

8.14 CE0834 – Mass Transport Networks

(1) GENERAL

SCHOOL	ENGINEERING SCHOOL		
ACADEMIC UNIT	CIVIL ENGINEERING DEPARTMENT		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	CE0440	SEMESTER	8
COURSE TITLE	Mass Transport 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	
	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, 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/CIV191/		

(2) LEARNING OUTCOMES

<p>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></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>Upon completion of the course, the students will:</p> <ul style="list-style-type: none"> • have understood the basic concepts and principles of transit infrastructure • have obtained knowledge on the design and operation of mass transit networks • be able to use the obtained knowledge for the study of transit systems in the course of their professional life • be able to evaluate the quality and operation of mass transit networks and propose solutions for their improvement • participate in user groups in order to investigate the feasibility for the development of transit infrastructures • Obtain sufficient knowledge that can be used in their further specialization in the subject matter of the course (e.g. in MSc studies)
<p>General Competences <i>Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and</i></p>

<i>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>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>

The course aims at the following general competences:

- Search, analysis and synthesis of data and information, using the necessary technologies
- Adapting to new situations
- Decision-making
- Working independently
- Team work
- Working in an international environment
- Project planning and management

(3) SYLLABUS

<p>The course contains only theoretical part with the following objectives:</p> <ul style="list-style-type: none"> • Introduction to mass transit networks: basic concepts, categorization, main characteristics • Urban and interurban transit systems – Role and characteristics • Rail transit means (urban railway (metro), suburban railway, interurban railway and tram) • Bus lines and networks: operational characteristics, types of bus lines, transit capacity • Bus scheduling and rostering • Demand and demand elasticity • Surface transit infrastructures • Quality assessment of transit services and infrastructures • Design and execution of transit surveys • Data collection and analysis methods (questionnaires, sampling, analysis methods, data processing and results presentation) • Invoicing and funding of transit systems

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face														
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Communication with the students through email and the website of the course (Open eClass), and additional support of the learning process by providing more exercises and resolved examples uploaded on the website.														
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" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Activity</th> <th style="text-align: center;">Semester workload</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td style="text-align: center;">50</td> </tr> <tr> <td>Classwork</td> <td style="text-align: center;">40</td> </tr> <tr> <td>Educational visit</td> <td style="text-align: center;">10</td> </tr> <tr> <td>Problem solving</td> <td style="text-align: center;">10</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td>Course total</td> <td style="text-align: center;">110</td> </tr> </tbody> </table>	Activity	Semester workload	Lectures	50	Classwork	40	Educational visit	10	Problem solving	10			Course total	110
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STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i>	The final evaluation of the students is in writing (100%) containing problems' solving and oral exam or judgement questions, if														

<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>necessary. There is also the potential for written work in the middle of the semester.</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 problems and explanations are given to them for their mistakes, if any.</p> <p>The evaluation language is Greek, except for the Erasmus students, which is English.</p>
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(5) ATTACHED BIBLIOGRAPHY

<p><u>Greek Bibliography:</u></p> <ol style="list-style-type: none"> 1. Karlaftis, M. & K. Limperis (2009). Public Transport Systems. Publications: M. Athanasopoulos & S. Athanasopoulos (in Greek). 2. Tyrinopoulos, Y. & K. Kepaptsoglou (2015). Evaluation and Quality Control of Transit Services and Systems. Publications: Hellenic Academic eBooks (in Greek). 3. Giannopoulos G. (2005). Public Transport. Publications: Epikentro (in Greek). 4. Hatzidouros A. (2011). Public Transport Systems. Publications: Pataki (in Greek). <p><u>Foreign Bibliography:</u></p> <ol style="list-style-type: none"> 1. White P., «Public Transport: Its Planning, Management, and Operation», Εκδόσεις Spon Press, 2002. <p><u>Related academic journals:</u></p> <ol style="list-style-type: none"> 1. Journal of Public Transportation 2. Transportation Research Record 3. Public Transport 4. Journal of International Transportation 5. European Transportation Research Record 6. Journal of Transportation Research Forum 7. Transportation Science 8. Transportation Research: Parts A: Policy and Practice 9. Transportation Research: Parts B: Methodological 10. Transportation Research: Parts C: Emerging Technologies 11. Transportation Research: Parts D: Transport and Environment 12. Transportation Research: Parts E: Logistics and Transportation Review 13. Transportation Research: Parts F: Traffic Psychology and Behaviour 14. International Journal of Sustainable Transportation 15. Transportation Planning and Technology 16. Transport Reviews 17. Transportation Journal
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