

8.18 CE0844 – Traffic Control

(1) GENERAL

SCHOOL	ENGINEERING SCHOOL		
ACADEMIC UNIT	CIVIL ENGINEERING DEPARTMENT		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	CE0844	SEMESTER	8
COURSE TITLE	Traffic Control		
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
		2	3
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Special Background Course		
PREREQUISITE COURSES:	-		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes, for interested students		
COURSE WEBSITE (URL)	https://eclass.uniwa.gr/courses/CIV176/		

(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"> • 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
<p>Upon completion of the course, the students will:</p> <ul style="list-style-type: none"> • have understood the basic variables of traffic flow • be aware of and use technical and technological equipment for traffic counts measurements • be able to perform traffic measurements under real life conditions • be aware of traffic simulation programs and have learnt to use one of them • have participated in user groups in performing collective traffic measurements and analyzing the collected data
<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> <p><i>Search for, analysis and synthesis of data and information, Project planning and management</i></p>

<i>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>Working in an interdisciplinary environment</i> <i>Production of new research ideas</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 thinking</i> <i>.....</i> <i>Others...</i>
<p>The course aims at the following general competences:</p> <ul style="list-style-type: none"> • Search, analysis and synthesis of data and information, using the necessary technologies • Adapting to new situations • Working independently • Team work 	

(3) SYLLABUS

<p>The course contains only theoretical part with the following objectives:</p> <ul style="list-style-type: none"> • Basic traffic flow variables (traffic volume, density, traffic composition, peak hour factor etc.) • Basic highway principles and roads categorization • Methods for measuring traffic volume, delays and speed • Use of technical and technological equipment for traffic measurements (drone, radar, cameras etc.) – Use of laboratory equipment under real life conditions • Analysis of traffic with the use of PC • Traffic simulation programs – Learning of the program Synchro • Basic signalization variables • Definition of signal phases

(4) TEACHING and LEARNING METHODS - EVALUATION

<p>DELIVERY <i>Face-to-face, Distance learning, etc.</i></p>	Face-to-face (classroom teaching and field traffic counts)														
<p>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	Communication with the students through email and the website of the course (Open eClass), and additional support of the learning process by providing more examples for using the laboratory equipment.														
<p>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></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> <tr> <th><i>Activity</i></th><th><i>Semester workload</i></th></tr> <tr> <td>Lectures</td><td>20</td></tr> <tr> <td>Problem solving in lab</td><td>20</td></tr> <tr> <td>Fieldwork</td><td>30</td></tr> <tr> <td>Educational visit</td><td>10</td></tr> <tr> <td></td><td></td></tr> <tr> <td>Course total</td><td>80</td></tr> </table>	<i>Activity</i>	<i>Semester workload</i>	Lectures	20	Problem solving in lab	20	Fieldwork	30	Educational visit	10			Course total	80
<i>Activity</i>	<i>Semester workload</i>														
Lectures	20														
Problem solving in lab	20														
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Educational visit	10														
Course total	80														
<p>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>The final evaluation of the students in writing (50%) containing problems' solving and oral exam (50%) about the use of the laboratory's equipment.</p> <p>The evaluation criteria are presented to the students prior to the examination, the grading of all problems are shown and the final grades are available through the platform of the university. The students can review their written solving process, the grades assigned to each problem and explanations are given to them for their mistakes, if any.</p>														

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.

The evaluation language is Greek, except for the Erasmus students, which is English.

(5) ATTACHED BIBLIOGRAPHY

Greek Bibliography:

1. Frantzeskakis J., J. Golias & M. Pitsiava-Latinopoulos (2009). Traffic Engineering. Publications: A. Papasotiriou (in Greek).
2. Chrisoulakis J. & D. Dimitriou (2004). Traffic Engineering Systems and Highways Engineering problems. Publications: Technological Educational Institute of Athens (in Greek).
3. Frantzeskakis J. & G. Giannopoulos (2005). Transportation Planning and Traffic Engineering. Publications: Epikentro (in Greek).

Foreign Bibliography:

1. Transportation Research Board (2000). Highway Capacity Manual, National Research Council, Washington D.C.
2. Roess R. P., E. S. Prassas & W. R. Mc Shane (1998). Traffic Engineering, Publications: Prentice Hall.

Related academic journals:

1. Transportation Research Record
2. Journal of International Transportation
3. European Transportation Research Record
4. Journal of European Transport
5. Journal of Transportation Research Forum
6. Transportation Science
7. Transportation Research: Parts A: Policy and Practice
8. Transportation Research: Parts B: Methodological
9. Transportation Research: Parts C: Emerging Technologies
10. Transportation Research: Parts D: Transport and Environment
11. Transportation Research: Parts E: Logistics and Transportation Review
12. Transportation Research: Parts F: Traffic Psychology and Behaviour
13. International Journal of Sustainable Transportation
14. Transportation Planning and Technology
15. Transport Reviews
16. Transportation Journal