

**Course Requirements and Registration Priorities
School of Engineering, Fall 2018**

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
SMG											
School of Mining and Geosciences											
1	SMG 710	Research Methods and Statistics	3	6				Science, Engineering and Technology			
SEDS											
Chemical Engineering											
2	MCHE 600	MSc Thesis in Chemical Engineering	15	30							
Chemical and Materials Engineering											
3	CHME 350	Soft Matter, Foods and Colloids	3	6				4 year UG SEng Chemical Engineering			
4	ECHE 126	Introduction to Chemical Engineering	3	6							
5	ECHE 222	Chemistry I	3	6							
6	ECHE 319	Chemical Engineering Thermodynamics	3	6							
7	ECHE 333	Separation Processes-I	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above)						
8	ECHE 369	Transport Phenomena-II	3	6							
9	ECHE 385	Research Practice	3	6							
10	ECHE 418	Capstone project 1	3	6	ECHE 323 Computational methods in Chemical Engineering-I (1272) (D and above)						
11	ECHE 478	Electrochemical Engineering and Corrosion Protection	3	6	ECHE 222 Chemistry I (731) (D and above)			4 year UG SEng Chemical Engineering			
12	ECHE 481	Chemical Reaction Engineering	3	6	ECHE 126 Introduction to Chemical Engineering (33) (D and above) AND BENG 124 Engineering Mathematics I (101) (D and above) AND BENG 225 Engineering Mathematics II (48) (D and above)						

13	ECHE 484	Multiphase Systems	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above) AND ECHE 270 Transport Phenomena-1 (735) (D and above)			4 year UG SEng Chemical Engineering			
14	ECHE 486	Chemical Process Safety	3	6							
15	ECHE 488	Atmospheric Chemistry and Physics	3	6				4 year UG SEng Chemical Engineering			
16	MCHME 603	Advanced Materials Processing	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
17	MCHME 604	Advanced Materials Characterization Methods	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
18	MCHME 605	Advanced Chemical Reaction Engineering	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
Civil Engineering											
19	MCE 600	MSc Thesis in Civil Engineering	15	30							
20	MSC 601	Technical Communication	3	6							
21	MSC 602	Advanced Applied Mathematics	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
22	MSC 615	Advanced Statistics and Probability	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
23	MSC 616	Research Methods	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
Civil and Environmental Engineering											
24	ECE 215	Surveying	3	6							
25	ECE 216	Civil Engineering CAD	3	6							
26	ECE 217	Structural Analysis I	3	6	BENG 117 Engineering Mechanics (740) (D and above)						
27	ECE 302	Civil Engineering Materials	3	6	BENG 221 Engineering Materials (47) (D and above)						
28	ECE 303	Construction Management and Practice	3	6	BENG 148 Engineering Practice (1073) (D and above)						

29	ECE 307	Engineering Geology and Rock Mechanics	3	6						
30	ECE 318	Structural Design - Concrete	3	6	ECE 479 Structural Analysis II (2460) (C- and above)					
31	ECE 401	Capstone Project 1	3	6						
32	ECE 404	Construction Technologies and Processes	3	6	BENG 148 Engineering Practice (1073) (D and above) AND ECE 302 Civil Engineering Materials (1040) (D and above)					
33	ECE 405	Environmental Engineering	3	6	ECE 473 Environmental Systems (1953) (D and above) OR ECE 218 Environmental Chemistry (3296) (D and above)					
34	ECE 416	Highway Engineering	3	6	ECE 302 Civil Engineering Materials (1040) (D and above)					
35	ECE 421	Behaviour and Design of Structural System	3	6	(ECE 318 Structural Design - Concrete (3709) (D and above) OR ECE 314 Structural Engineering Applications I (1042) (D and above)) AND (ECE 319 Structural Design - Steel (4038) (D and above) OR ECE 315 Structural Engineering Applications II (1041) (D and above))		4 year UG SEng Civil Engineering			
36	ECE 481	Individual Research Projects in Civil Engineering	3	6						
37	ECE 482	Solid and Hazardous Waste Management	3	6	ECE 405 Environmental Engineering (1265) (C- and above)		4 year UG SEng Civil Engineering			
38	EMEM 507	Project Management	3	6			1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
39	EMEM 509	Systems Engineering	3	6						
40	EMEM 523	Supply Chain Management	3	6						
41	EMEM 533	Engineering Management and Engineering Economy	3	6			1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
42	EMEM 537	Engineering Decision Tools	3	6						
43	EMEM 539	Big Data and Information Management	3	6						

44	EMEM 542	Production and Service Operations Management	3	6						
45	EMEM 543	Quality and Lean Management	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM
46	MCEE 603	Finite Element Methods	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM
47	MCEE 604	Advanced Soil Mechanics	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM
48	MCEE 605	Advanced Environmental Chemistry	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM
Electrical and Computer Engineering										
49	EEE 212	Signals and Systems	3	6	BENG 225 Engineering Mathematics II (48) (D and above)					
50	EEE 238	Digital Signal and Image Processing	3	6						
51	EEE 250	Microelectronic Devices and Circuits	3	6	BENG 114 Introduction to Electrical Systems (1076) (D and above)					
52	EEE 251	Electronic Engineering Design Principles	3	6	BENG 114 Introduction to Electrical Systems (1076) (D and above)					
53	EEE 342	Electromagnetics	3	6						
54	EEE 345	Power Electronics	3	6						
55	EEE 382	Antennas and Propagation	3	6						
56	EEE 384	Digital Integrated Circuits Design	3	6	EEE 250 Microelectronic Devices and Circuits (3152) (C- and above)					
57	EEE 437	Capstone Project 1	3	6						
58	EEE 448	Power Transmission and Distribution plants	3	6						
59	EEE 450	RF and Microwave Circuit Design	3	6						
60	EEE 451	High Voltage Engineering	3	6						
61	EEE 452	Power Systems Protection	3	6						
62	EEE 482	Mobile Communications	3	6	EEE 239 Communication systems (534) (C- and above)					

63	EEE 490	Introduction to Big Data	3	6							
64	EEE 491	Internet of Things	3	6	BENG 146 Programming for Engineers (2234) (C- and above) AND EEE 343 Embedded Microcontrollers (1532) (C- and above)						
65	EEE 492	Deep Learning Machines	3	6							
66	EEE 493	Industry 4.0	3	6							
67	MECE 603	Advanced Data Structures and Algorithms	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
68	MECE 605	Statistics and Probability for Electrical and Computer Engineers	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
69	MECE 606	Embedded Systems and Applications	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
Electrical and Electronic Engineering											
70	MEE 600	MSc Thesis in Electrical and Electronics Engineering	15	30							
Mechanical Engineering											
71	MME 600	Master Thesis in Mechanical Engineering	15	30							
Mechanical and Aerospace Engineering											
72	EME 253	Computer Aided Engineering	3	6							
73	EME 254	Mechanics of Materials	3	6							
74	EME 262	Machine Dynamics I	3	6							
75	EME 354	Advanced Control Systems	3	6	BENG 219 Control Systems (728) (D and above)						
76	EME 358	Heat Transfer	3	6	BENG 226 Engineering Thermodynamics (1553) (D and above) AND EME 275 Fluid Mechanics I (1988) (D and above)						
77	EME 361	Machine Design	3	6							
78	EME 410	Aerodynamics	3	6	EME 357 Fluid Mechanics II (1280) (D and above)						
79	EME 412	Heating, Ventilating and Air Conditioning	3	6							

80	EME 413	Computer Aided Geometric Design	3	6	EME 253 Computer Aided Engineering (1050) (C- and above)						
81	EME 451	Capstone Project 1	3	6							
82	EME 463	Machine Dynamics II	3	6							
83	EME 467	Vehicle Propulsion Systems	3	6							
84	EME 487	Mechatronics Systems Design	3	6	BENG 219 Control Systems (728) (C- and above)						
85	ENG 100	Introduction to Engineering	3	6				1 year UG SENG	1 year UG SMG, 1 year UG SST	1 year UG SHSS	
86	ENG 101	Programming for Engineers	3	6				1 year UG SENG	1 year UG SMG, 1 year UG SST	1 year UG SHSS	
											CSCI 151 Programming for Scientists and Engineers (192) (F) OR CSCI 111 Web Programming and Problem Solving (110) (F) OR CSCI 115 Programming Fundamentals (5257) (F) OR CSCI 152 Performance and Data Structures (489) (F) OR CSCI 408 Senior Project I (1481) (F) OR CSCI 409 Senior Project II (1483) (F)
87	MAE 457	Feasibility Analysis of Clean Energy Technologies	3	6							
88	MMAE 603	Modern Control Engineering	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
89	MMAE 605	Advanced Manufacturing Processes and Strategies	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
School of Engineering											
90	BENG 215	Sensors and Actuators	3	6							

91	BENG 228	Engineering Mathematics III	3	6	BENG 124 Engineering Mathematics I (101) (D and above) AND BENG 225 Engineering Mathematics II (48) (D and above)						
92	BENG 405	Project Management	3	6							
93	DENG 782	Research Methods and Ethics	3	6				Science, Engineering and Technology			
94	DENG 784	Doctoral Proposal I	0	6				Science, Engineering and Technology			
95	DENG 785	PhD Proposal Oral Defence	0	0				Science, Engineering and Technology			
96	DENG 787	Doctoral Proposal II	3	6	DENG 784 Doctoral Proposal I (1774) (P)	DENG 785 PhD Proposal Oral Defence (2604) (P)		Science, Engineering and Technology			
97	DENG 789	Doctoral Seminar I	3	6	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology		4 year Gr SENG (pending graduation)	
98	DENG 790	Doctoral Seminar II	3	6	DENG 789 Doctoral Seminar I (4598) (P)			Science, Engineering and Technology			
99	DENG 791	Doctoral Seminar III	3	6	DENG 790 Doctoral Seminar II (4599) (P)			Science, Engineering and Technology			
100	DENG 792	Doctoral Seminar IV	3	6	DENG 791 Doctoral Seminar III (4600) (P)			Science, Engineering and Technology			
101	DENG 793	Doctoral Seminar V	3	6	DENG 792 Doctoral Seminar IV (4601) (P)			Science, Engineering and Technology			
102	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology		4 year Gr SENG (pending graduation)	
103	DENG 795	Research at Host University	6	12	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology			
104	DENG 796	Thesis Completion	0	0				Science, Engineering and Technology			

105	DENG 797	Oral Defence of PhD Dissertation	0	0	DENG 785 PhD Proposal Oral Defence (2604) (P) AND DENG 789 Doctoral Seminar I (4598) (P) AND DENG 790 Doctoral Seminar II (4599) (P)			Science, Engineering and Technology			
106	DENG 798	Doctoral Seminar VI	3	6	DENG 793 Doctoral Seminar V (4602) (P)			Science, Engineering and Technology			
107	DENG 799	Doctoral Seminar VII	3	6	DENG 798 Doctoral Seminar VI (4607) (P)			Science, Engineering and Technology			