

COURSE OUTLINE

(1) GENERAL

SCHOOL	Social Sciences		
ACADEMIC UNIT	Department of Cultural Technology and Communication		
LEVEL OF STUDIES	Postgraduate Studies		
COURSE CODE	UA-DCR	SEMESTER	3
COURSE TITLE	MSc Thesis		
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, state the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	CREDITS	
		30	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail in section (4).</i>			
COURSE TYPE <i>general background, special background, specialization, general education, skills development</i>	Special background, specialised, skills development		
PREREQUISITE COURSES	No		
LANGUAGE OF INSTRUCTION AND OF ASSESSMENT	English		
MODE OF TEACHING <i>in-person (%) synchronous distance learning (%) asynchronous distance learning (%) (In the case of synchronous distance learning, the total weekly duration of teaching is recorded)</i>	Synchronous distance learning Supervised independent/group research with regular progress meetings		
AVAILABILITY TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)	TBA		

(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"> • <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>Brief Guide for drafting Learning Outcomes</i>
<p>Knowledge</p> <p>The purpose of the MSc thesis is to develop students' ability to conduct independent and well-documented research on specialized topics within the field of Digital Circular Economy. Through the research process, students cultivate critical thinking and deepen their theoretical and practical understanding of the principles, technologies, and methods that underpin contemporary research in the field. In particular it aims to:</p>

- Deepen students' knowledge in advanced scientific areas of Deep Tech Driven Circular Economy, such as Internet of Things, AI and Big Data Analytics, Digital Twins, Digital Product Passports and data standards, blockchain technologies, digital manufacturing, etc.
- Enable understanding and application of both qualitative and quantitative research methodologies.
- Develop the ability to design and implement a complete research project.
- Advance knowledge through the production of new results or the improvement of existing techniques.

Skills

Upon successful completion of the thesis, students will have both the ability to conduct basic and applied research and the capacity to develop and advance knowledge in topics relevant to the field of the MSc Program. More specifically students are expected to be able to:

- search for and thoroughly use the appropriate information from relevant scientific literature,
- utilize the knowledge acquired during their studies in the program and develop synthesis skills,
- combine literature findings with real-world conditions in which the problem/issue occurs and interpret them in light of these conditions,
- manage data and formulate proposals or make decisions,
- analyze and present research findings and data using appropriate and relevant tools,
- demonstrate the ability to employ appropriate quantitative and qualitative research methods,
- assess and evaluate interpretations and create a new framework for addressing the problem/issue

Competences

Students will be able to:

- develop and clearly present conclusions and well-documented proposals for addressing the problem/issue,
- compose a scientific text, and
- organize and deliver an oral presentation of their thesis topic

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?

<i>Search, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>
<i>Adaptability 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>Other...</i>
	<i>.....</i>

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

- Search, analysis & synthesis of data and information
- Adaptability to new situations
- Working in groups
- Decision-making
- Team work
- Criticism & self-criticism
- Production of new research ideas
- Adaptability to new situations
- Ethical, professional and social responsibility
- Working in an interdisciplinary environment
- Effective written and oral communication of research findings

(3) COURSE SYLLABUS

The MSc Thesis will be conducted in groups of postgraduate students, under the supervision of a professor or instructor in the context of the MSc Program (Supervisor), in accordance with the provisions of the relevant legislation, and it concerns a subject that falls within the scientific scope of the Postgraduate Program.

Each MSc Thesis must demonstrate in-depth, advanced theoretical and technical knowledge in the field of digital circular economy, prove the student's ability for independent research thinking, and highlight their potential to contribute to the production of new scientific knowledge. In parallel students must demonstrate the ability to convert their research work in a draft structured research proposal.

The Thesis must be based on a rigorous research methodology, include primary data analysis, the development or evaluation of research models, algorithms, or frameworks, and aim for a clear scientific contribution to the respective field.

The Thesis may be theoretical or applied in nature and may be carried out either within the University or in collaboration with research centers, public organizations, or private entities active in related areas, in accordance with the provisions of the applicable legislation.

MSc Theses are assessed based on the preparation of a conference paper and a draft proposal for funding. Specifically criteria such as research contribution & relevance, literature grounding & positioning, method / approach / design quality, results / analysis / argument strength, structure & clarity, technical quality of presentation (figures/tables), academic integrity & referencing and compliance with selected conference format & submission readiness will be applied for the assessment of the conference paper. Additionally, criteria such as description of scientific objectives and goals, academic contribution and potential impact, feasibility and work plan and quality of presentation will be applied for the assessment of the draft proposal. A final report will be also submitted and assessed concluding the work being achieved by the student.

Further details on the subsequent procedures and the overall framework for submitting applications, supervision during the completion, writing, presentation, and evaluation are included in the respective Regulation for the MSc Thesis.

(4) TEACHING AND LEARNING METHODS - ASSESSMENT

MODE OF TEACHING <i>Face-to-face, distance learning, etc.</i>	Distance Learning
MODE AND FREQUENCY OF COMMUNICATION WITH THE STUDENTS	Synchronous online follow up meetings on a biweekly basis.
ENSURING THE MODE OF COMMUNICATION AMONG STUDENTS <i>Team assignments and discussions, collaborative learning platforms with the use of AI, video conference, QA sessions, κ.α.</i>	Biweekly meetings, discussions through dedicated discussion forum, dedicated space on the learning platform, schedule video conference meetings through MS Teams
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, in laboratory training, in the communication with students</i>	Online Learning Platform and communication tool will be used for follow up meetings and guidance.
TECHNOLOGICAL EQUIPMENT REQUIREMENTS	PC /laptop for video conference meeting

PLAGIARISM POLICY/ PLAGIARISM DETECTION TOOLS	Gradescope, Turnitin									
ARTIFICIAL INTELLIGENCE POLICY <i>(1) The use of Artificial Intelligence is prohibited in all circumstances</i> <i>(2) The use of Artificial Intelligence is allowed only with the permission of the instructor</i> <i>(3) The use of Artificial Intelligence is allowed only with an explicit reference to the literature</i> <i>(4) Students are free to use Artificial Intelligence</i>	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 <i>The mode and methods of teaching are described in detail.</i> <i>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.</i> <i>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.</i>	<table border="1" data-bbox="715 479 1362 611"> <thead> <tr> <th data-bbox="715 479 1034 510">Activity</th> <th data-bbox="1038 479 1362 510">Semester workload</th> </tr> </thead> <tbody> <tr> <td data-bbox="715 510 1034 542">Supervision</td> <td data-bbox="1038 510 1362 542">150</td> </tr> <tr> <td data-bbox="715 542 1034 573">Independent Study</td> <td data-bbox="1038 542 1362 573">600</td> </tr> <tr> <td data-bbox="715 573 1034 611">Course total</td> <td data-bbox="1038 573 1362 611">750</td> </tr> </tbody> </table>		Activity	Semester workload	Supervision	150	Independent Study	600	Course total	750
Activity	Semester workload									
Supervision	150									
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STUDENT ASSESSMENT <i>Description of the assessment method</i> <i>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</i> <i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	<p>Students will have to prepare and submit:</p> <ol style="list-style-type: none"> 1. A conference paper as the result of their thesis following specific academic and research criteria. The criteria for the conference paper assessment are: <ol style="list-style-type: none"> (a) Research contribution & relevance (15%) (b) Literature grounding & positioning (10%) (c) Method / approach / design quality (15%) (d) Results / analysis / argument strength (15%) (e) Structure & clarity (15%) (f) Technical quality of presentation (figures/tables) (10%) (g) Academic integrity & referencing (10%) (h) Compliance with selected conference format & submission readiness (10%) 2. Prepare a draft proposal (or proposal section) based on their research outputs. The criteria for the draft proposal assessment are: <ol style="list-style-type: none"> (a) Description of scientific objectives and Goals (30%) (b) Academic Contribution and Potential Impact (30%) (c) Feasibility and Work Plan (30%) (d) Quality of Presentation (10%) 3. Final Thesis Report <p>The total assessment is based on the following formula:</p> <p>Total Mark = Conference Paper * 50% + Draft Proposal * 30% + Final Thesis Report * 20%</p>									