

COURSE OUTLINE

(1) GENERAL

SCHOOL	National and Kapodistrian University of Athens		
ACADEMIC UNIT	Department of Informatics and Telecommunications		
LEVEL OF STUDIES	B.Sc., M.Sc.		
COURSE CODE		SEMESTER	8th
COURSE TITLE	On the Science of Engineering Trustworthy Software Systems		
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
		4	6
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).</i>			
COURSE TYPE <i>general background, special background, specialised general, knowledge, skills development</i>	Special background		
PREREQUISITE COURSES:	None		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	English		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	https://vatlidak-org.github.io/web/teaching/		

(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*

Upon successful completion of the course, the student will be able to:
Understand the theoretical and practical principles of designing reliable software
and reproduce research results in the field of implementing reliable software.

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

Others...

Working in an interdisciplinary environment

Production of new research ideas

Search, analysis and synthesis of data and information, using the necessary technologies, Autonomous work, Promotion of free, creative and inductive thinking, Decision-making, Production of new research ideas, Demonstration of social, professional and ethical responsibility.

(3) SYLLABUS

The course will revolve around recent as well as classic papers published in top tier systems and systems security venues (such as SOSP, OSDI, EuroSys, and USENIX Security).

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	In person only.														
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory</i>	N/A														
TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <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> <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>	<table border="1"> <thead> <tr> <th>Activity</th><th>Semester workload</th></tr> </thead> <tbody> <tr> <td colspan="2">Students will be expected to:</td> </tr> <tr> <td>i)</td><td>Read and Review papers</td> </tr> <tr> <td>ii)</td><td>Make oral presentations</td> </tr> <tr> <td>iii)</td><td>Come up with new research ideas and deliver a self-contained project</td> </tr> <tr> <td>iv)</td><td>Write a final exam</td> </tr> <tr> <td colspan="2">Course total: 6 ECTS</td> </tr> </tbody> </table>	Activity	Semester workload	Students will be expected to:		i)	Read and Review papers	ii)	Make oral presentations	iii)	Come up with new research ideas and deliver a self-contained project	iv)	Write a final exam	Course total: 6 ECTS	
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STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <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> <i>Specifically-defined evaluation criteria are given, and if and where they are</i>	Students will be graded based on their performance on: i) Writing paper reviews ii) Making oral presentation of existing (published) work iii) Coming up with new research ideas iv) Presenting them														

(5) ATTACHED BIBLIOGRAPHY

- *Related academic journals and conferences:*

- * *Symposium on Operating Systems Principles (SOSP)*
- * *Symposium on Operating Systems Design and Implementation (OSDI)*
- * *European Conference on Computer Systems (EuroSys)*
- * *USENIX Security*