

Course Requirements and Registration Priorities
School of Engineering and Digital Sciences (PhD), Fall 2021

#	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				1 year PhD SEDS Chemical Engineering	Chemical Engineering, Science, Engineering and Technology		
2	DCHME 755	Integrated Computational Materials Engineering	4	8				1 year PhD SEDS Chemical Engineering	Science, Engineering and Technology		
3	DCHME 761	Advanced Chemical Reaction Engineering	4	8				1 year PhD SEDS Chemical Engineering	Science, Engineering and Technology		
4	DCHME 762	Advanced Materials Processing	4	8				1 year PhD SEDS Chemical Engineering	Science, Engineering and Technology		
5	DCHME 765	Biofilms Science and Engineering	4	8				1 year PhD SEDS Chemical Engineering	Science, Engineering and Technology		
Civil and Environmental Engineering											
6	DCEE 700-0	Thesis Research	0	0				1 year PhD SEDS Civil Engineering	Civil Engineering, Science, Engineering and Technology		
7	DCEE 750	Finite Element Methods	4	8				Civil Engineering	Biomedical Sciences, Chemical Engineering, Computer Science , Education, Electrical Engineering, Eurasian Studies, Life Sciences, Mathematics, Mechanical Engineering, Mining Engineering, Petroleum Engineering, Physics, Public Policy, Robotics Engineering, Science, Engineering and Technology		
8	DCEE 757	Advanced Environmental Chemistry	4	8				1 year PhD SEDS Civil Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
9	DCEE 760	Advanced Foundation Engineering	4	8				1 year PhD SEDS Civil Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
10	DCEE 761	Advanced Soil Mechanics	4	8				1 year PhD SEDS Civil Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

11	DCEE 772	Engineering Management and Engineering Economy	4	8				1 year PhD SEDS Civil Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
Computer Science											
12	CSCI 700-0	Thesis Research	0	0				1 year PhD SEDS Computer Science	Computer Science , Science, Engineering and Technology		
13	CSCI 701	Advanced Software Principles and Practice	4	8				Computer Science , Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology	SSH	
14	CSCI 711	Advanced Theory of Computation	4	8				Computer Science , Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology	SSH	
15	CSCI 785	Advanced Computer Vision	4	8				Computer Science , Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology	SSH	
16	CSCI 794	Advanced Deep Learning	4	8				Computer Science , Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology	SSH	
Electrical and Computer Engineering											
17	DELCE 700-0	Thesis Research	0	0				1 year PhD SEDS Electrical Engineering	Electrical Engineering, Science, Engineering and Technology		
18	DELCE 753	Stochastic Processes	4	8				1 year PhD SEDS Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
19	DELCE 760	Advanced System Modelling and Control	4	8				1 year PhD SEDS Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
20	DELCE 761	Advanced Data Structures and Algorithms	4	8				1 year PhD SEDS Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
Mechanical and Aerospace Engineering											
21	DMAE 700-0	Thesis Research	0	0				1 year PhD SEDS Mechanical Engineering	Mechanical Engineering, Science, Engineering and Technology		

22	DMAE 701	Advanced Applied Mathematics	4	8				1 year PhD SEDS Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
23	DMAE 750	Advanced Statistics and Probability	4	8			MSC 615 Advanced Statistics and Probability (2394) (B- and above)	1 year PhD SEDS Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
24	DMAE 751	Modern Control Engineering	4	8				1 year PhD SEDS Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
25	DMAE 765	Advanced Manufacturing Processes and Strategies	4	8				1 year PhD SEDS Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
Robotics and Mechatronics											
26	ROBT 700-0	Thesis Research	0	0				1 year PhD SEDS Robotics Engineering	Robotics Engineering, Science, Engineering and Technology		
27	ROBT 701	Advanced Robot Manipulation and Mobility	4	8				1 year PhD SEDS Robotics Engineering	Science, Engineering and Technology		
28	ROBT 703	Advanced Optimal Control and Planning	4	8				1 year PhD SEDS Robotics Engineering	Science, Engineering and Technology		
29	ROBT 709	Advanced Robot Dynamics and Control	4	8				1 year PhD SEDS Robotics Engineering	Science, Engineering and Technology		
School of Engineering											
30	DENG 700-0	Thesis Research	0	0				Science, Engineering and Technology			

31	DENG 782	Research Methods and Ethics	3	6				1 year PhD SEDS Chemical Engineering, 1 year PhD SEDS Civil Engineering, 1 year PhD SEDS Computer Science, 1 year PhD SEDS Electrical Engineering, 1 year PhD SEDS Mechanical Engineering, 1 year PhD SEDS Robotics Engineering, 1 year PhD SEDS Science, Engineering and Technology, 1 year PhD SSH Eurasian Studies, 1 year PhD SSH Life Sciences, 1 year PhD SSH Mathematics, 1 year PhD SSH Physics	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology	1 year PhD SMG Mining Engineering, 1 year PhD SMG Petroleum Engineering, 2 year PhD SSH Physics	
32	DENG 790	Doctoral Seminar II	3	6	DENG 789 Doctoral Seminar I (4598) (P)			Science, Engineering and Technology			
33	DENG 792	Doctoral Seminar IV	3	6	DENG 791 Doctoral Seminar III (4600) (P)			Science, Engineering and Technology			
34	DENG 793	Doctoral Seminar V	3	6	DENG 792 Doctoral Seminar IV (4601) (P)			Science, Engineering and Technology			
35	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology			
36	DENG 796	Thesis Completion	0	0				Science, Engineering and Technology			
37	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			
38	DENG 798	Doctoral Seminar VI	3	6	DENG 793 Doctoral Seminar V (4602) (P)			Science, Engineering and Technology			
39	DENG 799	Doctoral Seminar VII	3	6	DENG 798 Doctoral Seminar VI (4607) (P)			Science, Engineering and Technology			