DISCIPLINE RECORD
Academic year 2026/2027

1. Information about the program

University	Constanta Maritime University
Faculty	Navigation and Maritime Transport
Department	Management in Transport
Domain of study	Engineering and Management
Academic level	Master
Study programme/ qualification	Business Administration in Transport

2. Information about discipline

Course title	Transport Systems Engineering					
Lecture tenured	Assoc. Prof. Cristina DRAGOMIR PhD					
Application tenured	Assoc. Prof. Cristina DRAGOMIR PhD					
Year of study	VI	Semester	I	Type of examination	P	
Conditions of discipline	Course category: DF – Fundamental subjects, DS – Specialization subjects, DC – Complementary subjects					DS
	Course type: DOB – compulsory subjects; DOP – elective subjects; DFA – optional subjects					DOB

3. The total time estimated

I a) Number of hours per week	1	Course		Seminar		Laboratory		Project	1
I b) Total hours per semester from the curriculum	14	Course		Seminar		Laboratory		Project	14

II Time distribution for the semester:	ore
II a) Study after manual, course support, bibliography and notes	
II b) Additional documentation in library, specialized electronic platforms	21
II c) Training seminars / labs, homework, essays, portfolios and essays	40
III Tutorial	
IV Examinations	1
V Other activities:	

Total hours of individual study II (a+b+c)	61
Total hours per semester (Ib+II+III+IV+V)	76
Number of credits	3

4. Prerequisites (if necessary)

Curriculum	•
Expected learning outcomes	•

5.Conditions (if necessary)

Progress of the course		•
Progress of application	Seminar	•
	Laboratory	•
	Project	•

6.Objectives of discipline (based on the grid of specific skills acquired – no7)

The overall objective of discipline	• The Transport Systems Engineering Project aims to enable students to integrate and apply the knowledge acquired in previous transport courses (transportation networks, traffic engineering and ITS, planning, modeling, policy, safety, environment) in order to analyze, design and evaluate a real or realistic transport

	system/problem, and to formulate practical, technically sound and sustainable solutions in a professional project setting.
The specific objectives of discipline	• To dentify and formulate a complex transport systems problem (urban, regional, or corridor level) in terms of objectives, constraints, stakeholders, and performance indicators. • To collect, organize and critically interpret data relevant to transportation networks, demand, operations, safety, environment, and land use needed for project analysis. • To apply concepts and methods from Transport Systems Engineering.

7. Expected learning outcomes:

No.	Knowledge	Skills	Responsibility and autonomy
1	The student is aware of trends and innovations in the transport sector.	The student conducts qualitative and quantitative market research.	The graduate leads initiatives to improve the quality of transport services.
2	The student masters ICT solutions applicable to business problems.	The student advises on strategic business decisions based on data analysis.	The graduate assumes responsibility for implementing ICT innovations.
3	The student is knowledgeable about ethical principles in engineering management.	The student communicates technical information clearly to diverse audiences.	The graduate promotes ethical and social responsibility in professional practice.

8. Competences covered by the discipline, according to the diploma supplement

Professional competences	• Provides advice on efficiency improvements • Adapts to changing situations • Performs quality control • Focuses on innovation in current practices • Plans transport operations • Port operations manager
Transversal competences	• Create risk reports • Seek innovation in current practices • Propose ICT solutions to business problems

9.Contents

Course	Nr. hours	Teaching methods	Obs.
•			
•			
•			
Bibliography			
•			
Selective bibliography			
•			

Application (Seminar / laboratory / project)	Nr. hours	Teaching methods	Obs.
• 1. National transportation networks, intermodal systems & project kick-off	2	Project workshop	
• 2. Transport network planning and project problem formulation	2	Group work	
• 3. Transportation systems modeling, evaluation & travel demand forecasting	4	Computer-lab lecture/dem0	
• 4. Software systems, simulation and gis for transportation projects	2	Computer-lab lecture/demo	
• 5. Traffic Engineering Analysis	2	Case study	

• 6. Reporting and presentation	2	Presentation	

Bibliography

- Kutz, Myer (ed.), Handbook of Transportation Engineering, McGraw-Hill, 2004
- European Conference of Ministers of Transport (ECMT). 1998.Efficient Transport for Europe: Policiesfor Internalisation of External Costs.Paris: OECD Publications Service.

Selective bibliography

- Kutz, Myer (ed.), Handbook of Transportation Engineering, McGraw-Hill, 2004 (http://www.icivil-hu.com/Nedal/Handbook%20of%20Transportation%20Engineering.pdf)
- Notes available on the platform campus.cmu-edu.eu

Additional Notes

- Students may take photographs or make audio-video recordings in classrooms where teaching activities are conducted **only with the consent of the instructor** and **under the conditions established by the instructor**.
- Upon entering the classroom, students are kindly requested to **switch their mobile phones to silent mode** and **refrain from using them during classes**.
- All materials received by students, either directly or through postings on the platform *campus.cmu-edu.eu*, are subject to **national and international copyright legislation**. These materials may be used by students **solely for educational purposes**. Any other use or posting on publicly accessible websites without the consent of the copyright holder may be punished in accordance with **Law no. 8/1996 on copyright and related rights** and the **Berne Convention**.

10. The corroboration of contents of discipline with expectations epistemic community representatives, professional associations and representative employers in the corresponding program

- The contents of the Transport Systems Engineering project are aligned with the expectations and current trends of the academic and professional community in transportation engineering, as well as with the competency needs expressed by employers in the field. The discipline ensures a good match between the academic training of students and the competencies demanded on the labor market, supporting their integration in professional practice and their continued development in the transport engineering epistemic community.

11. Examination

Type of activity	Examination Criteria	Methods of examination	Percentage of final grade
Course			
Seminar			
Laboratory			
Project	**Elaboration of project**	**Oral presentation**	**100%**

Grading Requirements

Minimum score required: **50 points: 50-54->nota 5; 55-64-> nota 6; 65-74-> nota 7; 75-84-> nota 8; 85-94-> nota 9; 95-100-> nota 10**

Additional Notes

- A **midterm exam** may be organized during the semester.
- If a student participates in **conferences** (student, local, national, or international) or **competitions** (national or international) related to the subject of this course, they may receive **additional points** or **equivalence for certain assignments, papers, and/or attendance**, depending on the results obtained.
- During written examinations, students are **not allowed to use mobile phones or any other electronic devices**, **except for simple scientific calculators**.

Minimum performance standards **50 points: 50-54->nota 5**

Date of completion	Signature of lecture tenured	Signature of application tenured
22.09.2025	Assoc. Prof. Cristina DRAGOMIR PhD	Assoc. Prof. Cristina DRAGOMIR PhD

Date of approval in the department	Signature of Director of Department
26.09.2025	Lecturer Ana Cornelia OLTEANU PhD

Date of approval in the faculty council	Signature of Dean
29.09.2025	Associated Professor Nicoleta ACOMI EngD