

| STUDY MODULE DESCRIPTION FORM | | |
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| Name of the module/subject Operating systems | | Code 1010334541010330105 |
| Field of study Information Engineering | Profile of study (general academic, practical) (brak) | Year /Semester 2 / 4 |
| Elective path/specialty - | Subject offered in: Polish | Course (compulsory, elective) obligatory |
| Cycle of study: First-cycle studies | Form of study (full-time, part-time) part-time | |
| No. of hours Lecture: 8 Classes: - Laboratory: 8 Project/seminars: - | | No. of credits 3 |
| Status of the course in the study program (Basic, major, other) (brak) | | (university-wide, from another field) (brak) |
| Education areas and fields of science and art | | ECTS distribution (number and %) |
| Responsible for subject / lecturer: dr inż. Krzysztof Bucholc email: krzysztof.bucholc@put.poznan.pl tel. +48 61 665 3531 Wydział Elektryczny ul. Piotrowo 3A 60-965 Poznań | | |
| Prerequisites in terms of knowledge, skills and social competencies: | | |
| 1 | Knowledge | Student has an ordered and well-based in theory, knowledge of basic algorithms and their analysis, design techniques, abstract data structures and their implementation, computationally difficult problems - K_W04 |
| 2 | Skills | Student can by herself/himself acquire knowledge from the literature, databases and other sources; can also integrate the acquired knowledge, interpret it, reason, formulate conclusions and justify them - K_U01 Student is able to use programming environments and platforms to write, perform and test simple programs coded in imperative programming languages - [K_U10] |
| 3 | Social competencies | Student understands and is aware of the importance of nontechnical issues related to computer engineer activity. Student understands the responsibility associated to his engineering decisions. - [K_K02] |
| Assumptions and objectives of the course: The objectives of this course is to understand operating system basic structure and implementation principles from the systems programmer viewpoint. | | |
| Study outcomes and reference to the educational results for a field of study | | |
| Knowledge: 1. Student has organized knowledge with theoretical foundations of computer architecture, principles of operation of operating systems and types of operating systems - [K_W06] | | |
| Skills: 1. Student is able to do critical analysis of computer hardware operations, operating system and computer networks. - [K_U11] 2. Student is able to use programming environments and platforms to write, perform and test simple programs coded in imperative programming languages - [K_U10] 3. Student is able to evaluate the usefulness of routine methods and tools for solving simple tasks typical of engineering informatics and select and apply appropriate technologies - [K_U22] | | |
| Social competencies: 1. 1. Student understands and is aware of the importance of nontechnical issues related to computer engineer activity. - [K_K02] | | |
| Assessment methods of study outcomes | | |

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| Lecture: written exam | | |
| Laboratory: exercises assesment, two tests | | |
| Course description | | |
| Lecture: Architecture of selected operating systems. Real time operating systems. Shell programming. Programming with system functions. Inter process communication. Multithreaded programming. Virtual machines. Computer system administration. | | |
| Laboratory: Basics of Linux. Shell programming. Programming with system functions. Administration and log analysis. | | |
| Basic bibliography: | | |
| 1. Glass G., Ables K., Linux dla programistów i użytkowników, Helion, 2007 | | |
| 2. Matthew N.,Stones R., Linux programowanie, RM, 1999 | | |
| 3. Mitchell M., Oldham J., Samuel A., Linux Programowanie dla zaawansowanych, RM, Warszawa, 2002 | | |
| 4. W. Stallings, Systemy operacyjne. Struktura i zasady budowy, PWN, 2006 | | |
| Additional bibliography: | | |
| 1. Bovet D., Cesati M., Linux kernel, RM, Warszawa,2001 | | |
| 2. Stallings W., Operating Systems: Internals and Design Principles 6ed, Prentice-Hall, 2009 | | |
| Result of average student's workload | | |
| Activity | Time (working hours) | |
| 1. Lecture | 8 | |
| 2. Laboratory | 8 | |
| 3. Preparation for laboratory | 16 | |
| 4. Laboratory reports preparation | 8 | |
| 5. Preparation for exam | 30 | |
| 6. Consultations and exam | 5 | |
| Student's workload | | |
| Source of workload | hours | ECTS |
| Total workload | 75 | 3 |
| Contact hours | 21 | 1 |
| Practical activities | 32 | 1 |