

MODULE OUTLINE

1. GENERAL INFORMATION

SCHOOL	SCHOOL OF SCIENCE AND TECHNOLOGY		
PROGRAM COURSE	INFORMATICS		
LEVEL OF STUDY	UNDERGRADUATE		
MODULE CODE	PLI-35	YEAR OF STUDY	4 th
MODULE TITLE	Computer Systems Security		
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 Optional		
PREREQUISITE MODULES:	No		
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

<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>Computer security</p> <p>Upon completion of this course, the students will be able to:</p> <ul style="list-style-type: none"> Understand the terminology of this area Understand operating system security issues Develop and manage access control methods

- Protect an information system from malware attacks
- Understand and utilize risk assessment methods
- Develop an information system Security Plan
- Understand the legal aspects of personal data protection

Network Security

Upon completion of this course, the students will be able to:

- Understand the terminology of this area
- Understand the OSI network security architecture
- Manage Internet security issues
- Develop security methods at the application level
- Manage selected application security systems
- Understand the legal aspects of protection of data communications

Cryptography

Upon completion of this course, the students will be able to:

- Understand the terminology of this area
- Understand the essential mathematical background
- To understand the pros and cons of modern cryptosystems
- Manage a cryptosystem
- Utilize digital signatures
- Understand the legal aspects of using cryptosystems

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?

<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 awareness, altruism etc.)</i>	<i>.....</i>
<i>Introduction of innovative research</i>	<i>.....</i>

Search for, analysis and synthesis of data and information by the use of appropriate technologies
 Adapting to new situations
 Decision-making
 Project planning and management
 Development of free, creative and inductive thinking

3. MODULE CONTENT

The key subjects of the module are:

1. Computer security
2. Network security
3. Cryptography

4. TEACHING METHODS--ASSESSMENT

<p>MODES OF DELIVERY <i>Face-to-face, in-class lecturing, distance teaching and distance learning etc.</i></p>	<p>Distance education with five Group Counseling Meetings (OSS) during the academic year on weekends.</p>													
<p>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY <i>Use of ICT in teaching, Laboratory Education, Communication with students</i></p>	<p>We use : Remote meetings tools (e.g. webex), Presentation software (e.g. power point), Specialized software in the subjects under study (e.g. virtual machines, educational tools, etc.).</p> <p>Additionally, the students use office automation tools, web browsers and e-reader for digital books.</p>													
<p>MODULE DESIGN <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>	<table border="1"> <thead> <tr> <th data-bbox="675 1520 1003 1545">Activity</th> <th data-bbox="1010 1520 1326 1545">Annual Workload</th> </tr> </thead> <tbody> <tr> <td data-bbox="675 1549 1003 1583">5 OSS (* 4 hours)</td> <td data-bbox="1010 1549 1326 1583">20</td> </tr> <tr> <td data-bbox="675 1587 1003 1688">Solving Exercise Assignments (4 assignments x 15 hours)</td> <td data-bbox="1010 1587 1326 1688">60</td> </tr> <tr> <td data-bbox="675 1692 1003 1793">Preparation of Assignments (4 assignments * 10 hours)</td> <td data-bbox="1010 1692 1326 1793">40</td> </tr> <tr> <td data-bbox="675 1797 1003 1831">Examination</td> <td data-bbox="1010 1797 1326 1831">7</td> </tr> <tr> <td data-bbox="675 1835 1003 1869">Individual study</td> <td data-bbox="1010 1835 1326 1869">385-449</td> </tr> </tbody> </table>		Activity	Annual Workload	5 OSS (* 4 hours)	20	Solving Exercise Assignments (4 assignments x 15 hours)	60	Preparation of Assignments (4 assignments * 10 hours)	40	Examination	7	Individual study	385-449
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<p><i>The study hours for each learning activity as well as the hours of selfdirected study are given following the principles of the ECTS.</i></p>	<p>Total module workload (hours)</p>	<p>512-576</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>Elaboration of written assignments during the academic year, the average of the grades of which participates in the formation of the final grade of module by 30%, if there is a passable in the final or repetitive examinations. In the final written exams the grade of the written assignments participates in the formation of the final grade of module by 70%.</p> <p>All the criteria are posted, both in each written assignment (in the LMS study.eap.gr), as well as in the general regulation of HOU at: https://www.eap.gr/education/study-regulations/</p>	

(6) SUGGESTED BIBLIOGRAPHY

- Suggested bibliography:

- Book A: Computer Security, HOU, Patras 2001.
- Book B: Network Security, HOU, Patras 2001.
- Book C: Cryptography, HOU, Patras 2002.

Additionally, the module features an extended compilation of complementary material in the university LMS platform

-Related scientific Journals:

- 1) IEEE Security & Privacy
- 2) International Journal of Information Security (IJIS), Springer
- 3) Computers and Security (COSE), Elsevier.
- 4) ACM Transactions on Privacy and Security (TISSEC)
- 5) EURASIP Journal on Information Security, Springer.