

Course Requirements and Registration Priorities
School of Engineering and Digital Sciences (Master), Spring 2023

#	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 600	Research Seminar	3	6				Biomedical Engineering	SEDS		
2	MBME 602	Master Thesis II	12	24	MBME 601 Master Thesis I (5953) (P)			Biomedical Engineering	SEDS		
3	MBME 607	Advanced Tissue Engineering	3	6				Biomedical Engineering	SEDS		
4	MBME 700	Strategies for Controlled Topical Delivery of Drugs	3	6				Biomedical Engineering	SEDS		
5	MBME 708	Biomedical Imaging	3	6				Biomedical Engineering	SEDS		
6	MCHME 600	Research Seminar	3	6				Chemical and Materials Engineering	SEDS		
7	MCHME 602	MSc Thesis II	12	24				Chemical and Materials Engineering	SEDS		
8	MCHME 606	Advanced Heat and Mass Transfer	3	6				Chemical and Materials Engineering	SEDS		
9	MCHME 701	Advanced Chemical Thermodynamics	3	6				Chemical and Materials Engineering	SEDS		
10	MCHME 707	Polymer Melt Fluid Mechanics and Processing	3	6				Chemical and Materials Engineering	SEDS		
11	MCHME 713	Advanced Energy Materials and their Applications	3	6				Chemical and Materials Engineering	SEDS		
Civil Engineering											
12	MSC 600	Research Methods and Ethics	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	2 year Gr SEDS Biomedical Engineering, 2 year Gr SEDS Chemical and Materials Engineering, 2 year Gr SEDS Civil and Environmental Engineering, 2 year Gr SEDS Mechanical and Aerospace Engineering	SMG	
13	MSC 601	Technical Communication	3	6				Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering	SEDS	SMG	
Civil and Environmental Engineering											

14	EMEM 510	Managerial Accounting	2	4				Engineering Management			
15	EMEM 511	Business Strategy	2	4				Engineering Management			
16	EMEM 513	Entrepreneurship	2	4				Engineering Management			
17	EMEM 514	Finance	2	4				Engineering Management			
18	EMEM 516	Management of Organizations	2	4				Engineering Management			
19	EMEM 517	Marketing	2	4				Engineering Management			
20	EMEM 527	Globalization and Engineering	3	6				Engineering Management			
21	EMEM 542	Production and Service Operations Management	3	6				Engineering Management			
22	EMEM 545	Business Communication	2	4				Engineering Management			
23	EMEM 548	Understanding and Predicting Consumer Behavior	2	4				Engineering Management			
24	EMEM 549	Capstone Project I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
25	EMEM 550	Capstone Project II	5	10				2 year Gr SEDS Engineering Management			
26	MCEE 600	Research Seminar	3	6				1 year Gr SEDS Civil and Environmental Engineering	2 year Gr SEDS Civil and Environmental Engineering		
27	MCEE 602	MSc Thesis II	12	24				2 year Gr SEDS Civil and Environmental Engineering			
28	MCEE 606	Advanced Project Management	3	6				1 year Gr SEDS Civil and Environmental Engineering			
29	MCEE 700	Structural Dynamics and Earthquake Engineering	3	6				1 year Gr SEDS Civil and Environmental Engineering	2 year Gr SEDS Civil and Environmental Engineering		
30	MCEE 701	Advanced Concrete Technology	3	6				1 year Gr SEDS Civil and Environmental Engineering	2 year Gr SEDS Civil and Environmental Engineering		
31	MCEE 704	Contaminated Site Management and Soil Treatment Technologies	3	6				1 year Gr SEDS Civil and Environmental Engineering	2 year Gr SEDS Civil and Environmental Engineering		
32	MCEE 711	Soil Improvement and Stabilization	3	6				1 year Gr SEDS Civil and Environmental Engineering	2 year Gr SEDS Civil and Environmental Engineering		

Computer Science

33	CSCI 502	Hardware Software Co-Design	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above)			Computer Science, Robotics			
34	CSCI 545	Big Data Analytics	3	6				Data Science	Computer Science	Robotics	
35	CSCI 575	Formal Methods and Applications	3	6				Computer Science, Data Science		Robotics	
36	CSCI 581	Acquisition and Analysis of Biomedical Data	3	6				Computer Science, Data Science		Robotics	
37	CSCI 585	Computer Vision	3	6				Computer Science, Data Science		Robotics	
38	CSCI 591	Advanced Artificial Intelligence	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above) OR DS 501 Fundamentals of Data Science (5218) (C- and above)			Computer Science, Data Science		Robotics	
39	CSCI 694	Thesis	15	30				2 year Gr SEDS Computer Science			
40	DS 504	Data Mining and Decision Support	3	6				Data Science	Computer Science		
41	DS 509	Information Retrieval	3	6	DS 501 Fundamentals of Data Science (5218) (C- and above) OR CSCI 501 Software Principles and Practice (2408) (C- and above)			SEDS, SMG, SSH, SoM			
42	DS 694	Thesis	15	30	DS 693 Thesis Proposal (5915) (P)			2 year Gr SEDS Data Science			
43	SEDS 502	Teaching Practicum	3	6					Computer Science, Data Science, Robotics		
44	SEDS 592	Research Seminar	3	6					Computer Science, Data Science, Robotics		
Electrical and Computer Engineering											
45	MECE 600	Research Seminar	3	6				1 year Gr SEDS Electrical and Computer Engineering	2 year Gr SEDS Electrical and Computer Engineering	SEDS	

46	MECE 602	Master Thesis II	12	24				1 year Gr SEDS Electrical and Computer Engineering	2 year Gr SEDS Electrical and Computer Engineering	SEDS	
47	MECE 608	Energy Systems Operations and Planning	3	6				2 year Gr SEDS Electrical and Computer Engineering	1 year Gr SEDS Electrical and Computer Engineering	Electrical and Computer Engineering	
48	MECE 704	Fundamentals of Signal Processing	3	6				2 year Gr SEDS Electrical and Computer Engineering	1 year Gr SEDS Electrical and Computer Engineering	Electrical and Computer Engineering	
49	MECE 707	Advanced Electronic Circuits	3	6				2 year Gr SEDS Electrical and Computer Engineering	1 year Gr SEDS Electrical and Computer Engineering	Electrical and Computer Engineering	
50	MECE 716	Adaptive Signal Processing	3	6				2 year Gr SEDS Electrical and Computer Engineering	1 year Gr SEDS Electrical and Computer Engineering	Electrical and Computer Engineering	
51	MECE 717	Pattern Recognition and Machine Learning	3	6				2 year Gr SEDS Electrical and Computer Engineering	1 year Gr SEDS Electrical and Computer Engineering	Electrical and Computer Engineering	
Mechanical and Aerospace Engineering											
52	MAE 500	Unmanned Aerial Vehicle Design	3	6	MMAE 603 Modern Control Engineering (4500) (C- and above)				1 year Gr SEDS Mechanical and Aerospace Engineering, 2 year Gr SEDS Mechanical and Aerospace Engineering		
53	MMAE 602	Master Thesis II	12	24	MMAE 601 Master Thesis I (5014) (P)			1 year Gr SEDS Mechanical and Aerospace Engineering, 2 year Gr SEDS Mechanical and Aerospace Engineering			
54	MMAE 604	Advanced Computational Fluid Dynamics and Heat Transfer in Mechanical Engineering	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering	2 year Gr SEDS Mechanical and Aerospace Engineering		
55	MMAE 700	Advanced Statistics and Probability	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering	2 year Gr SEDS Mechanical and Aerospace Engineering		
56	MMAE 701	Numerical Techniques for Engineers	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering	2 year Gr SEDS Mechanical and Aerospace Engineering		
57	MMAE 704	Design and Manufacturing with Environmental Concern	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering	2 year Gr SEDS Mechanical and Aerospace Engineering		
58	MMAE 710	Space Structures Design	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering	2 year Gr SEDS Mechanical and Aerospace Engineering		
59	MMAE 716	Digital Transformation Concepts	3	6				2 year Gr SEDS Engineering Management	2 year Gr SEDS Mechanical and Aerospace Engineering	1 year Gr SEDS Mechanical and Aerospace Engineering	

Robotics and Mechatronics

60	ROBT 502	Robot Perception & Vision	3	6	ROBT 501 Robot Manipulation and Mobility (2263) (C- and above)			Robotics	SEDS		
61	ROBT 692	Thesis	15	30	ROBT 691 Thesis Proposal (5930) (P)				Biomedical Engineering, Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Electrical and Electronic Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Robotics		