

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

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
<b>SEDS</b>											
<b>Chemical and Materials Engineering</b>											
1	DCHME 700-0	Thesis Research	0	0				Chemical Engineering			
2	DCHME 701	Current Research Literature	4	8				Chemical Engineering			
3	DCHME 752	Polymer Melt Fluid Mechanics and Processing	4	8				Chemical Engineering			
4	DCHME 757	Advanced Chemical Engineering Thermodynamics	4	8				Chemical Engineering			
5	DCHME 763	Advanced Heat and Mass Transfer	4	8				Chemical Engineering			
6	DCHME 766	Advanced Energy Materials and Their Application	4	8				Chemical Engineering			
<b>Civil and Environmental Engineering</b>											
7	DCEE 700	Thesis Research	89	178							
8	DCEE 700-0	Thesis Research	0	0				Civil Engineering			
9	DCEE 701	Current Research Literature	4	8				2 year PhD SEDS Civil Engineering	Civil Engineering		
10	DCEE 751	Structural Dynamics and Earthquake Engineering	4	8				1 year PhD SEDS Civil Engineering	2 year PhD SEDS Civil Engineering		
11	DCEE 752	Advanced Concrete Technology	4	8				1 year PhD SEDS Civil Engineering	2 year PhD SEDS Civil Engineering		
12	DCEE 755	Contaminated Site Management and Soil Treatment Technologies	4	8				1 year PhD SEDS Civil Engineering	2 year PhD SEDS Civil Engineering		
13	DCEE 762	Advanced Project Management	4	8				1 year PhD SEDS Civil Engineering, Civil Engineering	2 year PhD SEDS Civil Engineering		
14	DCEE 771	Soil Improvement and Stabilization	4	8				1 year PhD SEDS Civil Engineering	2 year PhD SEDS Civil Engineering		
<b>Computer Science</b>											
15	CSCI 700-0	Thesis Research	0	0				Computer Science			
16	CSCI 702	Advanced Hardware/Software Co-Design	4	8				Computer Science , Robotics Engineering			
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 775	Advanced Formal Methods and Applications	4	8				GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			
20	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		
21	CSCI 785	Advanced Computer Vision	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology		
22	CSCI 791	Advanced Artificial Reasoning and Problem solving	4	8				Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
23	DS 709	Advanced Information Retrieval	4	8				GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			
<b>Electrical and Computer Engineering</b>											
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 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		
27	DELCE 763	Advanced Electronic Circuits	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
<b>Mechanical and Aerospace Engineering</b>											
28	DMAE 700-0	Thesis Research	0	0				Mechanical Engineering			
29	DMAE 702	Current Research Literature	4	8				Mechanical Engineering	Science, Engineering and Technology	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering	
30	DMAE 703	Numerical Techniques for Engineers	4	8							
31	DMAE 750	Advanced Statistics and Probability	4	8			MSC 615 Advanced Statistics and Probability (2394) (B- and above)	Mechanical Engineering	Science, Engineering and Technology	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering	
32	DMAE 756	Design and Manufacturing with Environmental Concern	4	8				Mechanical Engineering	Science, Engineering and Technology	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering	

33	DMAE 769	Advanced Computational Fluid Dynamics and Heat Transfer in Mechanical Engineering	4	8				Mechanical Engineering	Science, Engineering and Technology	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering	
<b>Robotics and Mechatronics</b>											
34	ROBT 700-0	Thesis Research	0	0				Robotics Engineering			
<b>School of Engineering</b>											
35	DENG 700-0	Thesis Research	0	0				Science, Engineering and Technology			
36	DENG 791	Doctoral Seminar III	3	6	DENG 790 Doctoral Seminar II (4599) (P)			Science, Engineering and Technology			
37	DENG 793	Doctoral Seminar V	3	6	DENG 792 Doctoral Seminar IV (4601) (P)			Science, Engineering and Technology			
38	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology			
39	DENG 795	Research at Host University	6	12	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology			
40	DENG 796	Thesis Completion	0	0				Science, Engineering and Technology			
41	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			
42	DENG 798	Doctoral Seminar VI	3	6	DENG 793 Doctoral Seminar V (4602) (P)			Science, Engineering and Technology			
43	DENG 799	Doctoral Seminar VII	3	6	DENG 798 Doctoral Seminar VI (4607) (P)			Instructor's Permission Required. Registration through Add Course form only!			