0% | 100.0% |
| Recommended reading | Basic literature | A. Pyrchla, B. Danowski, BIOS, Przewodnik, Helion 2007, A. S. Tanenbaum, Strukturalna organizacja systemów komputerowych, Helion 2006, R. Irvine, Asembler dla procesorów Intel, vademekum profesjonalisty, Helion 2003, Katalogi, Strony WWW | |
| | Supplementary literature | — | |
| | eResources addresses | Adresy na platformie eNauczanie: | |
| Example issues/ example questions/ tasks being completed | | | |
| Work placement | Not applicable | | |