

COURSE OUTLINE

(1) GENERAL

SCHOOL	SOCIAL SCIENCES		
ACADEMIC UNIT	DEPARTMENT OF CULTURAL TECHNOLOGY AND COMMUNICATION		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	KPLR 119	SEMESTER	8 th
COURSE TITLE	INFORMATION SECURITY		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		WEEKLY TEACHING HOURS	CREDITS
Lectures		3	5
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Core Course/General Background/Skills Development		
PREREQUISITE COURSES:	None		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	https://eclass.aegean.gr/courses/131162/		

(2) LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>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.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> ● <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> ● <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> ● <i>Guidelines for writing Learning Outcomes</i>
<p>After the completion of the specific course students will be able to:</p> <ul style="list-style-type: none"> ● Know the basic terminology regarding the security of Information Systems according to ISO 2700 ● Know the basic requirements that need to be satisfied for ensuring security in an Information System. ● Understand the basic principles of cryptography both symmetric and asymmetric. ● Know how a user authentication system operates and how it satisfies users' protection needs and requirements. ● Understand the Public Key Infrastructure and its applicability on real case scenarios from both the public and private sector. ● Know the use of digital certificates and digital signatures as well as how to obtain them. ● Understand what a computer virus really is, its various forms and the way it acts in

<p>Information Systems.</p> <ul style="list-style-type: none"> • Know how to analyze an Information System and assess its risk. • Understand the applicability of all aforementioned concepts in the specific needs of Cultural Informatics Environments. 																		
<p>General Competences</p> <p><i>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?</i></p> <table border="0"> <tr> <td><i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i></td> <td><i>Project planning and management</i></td> </tr> <tr> <td><i>Adapting to new situations</i></td> <td><i>Respect for difference and multiculturalism</i></td> </tr> <tr> <td><i>Decision-making</i></td> <td><i>Respect for the natural environment</i></td> </tr> <tr> <td><i>Working independently</i></td> <td><i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i></td> </tr> <tr> <td><i>Team work</i></td> <td><i>Criticism and self-criticism</i></td> </tr> <tr> <td><i>Working in an international environment</i></td> <td><i>Production of free, creative and inductive thinking</i></td> </tr> <tr> <td><i>Working in an interdisciplinary environment</i></td> <td><i>.....</i></td> </tr> <tr> <td><i>Production of new research ideas</i></td> <td><i>Others...</i></td> </tr> <tr> <td></td> <td><i>.....</i></td> </tr> </table>	<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>	<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>	<i>Decision-making</i>	<i>Respect for the natural environment</i>	<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>	<i>Team work</i>	<i>Criticism and self-criticism</i>	<i>Working in an international environment</i>	<i>Production of free, creative and inductive thinking</i>	<i>Working in an interdisciplinary environment</i>	<i>.....</i>	<i>Production of new research ideas</i>	<i>Others...</i>		<i>.....</i>
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<ul style="list-style-type: none"> • Search for, analysis and synthesis of data and information, with the use of the necessary technology • Working in an interdisciplinary environment • Production of free, creative and inductive thinking • Transfer of know-how in other environments • Working independently • Practice Critical Thinking 																		

(3) SYLLABUS

In this course the following issues are presented: Terminology of related terms from the field of Information Systems Security, Identification and Authentication, Access Control, Information System Risk Assessment and Management, Operating Systems Security, Malicious Software, Information Systems Security Policies, Cryptography: Typical cryptographic methods, Symmetric and Asymmetric Cryptosystems, Codes of message authentication, Digital Signatures, Certification Authorities, Public Key Infrastructure, Greek Law Framework, Case Studies in Cultural Informatics Environments.

Lectures	
1.	Introduction - Presentation of course objectives - Description of lectures
2.	Terminology according to ISO 2700
3.	Identification and Authentication
4.	Access Control
5.	Malicious Software
6.	Symmetric Cryptography
7.	Asymmetric Cryptography – Public Key Infrastructure
8.	Digital Certificates and Digital Signatures
9.	Information Security Management System – ISO 27001
10.	Information System Risk Assessment and Management – ISO 27005
11.	Inspection of an Information Security Management System
12.	Case Studies in Cultural Informatics Environments
13.	Revision – Projects evaluation

(4) TEACHING and LEARNING METHODS - EVALUATION

<p style="text-align: center;">DELIVERY</p> <p style="text-align: center;"><i>Face-to-face, Distance learning, etc.</i></p>	Face-to-face															
<p style="text-align: center;">USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</p> <p style="text-align: center;"><i>Use of ICT in teaching, laboratory education, communication with students</i></p>	Use of ICT in teaching, communication with students and for laboratory education.															
<p style="text-align: center;">TEACHING METHODS</p> <p><i>The manner and methods of teaching are described in detail.</i></p> <p><i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i></p> <p><i>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</i></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><i>Activity</i></th> <th style="text-align: center;"><i>Semester workload</i></th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td style="text-align: center;">13 *3 hours = 39 hours</td> </tr> <tr> <td>Lectures' study</td> <td style="text-align: center;">13*3 hours = 39 hours</td> </tr> <tr> <td>Preparation of Semester Project</td> <td style="text-align: center;">13*1 hours = 13 hours</td> </tr> <tr> <td>Semester Project</td> <td style="text-align: center;">13*3 hours = 39 hours</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Course total</td> <td style="text-align: center;">130 hours</td> </tr> </tbody> </table>		<i>Activity</i>	<i>Semester workload</i>	Lectures	13 *3 hours = 39 hours	Lectures' study	13*3 hours = 39 hours	Preparation of Semester Project	13*1 hours = 13 hours	Semester Project	13*3 hours = 39 hours			Course total	130 hours
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<p style="text-align: center;">STUDENT PERFORMANCE EVALUATION</p> <p><i>Description of the evaluation procedure</i></p> <p><i>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</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p>The final evaluation is accomplished with a written exam at the end of the semester and with the implementation of a semester project. Students are examined with open notes.</p> <p>Students are familiar with the evaluation criteria during the initial course lecture at the beginning of the semester and are stored throughout the semester in the course's area in eclass (eclass.aegean.gr).</p> <p>The evaluation of students is based on the grade of the final written examination in all the taught material at a rate of 60% and a project exercise that receives 40% of the grade.</p>															

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

- Σωκράτης Κάτσικας, Στέφανος Γκρίτζαλης, Κωνσταντίνος Λαμπρινουδάκης (2020), Ασφάλεια Πληροφοριών και Συστημάτων στον Κυβερνοχώρο, ΕΚΔΟΣΕΙΣ ΝΕΩΝ ΤΕΧΝΟΛΟΓΙΩΝ, Αθήνα
- ΚΑΤΣΙΚΑΣ - ΓΚΡΙΤΖΑΛΗΣ Δ. - ΓΚΡΙΤΖΑΛΗΣ Σ. (2004), Ασφάλεια Πληροφοριακών Συστημάτων, ΕΚΔΟΣΕΙΣ ΝΕΩΝ ΤΕΧΝΟΛΟΓΙΩΝ ΜΟΝ. ΕΠΕ, Αθήνα
- ΛΑΜΠΡΙΝΟΥΔΑΚΗΣ – ΜΗΤΡΟΥ - ΓΚΡΙΤΖΑΛΗΣ Σ. – ΚΑΤΣΙΚΑΣ (2010), Προστασία της Ιδιωτικότητας & Τεχνολογίες Πληροφορικής & Επικοινωνιών, ΠΑΠΑΣΩΤΗΡΙΟΥ, Αθήνα
- ΠΑΓΚΑΛΟΣ – ΜΑΥΡΙΔΗΣ (2002), Ασφάλεια Πληροφοριακών Συστημάτων, ΕΚΔΟΣΕΙΣ ΑΝΙΚΟΥΛΑ, Αθήνα
- WILLIAM STALLINGS (2008), Βασικές Αρχές Ασφάλειας Δικτύων: Εφαρμογές και Πρότυπα, ΚΛΕΙΔΑΡΙΘΜΟΣ, Αθήνα

- Related academic journals:

- International Journal of Information Security, Springer
- Computers and Security, Elsevier
- Security and Communication Networks, Wiley
- Information Management and Computer Security, Emerald

- International Journal on Advances in Security, IARIA
- Journal of Information Security and Applications, Elsevier
- IEEE Security and Privacy Magazine, IEEE