Fakultät für Informatik
Facoltà di Scienze e Tecnologie informatiche
Faculty of Computer Science

SYLLABUS
COURSE DESCRIPTION

COURSE TITLE	**Operating Systems**
COURSE CODE	76241
SCIENTIFIC SECTOR	ING-INF/05
DEGREE	Bachelor in Computer Science
SEMESTER	2nd
YEAR	1st
CREDITS	6

TOTAL LECTURING HOURS	40
TOTAL LAB HOURS	20
ATTENDANCE	Attendance is not compulsory but recommended. Non-attending students have to contact the lecturer at the start of the course to agree on the modalities of the independent study.
PREREQUISITES	
COURSE PAGE	https://ole.unibz.it/

SPECIFIC EDUCATIONAL OBJECTIVES	Type of course: "di base" Scientific area: "Formazione informatica di base" The goal of this course is to give students an understanding of: • the operating systems and their components/functionalities; • the foundation of their programming in C; • scheduling algorithms; • processes and synchronization; • memory management

LECTURER	Andrea Molinari
SCIENTIFIC SECTOR OF THE LECTURER	
TEACHING LANGUAGE	Italian

OFFICE HOURS	Thursdays, 16:00 – 18:00 Office POS 1.04, Faculty of CS, POS Building, Piazza Domenicani 3 Email: andrea.molinari@unibz.it
TEACHING ASSISTANT	Segata Michele Artale Alessandro
OFFICE HOURS	Alessandro Artale: Tuesday 15:00-18:00, upon email appointment. POS 2.03, Faculty of CS, Piazza Domenicani 3. artale@inf.unibz.it Michele Segata: Mondays 9:00-11:00 upon mail appointment. Faculty of CS, POS 2.19, Piazza Domenicani 3 michele.segata@unibz.it
LIST OF TOPICS COVERED	• Programming in C • Scheduling and concurrency • Processes and synchronization • File systems and memory management • Storage management • Security and protection
TEACHING FORMAT	This course will be delivered through a combination of formal lectures and labs.

LEARNING OUTCOMES	**Knowledge and understanding** • Know the fundamental principles of programming; • Know the innovative aspects of the last generation of operating systems. **Applying knowledge and understanding** • Ability to develop programs to interact with microcontrollers and the operating systems of modern computers. **Making judgments** • Be able to work autonomously according to the own level of knowledge and understanding. **Communication skills** • Be able to use one of the three languages English, Italian and German, and be able to use technical terms and communication appropriately. **Ability to learn** • Have developed learning capabilities to pursue further studies with a high degree of autonomy; • Be able to follow the fast technological evolution and to learn cutting edge IT technologies and innovative aspects of last generation information systems.

ASSESSMENT	Written exam: more specifically, the assessment consists of: • theoretical questions and exercises (some exercises are related to what was explained during the Lab) The aim of the written exam is to check the understanding of fundamental concepts and whether the candidates have also acquired detailed knowledge about operating systems. This is done through open questions about both the theoretical content and the lab exercises.

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ASSESSMENT LANGUAGE	**Italian**
EVALUATION CRITERIA AND CRITERIA FOR AWARDING MARKS	Marks are distributed as follows: • theoretical questions (70%) and exercises related to what has been explained during the lab (30 %). The written exam questions will be evaluated in terms of correctness and clarity.

REQUIRED READINGS	• Operating System Concepts, Abraham Silberschatz et al; 2012, Ninth Edition. • Che C serve? – Per iniziare a programmare – E. Burattini et al., 2016, Seconda Edizione • Additional materials will be provided during the lessons and labs.
SUPPLEMENTARY READINGS	• Modern operating systems, Andrew S. Tanenbaum; 2008 • Operating Systems: internals and design principles, William Stallings; 2001 • C: How to Program, Seventh Edition, Paul Deitel, Harvey Deitel
SOFTWARE USED	• C/C++