

Master of Science (M.Sc.) in Computer Sciences and Engineering						
AY 2023-2024						
Course Group	Total ECTS	Course Code	Course name	Course type	ECTS	Pre-requisite
<b>Breadth 1</b> Theory and Algorithms		CS502	Computational Complexity	Elective	6	No
		CS521	Modern Cryptography	Elective	6	No
		CS524	Analysis of Numerical Algorithms	Elective	6	No
		CS526	Advanced Algorithms and Data Structures	Elective	6	No
<b>Breadth 2</b> Architecture, Systems, and Software		CS504	Advanced Software Engineering	Elective	6	No
		CS506	Advanced Operating Systems	Elective	6	No
		CS508	Advanced Database Management Systems	Elective	6	No
		CS509	Advanced Computer Architecture	Elective	6	No
		CS510	Data Communications and Computer Networks	Elective	6	No
<b>Breadth 3</b> Applications		CS511	Advanced Artificial Intelligence	Elective	6	No
		CS512	Machine Learning in Medicine and Health	Elective	6	No
		CS514	Advanced Computer Vision	Elective	6	No
		CS515	Advanced Computer Graphics	Elective	6	No
		CS516	User Interface Design, Implementation and Evaluation	Elective	6	No
		CS517	Analysis and Design of Online Communities	Elective	6	No
		CS519	Social Network Analysis	Elective	6	No
		CS520	Advanced Internet Programming	Elective	6	No
		CS525	Advanced Data Mining	Elective	6	No
		CS530	High Dynamic Range Imaging (HDR)	Elective	6	No
CS540	Data Analytical Problem Solving	Elective	6	No		
<b>Master Graduation Project</b>	<b>12</b>	CS580	<b>Master Graduation Project</b>	Required	12	
Or						
<b>Master Thesis</b>	<b>24</b>	CS590	<b>Master Thesis</b>	Required	24	
<b>Total</b>	<b>60</b>					
Graduate Studies: summary of conditions for successful completion of studies						
Category	ECTS	Notes				
<b>Courses</b>	36 or 48	<p>Students are expected to:</p> <ol style="list-style-type: none"> <li>1. Successfully complete courses that total 48 ECTS (for Professional Master Program) or 36 ECTS credits (for Academic Master Program).</li> <li>2. Write and defend the completed master's thesis, which totals <b>12 ECTS</b> credits (for Professional Master program) or <b>24 ECTS</b> credits (for Academic Master program).</li> </ol> <p>For both programs, students must successfully complete <b>at least one course in two out of three different breadth areas</b> as defined in the table above. Students may select their coursework from the wider variety of courses offered at the CSE PhD level. With previous approval decision from the Program Coordinator, students may take a maximum of 12 ECTS credits (<b>2 courses</b>) from a pool of undergraduate courses (400 level) from <b>other related programs</b>, provided that they have not previously completed the same course at the undergraduate level. Students are also allowed to apply 12 ECTS (2 courses) from <b>other related Master</b> (500 level) or PhD programs (600 level), with Program Coordinator approval.</p>				
<b>Master Graduation Project</b>	12	If a student decides to write a Master Graduation Project, the student needs to take <b>eight course</b> (6 ECTS each). The Master Graduation Project is worth 12 ECTS and it is defended after all courses are successfully completed.				
<b>Master Thesis</b>	24	If a student decides to write Master Thesis, the student needs to take <b>six courses</b> (6 ECTS each). The student must also submit a research proposal, which will be reviewed by the Program Council to approve or reject the thesis enrolment. The Master Thesis is worth 24 ECTS and it is defended after all courses are completed.				
<b>Total</b>	<b>60</b>					
<b>Last update: AUG 2021</b>		<b>v.0</b>				