

Incoming student mobility

UNIOS University Unit: SCHOOL OF APPLIED MATHEMATICS AND INFORMATICS

COURSES OFFERED IN FOREIGN LANGUAGE FOR ERASMUS+ INDIVIDUAL INCOMING STUDENTS

Department or Chair within the UNIOS Unit	School of Applied Mathematics and Informatics
Study program	Graduate university study programme in mathematics (Master level) Branches: <ul style="list-style-type: none"> Mathematics and Computer Science
Study level	Graduate (master)
Course title	Operating systems
Course code (if any)	I067
Language of instruction	English
Brief course description	<p>Syllabus.</p> <ol style="list-style-type: none"> 1. Introduction. Brief history of hardware and operating systems. Basic concepts and structures of operating systems. 2. Threads and processes. Implementation and manipulation. Inter-thread and inter-process communication. Scheduling. Shared memory. 3. Memory. Address space. Virtual memory. Page file and accompanying concepts. Implementation and algorithms. 4. File system. Files and folders. Implementation. Optimization and management of the file system. 5. Input and output. Hardware and software background. Controller programs. Disks. 6. Interrupts and deadlocks. Deadlock detection and recovery. Avoiding and preventing deadlocks. 7. Virtualization and cloud. Virtualization techniques. Virtualization of input, output and memory. Virtualization on multi-processor systems. Cloud. 8. Multi-processor systems. Distributed systems. 9. Operating system security. Access control. Formal models. Authentication. Attacks, computer viruses and protection.

ERASMUS+

EU programme for education, training, youth and sport

Form of teaching	
Form of assessment	Lectures and exercises are obligatory. The exam consists of a written and an oral part which are taken after all the lectures are done. Successful homework results, done during the semester, and an acceptable final project, done after all of the lectures, may replace the written exam. Practices are partly auditory and partly done in the computer lab.
Number of ECTS	8
Class hours per week	3+2+1
Minimum number of students	
Period of realization	Summer semester
Lecturer	Domagoj Matijević