

Course Requirements and Registration Priorities
School of Engineering and Digital Sciences (PhD), Spring 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	DCHME 700-0	Thesis Research	0	0				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
2	DCHME 701	Current Research Literature	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
3	DCHME 715	Air Quality, Toxicity and Health	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
4	DCHME 752	Polymer Melt Fluid Mechanics and Processing	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
5	DCHME 757	Advanced Chemical Engineering Thermodynamics	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
6	DCHME 763	Advanced Heat and Mass Transfer	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
7	DCHME 766	Advanced Energy Materials and Their Application	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
Civil and Environmental Engineering											
8	DCEE 700-0	Thesis Research	0	0				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

9	DCEE 701	Current Research Literature	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
10	DCEE 755	Contaminated Site Management and Soil Treatment Technologies	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
11	DCEE 759	Geotechnical Earthquake Engineering	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
12	DCEE 762	Advanced Project Management	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
13	DCEE 765	Concrete Repair and Maintenance	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
14	DCEE 766	Advanced Pavement Design, Analysis, and Rehabilitation	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
Computer Science											
15	CSCI 700-0	Thesis Research	0	0				Computer Science			
16	CSCI 702	Advanced Hardware/Software Co-Design	4	8				Computer Science , Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology		
17	CSCI 722	Current Research Literature	4	8				Computer Science			
18	CSCI 745	Advanced Big Data Analytics	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
19	CSCI 747	Advanced Algorithmic Trading	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

20	CSCI 772	Advanced Cognitive Modelling for Human-Computer Interaction	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
21	CSCI 781	Advanced Acquisition and Analysis of Biomedical Data	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
22	CSCI 791	Advanced Artificial Reasoning and Problem solving	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
23	DS 704	Advanced Data Mining and Decision Support	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
Electrical and Computer Engineering											
24	DELCE 700-0	Thesis Research	0	0				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
25	DELCE 701	Current Research Literature	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
26	DELCE 758	Advanced Industrial and Commercial Energy Systems	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
27	DELCE 759	Advanced Pattern Recognition and Machine Learning	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
28	DELCE 762	Fundamentals of Signal Processing	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
29	DELCE 763	Advanced Electronic Circuits	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

Mechanical and Aerospace Engineering

30	DMAE 700-0	Thesis Research	0	0				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
31	DMAE 702	Current Research Literature	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
32	DMAE 703	Numerical Techniques for Engineers	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mining Engineering, Petroleum Engineering, Robotics Engineering, Science, Engineering and Technology		
33	DMAE 750	Advanced Statistics and Probability	4	8			MSC 615 Advanced Statistics and Probability (2394) (B- and above)	Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
34	DMAE 756	Design and Manufacturing with Environmental Concern	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
35	DMAE 757	Design Optimization	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
36	DMAE 759	Space Structure Design	4	8				Mechanical Engineering, Science, Engineering and Technology			
37	DMAE 769	Advanced Computational Fluid Dynamics and Heat Transfer in Mechanical Engineering	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		

Robotics and Mechatronics

38	ROBT 700-0	Thesis Research	0	0				Robotics Engineering			
39	ROBT 702	Advanced Robot Perception and Vision	4	8				Robotics Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology		

40	ROBT 722	Current Research Literature	4	8				Robotics Engineering			
School of Engineering											
41	DENG 700-0	Thesis Research	0	0				Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
42	DENG 791	Doctoral Seminar III	3	6	DENG 790 Doctoral Seminar II (4599) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
43	DENG 792	Doctoral Seminar IV	3	6	DENG 791 Doctoral Seminar III (4600) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
44	DENG 793	Doctoral Seminar V	3	6	DENG 792 Doctoral Seminar IV (4601) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
45	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			

46	DENG 796	Thesis Completion	0	0				Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
47	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)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
48	DENG 798	Doctoral Seminar VI	3	6	DENG 793 Doctoral Seminar V (4602) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
49	DENG 799	Doctoral Seminar VII	3	6	DENG 798 Doctoral Seminar VI (4607) (P)			Science, Engineering and Technology			