

SYLLABUS COURSE DESCRIPTION

COURSE TITLE	Operating Systems
COURSE CODE	75009
SCIENTIFIC SECTOR	ING-INF/05
DEGREE	Bachelor in Computer Science and Engineering
SEMESTER	1st Semester
YEAR	2nd
CREDITS	8

TOTAL LECTURING HOURS	48
TOTAL LAB HOURS	24
PREREQUISITES	Good knowledge in a programming language; basic concepts of computing and hardware
COURSE PAGE	https://ole.unibz.it/

SPECIFIC EDUCATIONAL OBJECTIVES	- Type of course: “caratterizzanti” for L-31 and L-08 - Scientific area: “discipline informatiche” for L-31 and “Ingegneria Informatica” for L-8 Establish a fundamental understanding of Operating Systems and their components/functionalities.
--	---

LECTURER	Fabio Persia Office POS 2.11, Faculty of CS, POS Building, Piazza Domenicani 3 http://www.inf.unibz.it/~fpersia/ Fabio.Persia@unibz.it
SCIENTIFIC SECTOR OF THE LECTURER	ING-INF/05
TEACHING LANGUAGE	English
OFFICE HOURS	Thursdays, 15:00 – 17:00 Office POS 2.11, Faculty of CS, POS Building, Piazza Domenicani 3 Fabio.Persia@unibz.it
TEACHING ASSISTANT	Roberto Ghelli

OFFICE HOURS	During the lecture time span: available, by previous email Wednesdays 10:30-12:30, Faculty of CS, POS Building, Piazza Domenicani 3, office 1.04, roberto.ghelli@unibz.it
LIST OF TOPICS COVERED	• Role of operating systems • Resources • Scheduling • Concurrency • Processes and synchronization • Memory management • File systems • Security and protection
TEACHING FORMAT	Frontal lectures and labs.

LEARNING OUTCOMES	Knowledge and understanding • understand the key principles, the structures and the organization of computer systems; • know the fundamental principles of programming; Applying knowledge and understanding • be able to develop scripting programs to interact with the operating system of modern computers; Making judgments • be able to collect useful data and to judge information systems and their applicability • be able to work autonomously according to the own level of knowledge Communication skills • be able to use modern communication systems Ability to learn • be able to learn the innovative features of state-of-the-art technologies and information systems • be able to learn cutting edge IT technologies and their strengths and limitations
--------------------------	--

ASSESSMENT	The exam evaluates the understanding of fundamental operating system concepts and checks whether the candidates have also acquired detailed knowledge about operating systems. This is done through e.g., open questions in the final exam (written and oral), and grading of the lab exercises. All parts must be positive to pass.
ASSESSMENT LANGUAGE	English
EVALUATION CRITERIA AND CRITERIA FOR AWARDING MARKS	Final exam (written and oral) [70%] + lab [30%]

REQUIRED READINGS	Operating System Concepts with Java Abraham Silberschatz et al; 2011
--------------------------	---

SUPPLEMENTARY READINGS	Modern operating systems Andrew S. Tanenbaum; 2008 Operating systems: internals and design principles William Stallings; 2001
SOFTWARE USED	Lectures: none; Labs & Projects: Linux in a Virtual machine preferred; Version of Linux will be announced during lab and must precisely be the one announced