

MODULE OUTLINE

1. GENERAL INFORMATION

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| SCHOOL | SCHOOL OF SCIENCE AND TECHNOLOGY | | |
| PROGRAM COURSE | INFORMATICS | | |
| LEVEL OF STUDY | UNDERGRADUATE | | |
| MODULE CODE | PLI40 | YEAR OF STUDY | 4 th |
| MODULE TITLE | Project Development in Software Topics | | |
| INDEPENDENT TEACHING ACTIVITIES <i>in case credits are awarded for separate components/parts of the course, e.g. in lectures, laboratory exercises, etc. If credits are awarded for the entire course, give the weekly teaching hours and the total credits</i> | | HOURS | CREDIS |
| Weekly teaching hours * 32 weeks | | 16-18 | 20 ECTS |
| COURSE TYPE <i>Background knowledge, Scientific expertise, General Knowledge, Skills Development</i> | Scientific expertise, Skills Development Optional mandatory instead of PLI23, PLI42 or PLI47 | | |
| PREREQUISITE MODULES: | The choice of PLI40 is allowed only, if the student has completed in previous years or will complete in the current year (simultaneously with this one) at least 11 other modules. | | |
| LANGUAGE OF INSTRUCTION AND EXAMS | GREEK | | |
| THE MODULE IS OFFERED TO ERASMUS STUDENTS | No (due to annual duration of the module) | | |
| MODULE WEBSITE (URL) | https://www.eap.gr/education/undergraduate/computer-science/topics/#pros_asfalia Each module has its own space in the Learning Management System of EAP (http://study.eap.gr), with controlled access (use of code) for students and teaching staff. | | |

2. LEARNING OUTCOMES

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| <p>Learning Outcomes</p> <ul style="list-style-type: none"> The course learning outcomes, specific knowledge, skills and competences of an appropriate (certain) level, which students will acquire upon successful completion of the course, are described in detail. It is necessary to consult: |
| <p>Upon completing this module, the students will be able to:</p> <ul style="list-style-type: none"> Analyze a complex problem by identifying the basic skills and tools that are necessary for problem solving. |

- Design the actions that lead to the solution of the problem, incorporating good practices and composing skills from different scientific fields.
- Implement, evaluate and improve the solution of the problem.
- Incorporate and apply a structured, module and repetitive methodology of problem solving.
- Have easy going cooperation with the Supervisor and the members of the JC, by showing responsibility and building up communication skills.
- Write a concise Thesis that includes the analysis of the problem, the methodology used and the produced results.
- Defend publicly their Thesis, answering to relative questions.

General Competences

Taking into consideration the general competences that students/graduates must acquire (as those are described in the Diploma Supplement and are mentioned below), at which of the following does the course attendance aim?

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| <i>Search for, analysis and synthesis of data and information by the use of appropriate technologies,</i> | <i>Project planning and management</i> |
| <i>Adapting to new situations</i> | <i>Respect for diversity and multiculturalism</i> |
| <i>Decision-making</i> | <i>Environmental awareness</i> |
| <i>Individual/Independent work</i> | <i>Social, professional and ethical responsibility and sensitivity to gender issues</i> |
| <i>Group/Team work</i> | <i>Critical thinking</i> |
| <i>Working in an international environment</i> | <i>Development of free, creative and inductive thinking</i> |
| <i>Working in an interdisciplinary environment (Other.....citizenship, spiritual freedom, social</i> | <i>.....</i> |
| <i>Introduction of innovative research</i> | <i>awareness, altruism etc.)</i> |

Search for, analysis and synthesis of data and information by the use of appropriate technologies
 Decision-making
 Individual/Independent work
 Working in an interdisciplinary environment
 Introduction of innovative research
 Development of free, creative and inductive thinking

3. MODULE CONTENT

PLI40, as it is implemented during the current academic year, includes the development of a Graduate Thesis (G.T.), which deals with solving, at theoretical and applied level, one or more problems that are related to the sciences and technologies of Informatics and Telecommunications. Therefore, PLI40, within the framework of the thesis, provides the opportunity for synthesis and utilization of the knowledge acquired during the studies. The scientific responsibility for the development of the thesis is assigned to a three-member Judgment Committee (J.C.), one member of which is responsible for supervising and supporting the student (Supervisor), in accordance with the prevailing ethics and practice in Computer Science and respecting the principles of Open and Distance Education as well as of Adult Education.

The development of the thesis follows a methodology according to which the elaboration of GT is divided into four phases: Analysis, Design, Development, Integration. Each phase

corresponds to a project assignment. At the end of each phase, the student must submit to the JC the corresponding project, which is evaluated by the JC.

The Subjects of the Module:

1. Compilers
2. Operating Systems
3. Databases

In the context of this module, any system implementation is admissible, given that it will highlight some developed component that is based on at least one of the above subjects.

4. TEACHING METHODS--ASSESSMENT

| <p style="text-align: center;">MODES OF DELIVERY</p> <p><i>Face-to-face, in-class lecturing, distance teaching and distance learning etc.</i></p> | Distance education including five Group Consultation Meetings (GCM) during the academic year on weekends. | | | | | | | | | | | | |
|---|---|-----------------|------------------------|---|----|---|----|------------------|---------|---|-----|--------------------------------------|----------------|
| <p style="text-align: center;">USE OF INFORMATION AND COMMUNICATION TECHNOLOGY</p> <p><i>Use of ICT in teaching, Laboratory Education, Communication with students</i></p> | <p>For the Thesis implementation, the following are used :</p> <ul style="list-style-type: none"> → remote meetings tools (webex), → presentation software (e.g. power point), → bibliography search systems (Academia, Research Gate, Google Scholar etc). <p>Additionally, the students use office automation tools, web browsers and e-reader for digital books.</p> | | | | | | | | | | | | |
| <p style="text-align: center;">MODULE DESIGN</p> <p><i>Description of teaching techniques, practices and methods: Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, Internship, Art Workshop, Interactive teaching, Educational visits, projects, Essay writing, Artistic creativity, etc</i></p> <p><i>The study hours for each learning activity as well as the hours of selfdirected study are given</i></p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Activity</th> <th style="text-align: center;">Annual Workload</th> </tr> </thead> <tbody> <tr> <td>At least 2 consultation meetings per project (4 projects x 2 x 2 hours)</td> <td style="text-align: center;">16</td> </tr> <tr> <td>Bibliography search ç (1 hour x 34 weeks)</td> <td style="text-align: center;">34</td> </tr> <tr> <td>Individual study</td> <td style="text-align: center;">342-406</td> </tr> <tr> <td>Carrying out 4 projects (4 projects x 30 h)</td> <td style="text-align: center;">120</td> </tr> <tr> <td>Total module workload (hours)</td> <td style="text-align: center;">512-576</td> </tr> </tbody> </table> | Activity | Annual Workload | At least 2 consultation meetings per project (4 projects x 2 x 2 hours) | 16 | Bibliography search ç (1 hour x 34 weeks) | 34 | Individual study | 342-406 | Carrying out 4 projects (4 projects x 30 h) | 120 | Total module workload (hours) | 512-576 |
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| <p><i>following the principles of the ECTS.</i></p> | |
| <p>STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS <i>Detailed description of the evaluation procedures.</i></p> <p><i>Language of evaluation, assessment methods, formative or summative (conclusive), multiple choice tests, short- answer questions, open-ended questions, problem solving, written work, essay/report, oral exam, presentation, laboratory work, other.....etc.</i></p> <p><i>Specifically defined evaluation criteria are stated, as well as if and where they are accessible by the students</i></p> | <p>Students are obliged to carry out 4 written assignments in Greek, during the academic year, which are the parts of the Thesis. The average grade of the assignments participates in forming the final grade of the Thesis by 30%, if the thesis is approved for final examination-presentation, and there is a pass grade in the final examination-presentation. The grade of the final examination-presentation, which takes place in front of a three-member committee in a special meeting, participates by the remaining 70% in forming the final grade.</p> <p>The evaluation procedure and criteria are included in the Regulation of PLI40: https://www.eap.gr/wp-content/uploads/2020/11/Κανονισμός-λειτουργίας-Θ.Ε.-ΠΛΗ40.pdf</p> |

(6) SUGGESTED BIBLIOGRAPHY

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| <p><i>- Suggested bibliography:</i></p> <p>HOU Publications: Volume A': Compilers, HOU, Patra 2003. PLI40/1 (in Greek) Volume B': Databases, HOU, Patra 2003. PLI40/2 (in Greek) Volume C': Operating Systems, HOU, Patra 2003. PLI40/3 (in Greek)</p> <p>Additionally, the module features an extended compilation of complementary material in the university LMS platform</p> <p><i>-Related scientific Journals:</i></p> <ol style="list-style-type: none"> 1) Communications of the ACM 2) IEEE Computer 3) AI Magazine |
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