COURSE OUTLINE

(1) GENERAL

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>SCHOOL OF ENGINEERING</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACADEMIC UNIT</td>
<td>COMPUTER ENGINEERING AND INFORMATICS</td>
</tr>
<tr>
<td>LEVEL OF STUDIES</td>
<td>UNDERGRADUATE</td>
</tr>
<tr>
<td>COURSE CODE</td>
<td>CEID_NY330</td>
</tr>
<tr>
<td>SEMESTER</td>
<td>WINTER (5th)</td>
</tr>
<tr>
<td>COURSE TITLE</td>
<td>OPERATING SYSTEMS</td>
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</tbody>
</table>

INDEPENDENT TEACHING ACTIVITIES

| Lectures, Laboratory Exercises, Recitation sections | 3X2X3 | 3 |

Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).

WEEKLY TEACHING HOURS 8 8

COURSE TYPE

General background, specialised general knowledge, skills development

PREREQUISITE COURSES:

There are no prerequisite courses. It is however recommended that students have at least a basic knowledge of Data Structures (CEID_NY233), Algorithms (CEID_NY205) and Programming (CEID_NY131).

LANGUAGE OF INSTRUCTION and EXAMINATIONS:

Greek. Instruction may be given in English if foreign students attend the course.

IS THE COURSE OFFERED TO ERASMUS STUDENTS

YES

COURSE WEBSITE (URL)


https://eclass.upatras.gr/courses/CEID1135/

(2) LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area
- Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B
- Guidelines for writing Learning Outcomes

At the end of this course the student will:

1. have understood the basic concepts of Operating Systems and data management and will have understand the issues that are specific to the efficient implementation of such systems.
2. have understood the basic concepts of processes, threads, interprocess communication and scheduling.
3. have understood the technique and algorithms of memory management.
4. have understood the various storage strategies and access methods in file systems

Competences

At the end of the course the student will have further developed the following skills/competences:

1. ability to understand the various concepts and basic principles of operating systems and how they are related to the performance of working systems.
2. ability to apply these concepts methodologically in order to design and implement efficient operating systems.
3. ability to work cooperatively in order to solve problems that arise during the development of a full-fledged working operating system.
4. studying abilities that are needed for continuous professional development.

General Competences
Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Decision-making
Working independently
Team work
Project planning and management
Criticism and self-criticism
Production of free, creative and inductive thinking

(3) SYLLABUS


Memory management: (a) Real memory: organization, work, continuous-discontinuous sharing, fixed separation method, rotation. (b) Memory: paging, segmentation, combinations, average page length, average number of hole-parts, 50% rule, page replacement methods, locality, workgroup, layout-by-demand, program behavior. Schedule CPU and Disks. Deadlock Theory.

(4) TEACHING and LEARNING METHODS - EVALUATION

<table>
<thead>
<tr>
<th>DELIVERY</th>
<th>Face-to-face, Distance learning, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</td>
<td>We use Information and Communications Technology in communication with students. We use e_class, e_mail, forum. The course has a web site.</td>
</tr>
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<tr>
<th>TEACHING METHODS</th>
<th>Activity</th>
<th>Semester workload</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Lectures</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Laboratory Practise</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Recitation</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Course total</td>
<td>240</td>
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</table>
The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS.

### STUDENT PERFORMANCE EVALUATION

**Description of the evaluation procedure**

Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other.

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.

(1) Written examination (50% of the final grade)
(2) Laboratory exercises (50% of the final grade)

### (5) ATTACHED BIBLIOGRAPHY

- **Suggested bibliography:**

- **Related academic journals:**