DISCIPLINE RECORD
Academic year 2025/2026

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	Methodology of Applied Research in Transport					
Lecture tenured						
Application tenured						
Year of study	V	Semester	II	Type of examination	E	
Conditions of discipline	Course category: DF – Fundamental subjects, DS – Specialization subjects, DC – Complementary subjects					DC
	Course type: DOB – compulsory subjects; DOP – elective subjects; DFA – optional subjects					DFA

3. The total time estimated

I a) Number of hours per week	2	Course	1	Seminar	1	Laboratory		Project	
I b) Total hours per semester from the curriculum	28	Course	14	Seminar	14	Laboratory		Project	

II Time distribution for the semester:	ore
II a) Study after manual, course support, bibliography and notes	33
II b) Additional documentation in library, specialized electronic platforms	33
II c) Training seminars / labs, homework, essays, portfolios and essays	31
III Tutorial	
IV Examinations	2
V Other activities:	

Total hours of individual study II (a+b+c)	97
Total hours per semester (Ib+II+III+IV+V)	127
Number of credits	5

4. Prerequisites (if necessary)

Curriculum	• Knowledge of disciplines in the field of Transport
Expected learning outcomes	• Operating with scientific, engineering and computer science foundations

5.Conditions (if necessary)

Progress of the course		• Room with multimedia equipment (video projector) and internet access / eCampusUMC platform • Recommended bibliography
Progress of application	Seminar	• Room with multimedia equipment (video projector) and internet access /
	Laboratory	
	Project	

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

The overall objective of discipline	• To provide students with the methodological skills needed to design, conduct and report applied research in transport and port operations, in order to support evidence-based decisions on efficiency, financial viability, project management, quality and innovation.
The specific objectives of discipline	• Formulate research problems, objectives and hypotheses relevant to efficiency improvements, financial viability and external factors affecting transport and port companies. • Choose and justify appropriate quantitative, qualitative or mixed research designs for analysing transport and port operations. • Collect, process and interpret data using statistical and ICT tools, including indicators for project management, quality control and continuous improvement. • Prepare professional research and risk reports that identify key operational and strategic risks and propose innovative, results-oriented solutions for companies and port authorities. • Communicate research findings clearly to managers and stakeholders, supporting informed decision-making and continuous training needs (e.g., audits, performance reviews).

7. Expected learning outcomes:

No.	Knowledge	Skills	Responsibility and autonomy
1	The student understands techniques for financial risk assessment.	The student analyzes internal organizational processes.	The graduate independently proposes risk mitigation strategies.
2	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.
3	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.
4	The student comprehends organizational behavior and needs analysis.	The student builds and maintains effective business relationships.	The graduate identifies and reports previously undetected organizational needs.
5	The student knows the principles of financial performance evaluation.	The student accurately interprets complex financial statements.	The graduate manages financial risk with autonomy.
6	The student analyzes external factors impacting the business environment.	The student performs SWOT and PESTEL analyses.	The graduate recommends innovations in current business practices.
7	The student understands quality assurance standards in transport services.	The student ensures compliance with quality and safety metrics.	The graduate is responsible for continuous service quality improvement.
8	The student has knowledge of project management methodologies.	The student applies modern economic and decision-making techniques.	The graduate initiates and manages projects with minimal supervision.
9	The student masters techniques for data acquisition and processing.	The student evaluates business performance through financial indicators.	The graduate takes responsibility for continuous professional development.

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

Professional competences	• Provides advice on efficiency improvements • Analyzes external factors affecting companies • Assesses financial viability • Ensure project management • Performs quality control • Ensures continuous training for audits • Focuses on innovation in current practices

	• 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.
• Introduction. Principles of Scientific Inquiry.	2	Interactive lecture, guided discussion, questioning, short reflective exercises on examples of "good vs. bad" research.	
• The Research Process. Data Collection and Management.	2	Lecture with process flowchart, case-based discussion, demonstration of data collection instruments, short in-class exercises on data coding/structuring.	
• Reports and Presentations. Literature Searches.	2	Demonstration (database/search engines), live literature search, lecture on structure of reports, peer discussion on examples of good presentations.	
• The Research Process - Details and Examples Writing and Format of Reports. Peer Review of Research. Checklist. References.	2	Worked examples, step-by-step walkthrough of a sample paper, peer-review activity in pairs/groups, checklist-based review, mini-lecture on referencing styles.	
• Identification of Empirical Setting. Data Management, Analysis Tools, and Analysis Mechanics.	2	Case study analysis, instructor-led examples of empirical settings, software demonstration (e.g., Excel/SPSS/R), guided exercises on data preparation.	
• Identification of Appropriate Statistical Method. Continuous Dependent Variable Models	2	Problem-based learning on method selection, short lecture on model types, worked numerical examples, group tasks choosing methods for given research questions	
• Discrete Dependent Variable Models. Nonparametric Methods	2	Brief theory lecture, comparative examples (continuous vs. discrete, parametric vs. nonparametric), hands-on practice with small datasets, plenary recap.	

Bibliography

- Mehiri, R. (2017). *Research methodology: An introduction.* Mohamed Khider University of Biskra. https://www.univ-biskra.dz/enseignant/Mehiri/Research_Methodology-An_Introduction.Dr.R_MEHRI.pdf
- NCHRP 20-45: *Scientific Approaches to Transportation Research*. Georgia Institute of Technology, https://onlinepubs.trb.org/onlinepubs/nchrp/cd-22/chapters.html
- Richardson, A. J., Ampt, E. S., Meyburg, A. H. (1995). *Survey methods for transport planning.* Melbourne, Australia: Eucalyptus Press. https://rut360.ru/publictransportdoc/library/smftp.pdf
- Kent, J. L. (2022, September). *The case for qualitative methods in transport research.* In *Australasian Transport Research Forum 2022 Proceedings* (pp. 1–16). Australasian Transport Research Forum. https://australasiantransportresearchforum.org.au/wp-content/uploads/2022/05/ATRF2022_Resubmission_48.pdf

Selective bibliography

- Mehiri, R. (2017). *Research methodology: An introduction.* Mohamed Khider University of Biskra. https://www.univ-biskra.dz/enseignant/Mehiri/Research_Methodology-An_Introduction.Dr.R_MEHRI.pdf

Course notes available on the platform campus.cmu-edu.eu

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Application (Seminar / laboratory / project)	Nr. hours	Teaching methods	Obs.
• Data Management, Analysis Tools, and Analysis Mechanics	4	Interactive seminar, software demonstration (Excel/SPSS/R), guided lab exercises, short problem-solving in pairs	
• Identification of Appropriate Statistical Method	2	Case-based seminar, problem-based learning, group discussion on method selection, mini-quizzes	
• Continuous Dependent Variable Models	2	Expository seminar, step-by-step modelling in software, worked examples, individual practice tasks	
• Discrete Dependent Variable Models	2	Short lecture + seminar, hands-on modelling exercises, small-group problem solving, recap discussion	
• Nonparametric Methods	2	Conceptual mini-lecture, comparative examples (parametric vs nonparametric), computer-based exercises	
• Recapitulation	2	Synthesis seminar, Q&A session, review problems, quiz/game-based assessment, feedback on ongoing projects	

Bibliography

- Mehiri, R. (2017). *Research methodology: An introduction.* Mohamed Khider University of Biskra. https://www.univ-biskra.dz/enseignant/Mehiri/Research_Methodology-An_Introduction.Dr.R_MEHRI.pdf
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- Richardson, A. J., Ampt, E. S., Meyburg, A. H. (1995). *Survey methods for transport planning.* Melbourne, Australia: Eucalyptus Press. https://rut360.ru/publictransportdoc/library/smftp.pdf
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Seminar notes available on the platform campus.cmu-edu.eu

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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 content of the discipline Methodology of Applied Research in Transport is aligned with the expectations of the epistemic community, which requires rigorous use of quantitative and qualitative methods, scientifically grounded analysis of external factors and clear, publishable research designs. It responds to professional associations in transport and logistics by training students to use research tools for efficiency analysis, financial viability assessment, project management and quality control, in line with sectoral standards. At the same time, it meets the needs of representative employers (transport and port operators, logistics firms, consultancies) by developing graduates able to collect and interpret operational data, prepare risk and research reports, and propose innovative, ICT-based solutions for improving transport and port operations**.**

11. Examination

Type of activity	Examination Criteria	Methods of examination	Percentage of final grade
Course	Knowledge of fundamental theoretical notions; -Active participation in discussions. - Knowledge of how to apply the theory to specific problems; - Critical and comparative analysis of techniques and theoretical models;	a) Face to face examination: Correct solving of exam topics; b) Online examination: Correct solving of exam topics;	60%
Seminar	Over 80% attendance and active participation in discussions	Monitoring participation during the semester	40%
Laboratory			
Project			

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 obtaining a grade of 5 in each exam subject

Date of completion	Signature of lecture tenured	Signature of application tenured
24.09.2025		

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