

COURSE OUTLINE

(1) GENERAL

SCHOOL	UNIVERSITY OF THESSALY		
ACADEMIC UNIT	DEPARTMENT OF CIVIL ENGINEERING		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE		SEMESTER	7th
COURSE TITLE	Road Safety		
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		4	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, specialized general knowledge, skills development</i>	General background for civil engineers		
PREREQUISITE COURSES:	None		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	https://eclass.uth.gr/courses/CULT_U_175/		

(2) LEARNING OUTCOMES

Learning outcomes <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> <i>Consult Appendix A</i> • <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>
The course aims to: • Understand the broader field of road safety. • Learn methodologies for assessing the risk of the road network. • Acquire knowledge of the interventions required to improve road safety. • Apply methods for evaluating the outcomes of interventions on road safety. Emphasis is placed on providing scientific knowledge and experience in areas related to: • The assessment of road safety under alternative frameworks of: - Infrastructure - management system - transport service • Applying these frameworks to support decision-making regarding the improvement of road safety levels. Upon successful completion of the course, students will be able to: • Analyze the level of risk for rural roads and intersections based on their specific geometric, traffic, and functional characteristics. • Analyze the level of risk for urban and suburban roads and intersections based on their specific geometric, traffic, and functional characteristics.

• Combine the above results using the Bayes method to assess the risk level of a road corridor and network. • Select infrastructure improvement measures and evaluate the change in accident rates. • Apply statistical methods such as POISSON, HAUER, BAYES, X2, Mann-Whitney, Kruskal-Wallis, ANOVA, etc., to assess the impact of various factors on road safety and the level of improvement following the implementation of interventions.	
General Competences <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>	
<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i> <i>Adapting to new situations</i> <i>Decision-making</i> <i>Working independently</i> <i>Team work</i> <i>Working in an international environment</i> <i>thinking Working in an interdisciplinary environment</i> <i>Production of new research ideas</i>	<i>Project planning and management</i> <i>Respect for difference and multiculturalism</i> <i>Respect for the natural environment</i> <i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> <i>Criticism and self-criticism</i> <i>Production of free, creative and inductive</i> <i>.....</i> <i>Others...</i> <i>.....</i>
Furthermore, the teaching of the course aims to enhance the overall skills of students in areas such as: • Investigating and critically evaluating data and information using the necessary technologies. • Adapting to new situations. • Decision-making capabilities. • Individual and teamwork skills. • Project design and management. • Respect for the natural environment.	

(3) SYLLABUS

• Introduction to road safety and the methodology for estimating collision frequency • Traffic safety statistics • Policies and measures for road safety management • Prediction of collisions on rural roads • Prediction of collisions on urban and suburban arteries • Assessment of the impact of interventions on the number of collisions on road sections • Assessment of the impact of interventions on the number of collisions at intersections • Evaluation of interventions
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(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Lectures in class
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	• Use of the course website (e-class) • Presentation and demonstration of intelligent systems (e.g., videos, software) • Instructor-student communication through electronic means (e.g., email)
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>	Activity Semester Workload • Lectures (attendance) 56 hours • Lectures (preparation outside of class hours) 42 hours • Exercises and semester project 24 hours • Exam preparation 16 hours • Educational visit 8 hours • Exams 4 hours Total Course Workload 150 hours

STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure <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 accessible to students.</i>	The grading is based on student performance in the following areas: • Assignments: 20% • Semester projects: 40% • Presentations: 10% • Written exam: 30% The written exam is based on the assignments.
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(5) ATTACHED BIBLIOGRAPHY

-Suggested bibliography: • Highway Safety Manual, First Edition, with 2014 Supplement. American Association of State Highway and Transportation Officials, Washington DC, USA. • Highway Safety Manual, User Guide, National Cooperative Highway Research Program 17-50 Lead States Initiative for Implementing the Highway Safety Manual, August 2014. • E-link: http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP17-50_UserGuide.pdf (και στη βιβλιογραφία του eclass) - Related academic journals: • Accident Analysis and Prevention, Elsevier • Journal of Safety Research, Elsevier • Safety Science, Elsevier • Traffic Injury Prevention, Taylor & Francis • Safety, MDPI • Journal of Transportation Safety and Security, Taylor & Francis • International Journal of Injury Control and Safety Promotion, Taylor and Francis • International Journal of Transportation Safety, SAE • Analytics Methods in Accident Research, Elsevier • Transportation Research Part F: Traffic Psychology and Behaviour, Elsevier
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