

Course Requirements and Registration Priorities
School of Engineering and Digital Sciences (Graduate: Master), Spring 2020

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
SEDS											
Chemical Engineering/Mechanical Engineering											
1	MBME 600	Research Seminar	3	6				Biomedical Engineering	SEDS		
2	MBME 607	Advanced Tissue Engineering	3	6				Biomedical Engineering, Chemical Engineering, Chemical and Materials Engineering	SEDS	GSB, GSE, GSPP, SMG, SSH, SoM	
3	MBME 700	Strategies for Controlled Topical Delivery of Drugs	3	6				Biomedical Engineering	SEDS		
4	MBME 705	Infectious Diseases and Antimicrobial Strategies	3	6				Biomedical Engineering	SEDS		
5	MBME 708	Biomedical Imaging	3	6				Biomedical Engineering	SEDS		
Chemical and Materials Engineering											
6	MCHME 600	Research Seminar	3	6				Chemical Engineering, Chemical and Materials Engineering	SEDS		
7	MCHME 602	MSc Thesis II	12	24				Chemical Engineering, Chemical and Materials Engineering	SEDS		
8	MCHME 606	Advanced Heat and Mass Transfer	3	6				Chemical Engineering, Chemical and Materials Engineering	SEDS		
9	MCHME 701	Advanced Chemical Thermodynamics	3	6				Chemical Engineering, Chemical and Materials Engineering	SEDS		
10	MCHME 704	Advanced Safety, Reliability and Risk Engineering in Process Industries	3	6				Chemical Engineering, Chemical and Materials Engineering	SEDS		
11	MCHME 707	Polymer Melt Fluid Mechanics and Processing	3	6				Chemical Engineering, Chemical and Materials Engineering	SEDS		
12	MCHME 709	Food Engineering and Processing	3	6				Chemical Engineering, Chemical and Materials Engineering	SEDS		
13	MCHME 715	Air Quality, Toxicity and Health	3	6				Chemical Engineering, Chemical and Materials Engineering	SEDS		
Civil Engineering											
14	EMEM 510	Managerial Accounting	2	4				1 year Gr SEDS Engineering Management			
15	EMEM 511	Business Strategy	2	4				1 year Gr SEDS Engineering Management			
16	EMEM 513	Entrepreneurship	2	4				1 year Gr SEDS Engineering Management			
17	EMEM 514	Finance	2	4				1 year Gr SEDS Engineering Management			

18	EMEM 516	Management of Organizations	2	4				1 year Gr SEDS Engineering Management		
19	EMEM 517	Marketing	2	4				1 year Gr SEDS Engineering Management		
20	EMEM 527	Globalization and Engineering	3	6				Engineering Management		
21	EMEM 529	Capstone Project	8	16				Engineering Management		
22	EMEM 535	Managing Product and Service Development	3	6				Engineering Management		
23	EMEM 545	Business Communication	2	4				1 year Gr SEDS Engineering Management		
24	EMEM 548	Understanding and Predicting Consumer Behavior	2	4						
25	MCEE 600	Research Seminar	3	6				Civil Engineering, Civil and Environmental Engineering	SEDS	
26	MCEE 602	MSc Thesis II	12	24				Civil Engineering, Civil and Environmental Engineering	SEDS	
27	MCEE 606	Advanced Project Management	3	6				Civil Engineering, Civil and Environmental Engineering	SEDS	
28	MCEE 707	Geotechnical Earthquake Engineering	3	6				Civil Engineering, Civil and Environmental Engineering	SEDS	
29	MCEE 712	Advanced Pavement Design, Analysis, and Rehabilitation	3	6				Civil Engineering, Civil and Environmental Engineering	SEDS	
30	MCEE 713	Advanced Concrete Design	3	6				Civil Engineering, Civil and Environmental Engineering	SEDS	
31	MCEE 714	Advanced Wastewater Treatment	3	6				Civil Engineering, Civil and Environmental Engineering	SEDS	
32	MCEE 715	Sustainable Development	3	6				Civil Engineering, Civil and Environmental Engineering	SEDS	
33	MSC 600	Research methods and ethics	3	6				SEDS		
Computer Science										
34	CSCI 502	Hardware Software Co-Design	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above)			Computer Science	SEDS	
35	CSCI 545	Big Data Analytics	3	6				Data Science	SEDS	GSB, GSE, GSPP, SMG, SSH, SoM
36	CSCI 547	Algorithmic Trading	3	6				Computer Science	SEDS	
37	CSCI 581	Acquisition and Analysis of Biomedical Data	3	6				Computer Science	SEDS	

38	CSCI 591	Advanced Artificial Intelligence	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above)		Computer Science	SEDS		
39	DS 502	Probability and Statistics for Data Science	3	6			Data Science			
40	DS 504	Data Mining and Decision Support	3	6			Data Science	SEDS	GSB, GSE, GSPP, SMG, SSH, SoM	
Electrical and Computer Engineering										
41	MECE 600	Research Seminar	3	6			Electrical and Computer Engineering, Electrical and Electronic Engineering	SEDS		
42	MECE 602	Master Thesis II	12	24			Electrical and Computer Engineering, Electrical and Electronic Engineering	SEDS		
43	MECE 700	Industrial and Commercial Power System	3	6			Electrical and Computer Engineering, Electrical and Electronic Engineering	SEDS		
44	MECE 702	Advanced Power Electronics	3	6			Electrical and Computer Engineering, Electrical and Electronic Engineering	SEDS		
45	MECE 717	Pattern Recognition and Machine Learning	3	6			Electrical and Computer Engineering, Electrical and Electronic Engineering	SEDS		
46	MECE 719	Advanced Electromagnetics	3	6			Electrical and Computer Engineering, Electrical and Electronic Engineering	SEDS		
47	MECE 724	System Modelling and Control	3	6	MSC 602 Advanced Applied Mathematics (4499) (C- and above)		Electrical and Computer Engineering, Electrical and Electronic Engineering	SEDS		
Mechanical and Aerospace Engineering										
48	MMAE 600	Research Seminar	3	6			Mechanical Engineering, Mechanical and Aerospace Engineering	SEDS		
49	MMAE 602	MSc Thesis II	12	24			Mechanical Engineering, Mechanical and Aerospace Engineering	SEDS		
50	MMAE 604	Advanced Computational Fluid Dynamics (CFD) and Heat Transfer in Mechanical Engineering	3	6			Mechanical Engineering, Mechanical and Aerospace Engineering	SEDS		
51	MMAE 700	Advanced Statistics and Probability	3	6			Mechanical Engineering, Mechanical and Aerospace Engineering	SEDS		
52	MMAE 701	Numerical Techniques for Engineers	3	6			Mechanical Engineering, Mechanical and Aerospace Engineering	SEDS		

53	MMAE 703	Advanced Engineering Design and Manufacturing	3	6				Mechanical Engineering, Mechanical and Aerospace Engineering	SEDS		
54	MMAE 704	Design and Manufacturing with Environmental Concern	3	6				Mechanical Engineering, Mechanical and Aerospace Engineering	SEDS		
55	MMAE 705	Design Optimization	3	6				Mechanical Engineering, Mechanical and Aerospace Engineering	SEDS		
56	MMAE 716	Digital Transformation Concepts	3	6				Engineering Management, Mechanical Engineering, Mechanical and Aerospace Engineering	SEDS		
Robotics and Mechatronics											
57	ROBT 502	Robot Perception & Vision	3	6	ROBT 501 Robot Manipulation and Mobility (2263) (C- and above)			Computer Science, Robotics	SEDS		