COURSE OUTLINE

(1) GENERAL

SCHOOL	Social Sciences		
ACADEMIC UNIT	Department of Cultural Technology and Communication		
LEVEL OF STUDIES	Postgraduate Studies		
COURSE CODE	UA-RC1	SEMESTER	2
COURSE TITLE	Research Methodology		
INDEPENDENT TEACHING ACTIVITIES *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, state the weekly teaching hours and the total credits*		WEEKLY TEACHING HOURS	CREDITS
		3	12
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail in section (4).			
COURSE TYPE *general background, special background, specialization, general education, skills development*	specialised general knowledge, skills development (research)		
PREREQUISITE COURSES	No		
LANGUAGE OF INSTRUCTION AND OF ASSESSMENT	English		
MODE OF TEACHING *in-person (%)* *synchronous distance learning (%)* *asynchronous distance learning (%)* *(In the case of synchronous distance learning, the total weekly duration of teaching is recorded)*	The course is delivered exclusively through synchronous distance learning. Each weekly lecture lasts 180 minutes.		
AVAILABILITY TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)	TBA		

(2) LEARNING OUTCOMES

Learning Outcomes

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.

Consult Appendix A

- *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*
- *Brief Guide for drafting Learning Outcomes*

The course aims to introduce postgraduate students to the principles, stages, and practices of scientific research. Its objective is to cultivate students' ability to design, implement, and document research projects of high academic quality, whether theoretical or applied in nature. The course serves as a foundation for conducting the master's research thesis, enhancing understanding of scientific ethics, data analysis, and the critical approach to literature.

After the successful completion of the course, the student will be able to:
In terms of knowledge:

- Explain the fundamental principles of scientific research and inquiry
- Distinguish between qualitative, quantitative and mixed-methods research approaches
- Describe major research paradigms and methodological traditions

- Understand key concepts of research ethics, academic integrity, and GDPR compliance
- Explain issues of validity, reliability, bias, and limitations in research

In terms of skills:

- Formulate research questions and objectives
- Conduct a systematic literature review using academic databases
- Select appropriate research designs and methods
- Critically evaluate published academic research
- Develop a coherent research proposal

In terms of responsibility and autonomy:

- Work independently on research planning tasks
- Apply ethical principles in the design of research studies
- Justify methodological choices using academic reasoning
- Reflect critically on methodological strengths and weaknesses

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and are stated below), at which of the following does the course aim?

Search, analysis and synthesis of data and information, with the use of the necessary technology
Adaptability to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
……
Other…
…….

The current course will enable students to acquire the following competences:

- Search, analysis & synthesis of data and information
- Adaptability to new situations
- Working independently
- Team work
- Criticism & self-criticism
- Production of new research ideas
- Ethical, professional and social responsibility

(3) COURSE SYLLABUS

The course Research Methodology aims to introduce postgraduate students to the principles, stages, and practices of scientific research, with a particular emphasis on their application in the field of digital circular economy. Its objective is to cultivate students' ability to design, implement, and document research projects of high academic quality, whether theoretical or applied in nature. The course serves as a foundation for conducting the master's research thesis, enhancing understanding of scientific ethics, data analysis, and the critical approach to literature.

Indicative lecture topics:

1. **Research framing and academic literature search**
   - Define the research process and how a study moves from problem, to evidence, to contribution
   - Formulate meaningful research questions and objectives (scope, feasibility, alignment)
   - Best practices for literature search and visibility (databases/keywords + researcher IDs/online presence)
2. **Introduction to the Design Research Methodology**
   - What design thinking is and how it differs from (and complements) other methodologies
   - What "design research" means (problem framing, iteration, prototyping, evaluation)

- Using design methods to investigate complex socio-technical systems (e.g., circularity + digitalisation contexts)

3. **Research Data Management**
   - Responsible conduct of research in data handling (documentation, storage, sharing, reproducibility)
   - Open access publishing: benefits, risks, and practical routes (repositories, preprints, APCs)
   - Copyright basics for researchers: rights, licensing, reuse, and responsibilities
4. **Research paradigms and philosophical foundations**
   - Ontology, epistemology, and methodology: how assumptions shape research choices
   - Major paradigms (positivist, interpretivist, critical, pragmatist) and what they imply
   - Matching paradigm to research questions and evidence claims
5. **Research questions, aims, and hypotheses**
   - Turning a topic into focused questions (descriptive, explanatory, evaluative)
   - When hypotheses are appropriate and how to make them testable
   - Defining constructs and operationalising concepts clearly
6. **Quantitative research approaches**
   - Study designs: experimental, quasi-experimental, observational
   - Measurement, variables, instruments, sampling, and bias control
   - Statistical reasoning: uncertainty, effect size, and interpretation
7. **Qualitative research approaches**
   - Designs: interviews, focus groups, ethnography, document/case analysis
   - From data to findings: coding, themes, interpretation, reflexivity
   - Trustworthiness: credibility, transferability, dependability, confirmability
8. **Mixed-methods research**
   - Why mix methods (triangulation, complementarity, development, expansion)
   - Common designs: convergent, explanatory sequential, exploratory sequential
   - Integration: where and how mixing happens (sampling, analysis, reporting)
9. **Research design and methodology (alignment and justification)**
   - Aligning questions ↔ methods ↔ data ↔ analysis (the "logic of the study")
   - Unit of analysis, boundaries, context, assumptions, and limitations by design
   - Writing methodological justifications that examiners/reviewers accept
10. **Designing a research study (planning and execution)**
    - Building a feasible work plan: milestones, deliverables, timelines, risks
    - Data collection protocols and piloting (instruments, interview guides, procedures)
    - Analysis planning: what you will do, with which tools, and how you'll report it
11. **Evaluating research quality and credibility**
    - Quality criteria across approaches: validity/reliability vs trustworthiness/rigor
    - Reproducibility, transparency, audit trails, and documentation standards
    - Common threats to quality and practical mitigation strategies
12. **Plagiarism, bias and research limitations**
    - Plagiarism and questionable practices: how to avoid them (paraphrasing, citation, attribution)
    - Bias types (selection, measurement, confirmation, reporting) and how to reduce them
    - Writing limitations well: honest, specific, and method-aware (without undermining the work)
13. **Research ethics, academic integrity and GDPR**
    - Ethics in practice: consent, risk, harm minimisation, power relationships, vulnerable groups
    - Academic integrity: authorship, collaboration, data/code integrity, transparency
    - GDPR essentials for research: personal data, lawful basis, minimisation, retention, access control

(4) TEACHING AND LEARNING METHODS - ASSESSMENT

MODE OF TEACHING *Face-to-face, distance learning, etc.*	Distance Learning
MODE AND FREQUENCY OF COMMUNICATION WITH THE STUDENTS	Synchronous distance communication on a weekly basis, asynchronous on a daily basis through LMS platform
ENSURING THE MODE OF COMMUNICATION AMONG STUDENTS *Team assignments and discussions, collaborative learning platforms with the use of AI, video conference, QA sessions, κ.α.*	Weekly assignments, discussions through dedicated discussion forum, dedicated space per module on the learning platform, schedule video conference meetings through MS Teams, dedicated QA sessions per module
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, in laboratory training, in the communication with students*	Use of ICT in Teaching, Communication with students Online Platforms will be used for teaching, tutorials, students' guidance, students' self-assessment and support on group projects
TECHNOLOGICAL EQUIPMENT REQUIREMENTS	PC /laptop for video conference meeting
PLAGIARISM POLICY/ PLAGIARISM DETECTION TOOLS	Gradescope, Turnitin
ARTIFICIAL INTELLIGENCE POLICY *(1) The use of Artificial Intelligence is prohibited in all circumstances* *(2) The use of Artificial Intelligence is allowed only with the permission of the instructor* *(3) The use of Artificial Intelligence is allowed only with an explicit reference to the literature* *(4) Students are free to use Artificial Intelligence*	The use of Artificial Intelligence is allowed only with an explicit reference to the literature. Additionally, students are free to use AI provided by the master programmes for contacting stimulations, practicing purposes, etc.
ORGANISATION OF TEACHING *The mode and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, work placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artworks, etc.* *The student's study hours for each learning activity are stated, as well as the hours of independent study, according to the principles of the ECTS.*	
STUDENT ASSESSMENT *Description of the assessment method* *Language of assessment, methods of assessment, formative or summative assessment, multiple choice questions test, short answer questions, essay questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory assignment, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Students will be evaluated following multiple-choice, short-answer, and open-ended questions. The assessment formula is the following: Self-Assessment Evaluations: 50% Final Assessment: 50%

Activity	***Semester workload***
Lectures	39
Participation in forum discussions	33
Study, analysis of bibliography and supplementary consolidation activities	186
Self-Assessment Evaluations	42
Course total	**300**

(5) RECOMMENDED BIBLIOGRAPHY

[1] International Statistical Review, Wiley
[2] Journal of Survey Statistics and Methodology, Oxford University Press
[3] International Journal of Quantitative Research in Education, Inderscience Publishers

[4] International journal of qualitative methods
[5] Palys, T., & Atchison, C. (2014). Research decisions: Quantitative, qualitative, and mixed methods approaches (5th ed.). Toronto, Canada: Nelson Education.
[6] Chapman, S., McNeill, P. and Mcneill, P., 2005. Research methods. Routledge.
[7] VanScoy, A. and Fontana, C., 2016. How reference and information service is studied: Research approaches and methods. Library & Information Science Research, 38(2), pp.94-100.
[8] Walliman, N., & Walliman, N. (2021). Research Methods: The Basics (3rd ed.). Routledge. https://doi.org/10.4324/9781003141693
[9] Creswell, J. W., & Creswell, J. D. (2023), Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (6th ed.), SAGE Publications.
[10] Kothari, C. R., & Garg, G. (2019), Research Methodology: Methods and Techniques (5th ed.), New Age International Publishers.