

Course Requirements and Registration Priorities
School of Engineering and Digital Sciences (Undergraduate), Fall 2023

#	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	CHME 200	Basic Principles and Calculations in Chemical Engineering	3	6				2 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
2	CHME 201	Chemical Engineering Thermodynamics	3	6				2 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
3	CHME 222	Inorganic and Analytical Chemistry	3	6				2 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
4	CHME 300	Heat and Mass Transfer	3	6				3 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
5	CHME 301	Applied Mathematics for Process Design	3	6				3 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
6	CHME 302	Instrumental Methods of Analysis for Engineers	3	6				3 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
7	CHME 351	Environment and Development	3	6				3 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
8	CHME 353	Electrochemical Engineering	3	6				3 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
9	CHME 400	Process Design and Simulation	3	6	CHME 300 Heat and Mass Transfer (5952) (D and above) AND CHME 304 Chemical Reaction Engineering (6168) (D and above)			4 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
10	CHME 401	Chemical Engineering Lab II	3	6				4 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
11	CHME 453	Multiphase Systems	3	6	CHME 202 Fluid Mechanics (5543) (D and above)			4 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
Civil and Environmental Engineering											
12	CEE 200	Structural Mechanics I	3	6				2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering	Civil and Environmental Engineering, Mechanical and Aerospace Engineering	SMG	

13	CEE 201	Environmental Chemistry	3	6				2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering	Civil and Environmental Engineering, Mechanical and Aerospace Engineering		
14	CEE 204	Civil Engineering CAD and Surveying	3	6				2 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation)	Civil and Environmental Engineering		
15	CEE 300	Structural Design - Concrete	3	6	CEE 203 Structural Analysis (5500) (D and above)			3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation)	Civil and Environmental Engineering		
16	CEE 302	Geotechnical Engineering	3	6				3 year UG SEDS Civil and Environmental Engineering	Civil and Environmental Engineering		
17	CEE 304	Fluid Mechanics	3	6				3 year UG SEDS Civil and Environmental Engineering	Civil and Environmental Engineering		
18	CEE 306	Civil Engineering Materials	3	6	ENG 102 Engineering Materials I (4708) (D and above)			3 year UG SEDS Civil and Environmental Engineering	Civil and Environmental Engineering		
19	CEE 401	Construction Technology and Management	3	6	CEE 306 Civil Engineering Materials (5897) (D and above)			4 year UG SEDS Civil and Environmental Engineering	Civil and Environmental Engineering		
20	CEE 450	Behavior and Design of Structural System	3	6	CEE 300 Structural Design - Concrete (5895) (D and above) AND CEE 301 Structural Design - Steel (6157) (D and above)			4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation)	Civil and Environmental Engineering		
21	CEE 460	Water Supply and Distribution Management	3	6	CEE 305 Hydraulics and Hydrology (6177) (D and above)			4 year UG SEDS Civil and Environmental Engineering	Civil and Environmental Engineering		
22	CEE 462	Pavement Design and Performance	3	6	CEE 306 Civil Engineering Materials (5897) (D and above) AND CEE 303 Geotechnical Design (6158) (D and above)			4 year UG SEDS Civil and Environmental Engineering	1 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Civil and Environmental Engineering, 3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering		

23	CEE 465	Structure and Properties of Concrete Materials	3	6	CEE 306 Civil Engineering Materials (5897) (D and above)			4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation)	Civil and Environmental Engineering		
24	CEE 467	Building Information Modelling for Geotechnical Engineering	3	6	CEE 303 Geotechnical Design (6158) (D and above)			4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation)			
Computer Science											
25	CSCI 111	Web Programming and Problem Solving	3	6				CSCI 101 Introduction to Computational Sciences (147) (D and above) OR CSCI 115 Programming Fundamentals (5257) (D and above) OR CSCI 151 Programming for Scientists and Engineers (192) (D and above) OR ENG 101 Programming for Engineers (4517) (D and above)	SSH		
26	CSCI 115	Programming Fundamentals	4	8				CSCI 101 Introduction to Computational Sciences (147) (D and above) OR CSCI 111 Web Programming and Problem Solving (110) (D and above) OR CSCI 151 Programming for Scientists and Engineers (192) (D and above) OR ENG 101 Programming for Engineers (4517) (D and above)	Biological Sciences, Chemistry, Mathematics, SoM	SSH	

27	CSCI 151	Programming for Scientists and Engineers	4	8			CSCI 111 Web Programming and Problem Solving (110) (D and above) OR CSCI 115 Programming Fundamentals (5257) (D and above) OR ENG 101 Programming for Engineers (4517) (B- and above)	Computer Science, Robotics Engineering, Robotics and Mechatronics	1 year UG SSH Physics, Undeclared SEDS	SEDS, SMG, SSH	
28	CSCI 231	Computer Systems and Organization	3	6	CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR ENG 100 Introduction to Engineering (4518) (B- and above)			Computer Science			
29	CSCI 235	Programming Languages	4	8	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
30	CSCI 281	Human-Computer Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
31	CSCI 299	Internship I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
32	CSCI 325	Introduction to Parallel Systems and Graphics Processing Unit Programming	3	6	CSCI 332 Operating Systems (490) (C- and above)			Computer Science			
33	CSCI 341	Database Systems	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science	1 year UG SEDS Computer Science, 2 year UG SEDS Computer Science		
34	CSCI 344	Data Mining and Decision Support	3	6	CSCI 341 Database Systems (195) (C- and above) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science	1 year UG SEDS Computer Science, 2 year UG SEDS Computer Science		
35	CSCI 355	Compiler Construction	3	6	CSCI 235 Programming Languages (638) (C and above) AND CSCI 272 Formal Languages (4689) (C and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science	1 year UG SEDS Computer Science, 2 year UG SEDS Computer Science		

36	CSCI 361	Software Engineering	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science	1 year UG SEDS Computer Science, 2 year UG SEDS Computer Science		
37	CSCI 390	Artificial Intelligence	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science	1 year UG SEDS Computer Science, 2 year UG SEDS Computer Science		
38	CSCI 399	Internship II	3	6				Instructor's Permission Required. Registration through Add Course form only!			
39	CSCI 399F	Internship II - F	6	12				Instructor's Permission Required. Registration through Add Course form only!			
40	CSCI 408	Senior Project I	3	6				4 year UG SEDS Computer Science			
41	CSCI 434	Information Security	3	6		CSCI 333 Computer Networks (1145) (D and above)		3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science	1 year UG SEDS Computer Science, 2 year UG SEDS Computer Science		
42	CSCI 437	Internet of Things: Technologies and Applications	3	6	CSCI 333 Computer Networks (1145) (C- and above) AND ROBT 206 Microcontrollers with Lab (476) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science	1 year UG SEDS Computer Science, 2 year UG SEDS Computer Science		
43	CSCI 471	Complexity and Computability	3	6	MATH 251 Discrete Mathematics (85) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science	1 year UG SEDS Computer Science, 2 year UG SEDS Computer Science		
44	CSCI 494	Deep Learning	3	6	CSCI 390 Artificial Intelligence (643) (C and above) AND MATH 273 Linear Algebra with Applications (84) (C and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science	1 year UG SEDS Computer Science, 2 year UG SEDS Computer Science		
Electrical and Computer Engineering											
45	ELCE 200	Introduction to Electrical Circuits	3	6	MATH 162 Calculus II (170) (C- and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			2 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
46	ELCE 203	Signals and Systems	3	6	MATH 162 Calculus II (170) (C- and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			2 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		

47	ELCE 203L	Signals and Systems Laboratory	1	2		ELCE 203 Signals and Systems (4993) (D and above)		2 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
48	ELCE 204	Solid State Devices	3	6	ENG 103 Engineering Materials II (4818) (C- and above)	ELCE 204L Solid State Devices Laboratory (7769) (D and above)		3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
49	ELCE 205	Discrete Mathematics	3	6	MATH 162 Calculus II (170) (C- and above)			2 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
50	ELCE 301	Electronic Circuits	3	6	ELCE 201 Circuit Theory (5507) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
51	ELCE 301L	Electronic Circuits Laboratory	1	2	ELCE 201L Circuit Theory Laboratory (6179) (C- and above)	ELCE 301 Electronic Circuits (5918) (C- and above)		3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
52	ELCE 304	Computer Networks	3	6	ENG 101 Programming for Engineers (4517) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
53	ELCE 304L	Computer Networks Laboratory	1	2		ELCE 304 Computer Networks (5920) (D and above)		3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
54	ELCE 306	Linear Control Theory	3	6	ELCE 203 Signals and Systems (4993) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
55	ELCE 307	Digital Signal Processing	3	6	ELCE 203 Signals and Systems (4993) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
56	ELCE 350	Electromagnetics I	3	6	PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) AND ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (C- and above) AND ELCE 200 Introduction to Electrical Circuits (4991) (C- and above)			4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
57	ELCE 452	Renewable Energy and Electric Vehicles	3	6	ELCE 200 Introduction to Electrical Circuits (4991) (C- and above)			4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		

58	ELCE 455	Machine Learning with Python	3	6	ENG 101 Programming for Engineers (4517) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above)			4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
59	ELCE 461	Industrial Automation	3	6	ELCE 202 Digital Logic Design (4992) (C- and above)			4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
60	ELCE 462	Wireless Networks	3	6	ENG 201 Applied Probability and Statistics (5505) (C- and above) AND (ELCE 308 Communication Systems (5922) (C- and above) OR ELCE 304 Computer Networks (5920) (C- and above))			4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
61	ELCE 463	Network Science: Methods and Applications	3	6	ENG 101 Programming for Engineers (4517) (C- and above) AND MATH 162 Calculus II (170) (C- and above) AND ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (C- and above)			4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
62	ELCE 465	PCB Design and Manufacturing	3	6				4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
63	ELCE 466	RF and Microwave Circuits	3	6				4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
Mechanical and Aerospace Engineering											
64	ENG 100	Introduction to Engineering	3	6				1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, Undeclared SEDS	Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, SMG		

65	ENG 101	Programming for Engineers	3	6			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)	1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SEDS Undeclared	SEDS, SMG		
66	ENG 200	Engineering Mathematics III (Differential Equations and Linear Algebra)	3	6	MATH 162 Calculus II (170) (C and above)			2 year UG SEDS Chemical and Materials Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering	3 year UG SEDS Chemical and Materials Engineering, 3 year UG SEDS Civil and Environmental Engineering, 3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Mechanical and Aerospace Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, SMG	
67	ENG 400	Capstone Project	3	6				4 year UG SEDS Chemical and Materials Engineering, 4 year UG SEDS Civil and Environmental Engineering, 4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	5 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS Civil and Environmental Engineering		
68	MAE 201	Computer Aided Design	3	6				4 year UG SEDS Mechanical and Aerospace Engineering			
69	MAE 300	Fluid Mechanics I	3	6	PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering	Mechanical and Aerospace Engineering		
70	MAE 301	Engineering Thermodynamics	3	6				3 year UG SEDS Mechanical and Aerospace Engineering	Mechanical and Aerospace Engineering		

71	MAE 303	Control Systems	3	6				3 year UG SEDS Mechanical and Aerospace Engineering	Mechanical and Aerospace Engineering		
72	MAE 307	Engineering Dynamics II	3	6	MAE 206 Engineering Dynamics I (5535) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering	Mechanical and Aerospace Engineering		
73	MAE 400	Heat Transfer	3	6	MAE 300 Fluid Mechanics I (5926) (D and above) AND MAE 301 Engineering Thermodynamics (5927) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering	Mechanical and Aerospace Engineering		
74	MAE 401	Mechanical Systems Design	3	6	MAE 302 Machine Elements Design (5928) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering	Mechanical and Aerospace Engineering		
75	MAE 450	Additive Manufacturing	3	6	MAE 205 Material and Manufacturing I (5534) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation)	5 year UG SEDS Mechanical and Aerospace Engineering	3 year UG SEDS Mechanical and Aerospace Engineering	
76	MAE 453	Fire Engineering	3	6	MAE 305 Fluid Mechanics II (6173) (D and above) AND MAE 301 Engineering Thermodynamics (5927) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering	Mechanical and Aerospace Engineering		
77	MAE 454	Aerodynamics	3	6	MAE 300 Fluid Mechanics I (5926) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation)	5 year UG SEDS Mechanical and Aerospace Engineering		
78	MAE 455	Flight Performance and Mechanics	3	6	MAE 454 Aerodynamics (6576) (D and above) OR MAE 305 Fluid Mechanics II (6173) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation)	Mechanical and Aerospace Engineering		
79	MAE 462	Multiphase Systems	3	6	MAE 300 Fluid Mechanics I (5926) (D and above) AND MAE 305 Fluid Mechanics II (6173) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation)	Mechanical and Aerospace Engineering		

Robotics and Mechatronics

80	ROBT 201	Mechanics: Statics and Dynamics	3	6	MATH 162 Calculus II (170) (C- and above) AND (PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C- and above) OR PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above))			2 year UG SMG, Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Mathematics, SoM		
81	ROBT 203	Electrical and Electronic Circuits I with Lab	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above) OR (PHYS 141 Physics I for non-majors with Lab (1437) (C- and above) AND PHYS 142 Physics II for non-majors with Lab (1438) (C- and above)))			Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Mathematics, SoM		
82	ROBT 205	Signals and Sensing with Lab	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Mathematics, SoM		
83	ROBT 301	Mechanical Design I with CAD Laboratory	4	8	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above)			Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Mathematics, SoM		
84	ROBT 303	Linear Control Theory with Lab	4	8	ROBT 202 System Dynamics and Modeling (68) (C- and above) AND MATH 274 Introduction to Differential Equations (484) (C- and above)			Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Mathematics, SoM		
85	ROBT 308	Industrial Automation	3	6				Robotics Engineering, Robotics and Mechatronics	Physics, Undeclared SEDS		
86	ROBT 310	Image Processing	3	6	MATH 162 Calculus II (170) (C- and above) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			Robotics Engineering, Robotics and Mechatronics	Physics, Undeclared SEDS		

87	ROBT 403	Robotics II: Control, Modeling and Learning with Laboratory	4	8	ROBT 303 Linear Control Theory with Lab (623) (C and above) AND ROBT 312 Robotics I: Kinematics and Dynamics (5263) (C and above)			Robotics Engineering, Robotics and Mechatronics	Physics, Undeclared SEDS		
88	ROBT 407	Statistical Methods and Machine Learning	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 321 Probability (482) (C and above) AND CSCI 152 Performance and Data Structures (489) (C and above)			Robotics Engineering, Robotics and Mechatronics	Physics, Undeclared SEDS		
89	ROBT 414	Human-Robot Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C and above)			Robotics Engineering, Robotics and Mechatronics	Physics, Undeclared SEDS		