

Master of Science (M.Sc.) in Computer Sciences and Engineering						
Course Group	Total ECTS	Course Code	Course name	Course type	ECTS	Pre-requisite
Breadh 1 Theory and Algorithms		CS 502	Computational Complexity	elective	6	
		CS 521	Modern Cryptography	elective	6	
		CS 524	Analysis of Numerical Algorithms	elective	6	
		CS 526	Advanced Algorithms and Data Structures	elective	6	
Breadh 2 Architecture, Systems and Software		CS 504	Advanced Software Engineering	elective	6	
		CS 506	Advanced Operating Systems	elective	6	
		CS 508	Advanced Database Management Systems	elective	6	
		CS 509	Advanced Computer Architecture	elective	6	
		CS 510	Data Communications and Computer Networks	elective	6	
Breadh 3 Applications		CS 511	Advanced Artificial Intelligence	elective	6	
		CS 514	Advanced Computer Vision	elective	6	
		CS 515	Advanced Computer Graphics	elective	6	
		CS 516	User Interface Design, Implementation and Evaluation	elective	6	
		CS 517	Analysis and Design of Online Communities	elective	6	
		CS 519	Social Network Analysis	elective	6	
		CS 520	Advanced Internet Programming	elective	6	
		CS 530	High Dynamic Range Imaging (HDR)	elective	6	
CS 525	Advanced Data Mining	elective	6			
Master Graduation Project	12	CS 580	Master Graduation Project	required	12	
or						
Master Thesis	24	CS 590	Master Thesis	required	24	
Total	60					
Graduate Studies: summary of conditions for successful completion of studies						
Category	ECTS	Note:				
Courses	36 or 48	<p>Students are expected to:</p> <ol style="list-style-type: none"> 1. Complete courses, that total 48 ECTS (for Professional Master program) or 36 ECTS credits (for Academic Master program). 2. Write and defend the completed master's thesis, which totals 12 ECTS credits (for Professional Master program) or 24 ECTS credits (for Academic Master program). <p>For both programs, students must successfully complete at least one course in two out of three different breadth areas defined in the table above. Students may select their coursework from the wider variety of courses offered at CSE PhD level. With previous approval decision from program coordinator, students may take a maximum of 12 ECTS credits (2 courses) from a pool of undergraduate courses (400 level) from other related programs from approval decision from the program coordinator (provided that the student did not taken the same course in undergraduate level). Students are also allowed to apply 12 ECTS (2 courses) from other related Master (500 level) or PhD programs (600 level), with the approval decision from the program coordinator.</p>				
Master Graduation Project	12	If a student decides to write a Master Graduation Project, the student needs to take eight courses, (6 ECTS each). The Master Graduation Project is worth 12 ECTS and it is defended after all courses are successfully completed.				
Master Thesis	24	If a student decides to write Master Thesis, the student needs to take six courses, (6 ECTS each). The Master Thesis is worth 24 ECTS and it is defended after all courses are successfully completed.				
Total	60					

