

COURSE OUTLINE

1. GENERAL

SCHOOL	SCHOOL OF HUMANITIES AND SOCIAL SCIENCES		
ACADEMIC UNIT	HISTORY ARCHAEOLOGY		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	EDG502	SEMESTER	1st
COURSE TITLE	Introduction to Computer Networks		
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 (theoretical part - presentation, study of algorithms for practical problems)	3	3	
Lectures (laboratory part – analysis of foundational algorithms and algorithmic techniques)			
<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>	Background course		
PREREQUISITE COURSES:	No		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)			

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>This course is aiming at introducing the basic concepts of Computer Networks to the students.</p> <p>The issues being analyzed include:</p> <ul style="list-style-type: none"> – Network models. – The OSI reference model. – Network taxonomy: LAN, MAN, WAN. – Network structure.

- Network Topologies.
- Interconnection methodologies and design techniques.
- Communication protocols.
- TCP/IP and the Internet.
- Applications: FTP, SMTP, HTTP, WWW.
- Current trends: Wireless networks, Peer to Peer Networks, Optical Networks, Broadband networks.

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

Project planning and management

Respect for difference and multiculturalism

Adapting to new situations

Respect for the natural environment

Decision-making

Showing social, professional and ethical responsibility and sensitivity to gender issues

Working independently

Criticism and self-criticism

Team work

Production of free, creative and inductive thinking

Working in an international environment

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Working in an interdisciplinary environment

Others...

Production of new research ideas

.....

Familiarity with basic concepts of Computer Networks

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Criticism and self-criticism

Production of free, creative and inductive thinking

3. SYLLABUS

This course is aiming at introducing the basic concepts of Computer Networks to the students. The issues being analyzed include: Network models. The OSI reference model. Network taxonomy: LAN, MAN, WAN. Network structure. Network Topologies. Interconnection methodologies and design techniques. Communication protocols. TCP/IP and the Internet. Applications: FTP, SMTP, HTTP, WWW. Current trends: Wireless networks, Peer to Peer Networks, Optical Networks, Broadband networks.

Lectures are scheduled as follows:

- Introduction: Course outline, objectives and role in the curriculum
- Network models.
- The OSI reference model.
- Network taxonomy: LAN, MAN, WAN.
- Network structure.
- Network Topologies.

- Interconnection methodologies and design techniques.
- Communication protocols.
- TCP/IP and the Internet.
- Applications: FTP, SMTP, HTTP, WWW.
- Current trends: Wireless networks, Peer to Peer Networks, Optical Networks, Broadband networks.

4. TEACHING and LEARNING METHODS - EVALUATION

<p style="text-align: center;">DELIVERY <i>Face-to-face, Distance learning, etc.</i></p>	Face to face, Distance learning	
<p style="text-align: center;">USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	Use of ICT in teaching (online lectures, course website, extensive use of Web resources), in communication/collaboration with students (mailing lists, social networks (Facebook), course website, Doodles) and in the process of progress monitoring and evaluation (use of specialized software for the monitoring and evaluation of student progress)	
<p style="text-align: center;">TEACHING METHODS <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>	Activity	Semester Workload
	Lectures (theoretical part)	39
	Lectures (laboratory part)	
	Intense cooperation among professor and students also using ICT	30
	Independent study	30
	Course total (25 hours per credit)	99
<p style="text-align: center;">STUDENT PERFORMANCE EVALUATION <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>Assessment - Grading Process (it is announced on the course website before the beginning of the semester and remains available throughout the semester)</p> <p>The final score is obtained as a function of:</p> <p>(A) 2 intermediate computer-based multiple choice examinations. They contribute by 40% to the final score.</p> <ul style="list-style-type: none"> - All students attending the course can participate in the intermediate examinations. - Scores are valid only for the current academic year. - Participation in the intermediate exams is not mandatory: students who decide not to participate in intermediate examinations are not excluded from the final examination in February. However, the 2 intermediate examinations contribute to the final score (by 40%). <p>(B) a final, computer-based, multiple choice examination. It contributes by 60% to the final score.</p>	

5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

Computer Networks

ISBN: 9604614479

Publisher: Kleidarithmos (2012)

Author: Andrew S. Tanenbaum

Introduction to Computer Networks

ISBN: 9605123932

Publisher: Giourdas M. (2004)

Author: Richard McMahon

Computer Networks Introduction

ISBN: 9603321834

Publisher: Kleidarithmos (2000)

Author: JoAnne Woodcock