

RESEARCH WORKSHOP LAB II (EMaCS-04-02)				
DEGREE PROGRAM:		Master in Computer Science for the Human-Centric and Sustainable Industry		
SEMESTER: Fourth	TYPE: Basic	CREDITS: 10 ECTS	WORKLOAD: 250 hours	MENTORING: - hours/week
LANGUAGE: English				

OBJECTIVES	
General	<p>In order to later systematically develop, document, and present scientific results in their field of specialization during the Master projects and Master thesis, students will be able to:</p> <ul style="list-style-type: none"> Analyse extensive and complex scientific literature in their own field of expertise concerning specific research questions. Apply review techniques to critically engage with their own and others' work and derive constructive feedback. Document and present scientific results using alternative formats.
Specific	<ul style="list-style-type: none"> Critical analysis of literature on subject-specific content. Introduction to review and analysis techniques, as well as result documentation. Alternative presentation techniques, such as elevator pitches, storytelling, and lunch talks. Conducting reviews on examples from current literature, such as doctoral theses, and on their own work, along with providing feedback and comments.
SUSTAINABILITY	
<p>Research Workshop Lab II significantly contributes to sustainability by guiding students through a comprehensive exploration of literature that delves into sustainable practices within their field. Students critically analyse how emerging technologies align with eco-friendly principles, considering their environmental impact and long-term sustainability. The course instills a mindset that extends beyond technical proficiency, emphasizing responsible research and development. By integrating sustainability considerations into the fabric of the research process, students emerge with the knowledge and skills needed to advance technology responsibly, addressing current and future environmental challenges. This aligns with the broader goal of nurturing a generation of professionals who prioritize sustainable practices, ensuring that their contributions to technological advancements are environmentally conscious and socially responsible.</p>	
RESILIENCE AND HUMAN-CENTRIC DEVELOPMENT	
<p>In addressing resilience and human-centric development, Research Workshop Lab II goes beyond technicalities to cultivate a holistic approach to research. Students are guided to critically assess the resilience of their technologies concerning potential disruptions, with an emphasis on societal well-being. The course fosters an understanding of ethical dimensions, ensuring that technological advancements prioritize human values and contribute positively to society. Through alternative presentation techniques, students learn to effectively communicate their findings, highlighting the human-centric aspects of their research. By integrating resilience and human-centric considerations into the learning outcomes, the course equips students to navigate complex technological landscapes with a focus on ethical choices, societal impact, and the overall well-being of humanity.</p>	
SUBJECT MATTER	
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COMPETENCES	
<p>C6. USING MACHINE LEARNING AND A.I. TECHNIQUES C10. EXPLORATORY AND CRITICAL THINKING C14. SOLVING TECHNICAL PROBLEMS C15. MANAGING SYSTEMS and/or PROJECTS C16. WORKING WITH OTHERS</p>	

C17. COMMUNICATING EFFECTIVELY C18. COLLABORATING THROUGH DIGITAL TECHNOLOGIES	
LEARNING OUTCOMES	
Knowledge	<ul style="list-style-type: none"> • Know about the principles and techniques involved in critically analysing scientific literature, specifically focusing on subject-specific content in their field of expertise. • Know about various review and analysis techniques to assess their own and others' research work, allowing them to provide constructive feedback and insights. • Know about alternative presentation techniques, including elevator pitches, storytelling, and lunch talks, enabling them to effectively communicate research findings in engaging ways.
Skills	<ul style="list-style-type: none"> • Acquire practical skills in conducting literature critiques, effectively evaluating and synthesizing complex scientific literature related to specific research questions in their domain. • Acquire skills in applying review techniques to critically analyse their own and others' research works, providing constructive feedback and recommendations for improvement. • Acquire presentation skills in various alternative formats, enhancing their ability to communicate research findings to diverse audiences in a compelling manner.
Attitudes/values	<ul style="list-style-type: none"> • Cultivate an attitude of openness and curiosity towards exploring and evaluating scientific literature, recognizing the value of staying informed about current research trends and developments in their field. • Foster a constructive and objective attitude towards review and feedback, appreciating the role of constructive criticism in improving research quality and contributing to the academic community. • Value effective communication and presentation techniques, understanding the significance of clear and engaging research dissemination in advancing knowledge and fostering interdisciplinary collaboration.
TEACHING METHODS	
Workshops in small groups, presentations, and written assignments.	
EVALUATION	
Regular examination format: Project (Documentation and Colloquium).	
PRECONDITIONS	
None	
DEPARTMENT	Computer Science
LECTURERS	Any of the professors involved in teaching the master's degree.
LITERATURE	State of the art scientific papers