

Course Requirements and Registration Priorities
School of Engineering and Digital Sciences (Master), Fall 2022

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
SEDS											
Chemical and Materials Engineering											
1	MBME 601	Master Thesis I	12	24				2 year Gr SEDS Biomedical Engineering			
2	MBME 603	Biomaterials Science & Engineering	3	6				1 year Gr SEDS Biomedical Engineering	SEDS, SMG		
3	MBME 604	Biosensors	3	6				1 year Gr SEDS Biomedical Engineering	SEDS, SMG		
4	MBME 610	Anatomy and Physiology for Biomedical Engineers	3	6				1 year Gr SEDS Biomedical Engineering	SEDS, SMG		
5	MBME 703	Medical Device Technology	3	6				2 year Gr SEDS Biomedical Engineering	SEDS, SMG		
6	MCHME 601	Master Thesis I	12	24				2 year Gr SEDS Chemical and Materials Engineering			
7	MCHME 603	Advanced Materials Processing	3	6				1 year Gr SEDS Chemical and Materials Engineering	SEDS, SMG		
8	MCHME 604	Advanced Materials Characterization Methods	3	6				1 year Gr SEDS Chemical and Materials Engineering	SEDS, SMG		
9	MCHME 605	Advanced Chemical Reaction Engineering	3	6				1 year Gr SEDS Chemical and Materials Engineering	SEDS, SMG		
10	MCHME 714	Computational Materials Engineering	3	6				2 year Gr SEDS Chemical and Materials Engineering	SEDS, SMG		
Civil Engineering											
11	MSC 600	Research Methods and Ethics	3	6				1 year Gr SEDS Electrical and Computer Engineering, 1 year Gr SEDS Engineering Management	Engineering Management, SEDS, SMG, SSH		
12	MSC 601	Technical Communication	3	6				1 year Gr SEDS Biomedical Engineering, 1 year Gr SEDS Chemical and Materials Engineering, 1 year Gr SEDS Civil and Environmental Engineering, 1 year Gr SEDS Computer Science, 1 year Gr SEDS Mechanical and Aerospace Engineering, 1 year Gr SEDS Robotics and Mechatronics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Robotics	Electrical and Computer Engineering, Mechanical and Aerospace Engineering, SMG	

13	MSC 602	Advanced Applied Mathematics	3	6				1 year Gr SEDS Biomedical Engineering, 1 year Gr SEDS Chemical and Materials Engineering, 1 year Gr SEDS Civil and Environmental Engineering, 1 year Gr SEDS Electrical and Computer Engineering, 1 year Gr SEDS Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering		
14	MSC 615	Advanced Statistics and Probability	3	6				1 year Gr SEDS Engineering Management	Engineering Management	SEDS	
Civil and Environmental Engineering											
15	EMEM 507	Project Management	3	6				1 year Gr SEDS Engineering Management	Engineering Management	SEDS	
16	EMEM 509	Systems Engineering	3	6				2 year Gr SEDS Mechanical Engineering, 2 year Gr SEDS Mechanical and Aerospace Engineering	Engineering Management, Mechanical and Aerospace Engineering	SEDS	
17	EMEM 523	Supply Chain Management	3	6				2 year Gr SEDS Engineering Management	Engineering Management	SEDS	
18	EMEM 533	Engineering Management and Engineering Economy	3	6				1 year Gr SEDS Engineering Management	Engineering Management	SEDS	
19	EMEM 537	Engineering Decision Tools	3	6				2 year Gr SEDS Engineering Management	Engineering Management	SEDS	
20	EMEM 538	Knowledge and Innovation Management	3	6				1 year Gr SEDS Engineering Management	Engineering Management	SEDS	
21	EMEM 539	Big Data and Information Management	3	6				2 year Gr SEDS Engineering Management	Engineering Management	SEDS	
22	EMEM 549	Capstone Project I	3	6							
23	MCEE 601	Master Thesis I	12	24	MCEE 600 Research Seminar (4692) (P)			2 year Gr SEDS Civil and Environmental Engineering			
24	MCEE 603	Finite Element Methods	3	6				1 year Gr SEDS Civil and Environmental Engineering, 1 year Gr SEDS Mechanical and Aerospace Engineering	SEDS		
25	MCEE 604	Advanced Soil Mechanics	3	6				1 year Gr SEDS Civil and Environmental Engineering	SEDS, SMG		
26	MCEE 605	Advanced Environmental Chemistry	3	6				1 year Gr SEDS Civil and Environmental Engineering	SEDS, SMG		
27	MCEE 716	Unsaturated Soil Mechanics for Engineering Practice	3	6				2 year Gr SEDS Civil and Environmental Engineering	SEDS, SMG		

Computer Science

28	CSCI 501	Software Principles and Practice	3	6				Computer Science, Robotics	SEDS	SSH	
29	CSCI 511	Theory of Computation	3	6				Computer Science, Data Science	SEDS	SSH	
30	CSCI 515	Modeling and Simulation for Computer Science	3	6				Computer Science, Data Science	SEDS	SSH	
31	CSCI 585	Computer Vision	3	6				Computer Science, Data Science	SEDS	SSH	
32	CSCI 594	Deep Learning	3	6				Computer Science, Data Science	SEDS	SSH	
33	CSCI 693	Thesis Proposal	3	6	SEDS 591 Research Methods (3184) (C- and above)			2 year Gr SEDS Computer Science			
34	DS 501	Fundamentals of Data Science	3	6				Data Science			
35	DS 502	Probability and Statistics for Data Science	3	6				Data Science	Computer Science	SEDS, SSH	
36	DS 507	Database Management Systems	3	6				Data Science	Computer Science	SEDS, SSH	
37	DS 551	Process and Project Management	3	6				Data Science	Computer Science	SEDS, SSH	
38	DS 552	Data-Driven Innovation	3	6				Data Science	Computer Science	SEDS, SSH	
39	DS 693	Thesis Proposal	3	6	SEDS 591 Research Methods (3184) (C- and above)			2 year Gr SEDS Data Science			
40	SEDS 503	Laboratory Practicum	3	6	SEDS 502 Teaching Practicum (2824) (P)			2 year Gr SEDS Computer Science, 2 year Gr SEDS Data Science, 2 year Gr SEDS Robotics and Mechatronics			
41	SEDS 591	Research Methods	3	6				1 year Gr SEDS Computer Science, 1 year Gr SEDS Data Science, 1 year Gr SEDS Robotics and Mechatronics			
Electrical and Computer Engineering											
42	MECE 601	Master Thesis I	12	24				2 year Gr SEDS Electrical and Computer Engineering			
43	MECE 603	Advanced Data Structures and Algorithms	3	6				1 year Gr SEDS Electrical and Computer Engineering	SEDS, SMG, SSH		
44	MECE 605	Statistics and Probability for Electrical and Computer Engineers	3	6				1 year Gr SEDS Electrical and Computer Engineering	SEDS, SMG, SSH		
45	MECE 606	Embedded Systems and Applications	3	6				1 year Gr SEDS Electrical and Computer Engineering	SEDS, SMG, SSH		

46	MECE 726	Modern Semiconductor Devices and Systems	3	6				2 year Gr SEDS Electrical and Computer Engineering			
Mechanical and Aerospace Engineering											
47	MMAE 600	Research Seminar	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering			
48	MMAE 601	Master Thesis I	12	24	MMAE 600 Research Seminar (4703) (P)			2 year Gr SEDS Mechanical and Aerospace Engineering			
49	MMAE 603	Modern Control Engineering	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering	SEDS, SMG		
50	MMAE 605	Advanced Manufacturing Processes and Strategies	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering	SEDS, SMG		
51	MMAE 702	Sustainable Vehicle Transportation Systems	3	6				2 year Gr SEDS Mechanical and Aerospace Engineering	SEDS, SMG		
52	MMAE 706	Computational and Unsteady Aerodynamics	3	6				2 year Gr SEDS Mechanical and Aerospace Engineering			
Robotics and Mechatronics											
53	ROBT 501	Robot Manipulation and Mobility	3	6				Robotics	SEDS		
54	ROBT 503	Dynamic Systems and Control	3	6				Robotics	SEDS		
55	ROBT 613	Brain-Machine Interfaces	3	6				Robotics	SEDS		
56	ROBT 615	Optimal Control and Planning	3	6	ROBT 501 Robot Manipulation and Mobility (2263) (C- and above) AND ROBT 503 Dynamic Systems and Control (2264) (C- and above)			Robotics	SEDS		
57	ROBT 691	Thesis Proposal	6	12				Robotics	SEDS		