

**Course Requirements and Registration Priorities  
School of Science and Technology (Undergraduate), Fall 2018**

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
<b>SST</b>											
<b>Mathematics</b>											
1	MATH 441	Design of Experiments	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND (MATH 310 Applied Statistical Methods (82) (C and above) OR MATH 322 Mathematical Statistics (1165) (C and above))			Mathematics	SHSS, SST		
<b>SSH</b>											
<b>Biological Science</b>											
2	BIOL 101	Biology for non-Science majors	3	6			BIOL 110 Modern Biology I (1070) (C- and above)	SEng, SHSS, SMG			
3	BIOL 110	Modern Biology I	3	6				Biological Sciences, Chemistry	SST	SHSS	
4	BIOL 230	Human Anatomy and Physiology I	4	8	BIOL 110 Modern Biology I (107) (C and above) OR BIOL 110 Modern Biology I (1070) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
5	BIOL 305	Introduction to Microbiology with Lab	4	8	BIOL 110 Modern Biology I (1070) (C and above) AND BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
6	BIOL 320	Developmental Biology	3	6	BIOL 230 Human Anatomy and Physiology I (72) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
7	BIOL 340	Introduction to Bioinformatics with Lab	4	8	BIOL 120 Modern Biology II (1195) (C and above) AND MATH 310 Applied Statistical Methods (82) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
8	BIOL 352	Biology of Cancer	3	6	BIOL 231 Human Anatomy and Physiology II (479) (C and above) OR BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
9	BIOL 355	Critical Research Reasoning	3	6	BIOL 120 Modern Biology II (177) (C and above) OR BIOL 120 Modern Biology II (177) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
10	BIOL 385	Cell signaling: principles and mechanisms	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	

11	BIOL 410	Immunology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) OR BIOL 305 Introduction to Microbiology with Lab (1642) (C and above)		Biological Sciences	SST	SEng, SHSS, SMG	
12	BIOL 455	Biotechnology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C- and above)		Biological Sciences	SST	SEng, SHSS, SMG	
13	BIOL 470	Advanced Cell Biology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) AND (BIOL 341 Biochemistry I (2002) (C and above) OR CHEM 341 Biochemistry I (1058) (C and above))		Biological Sciences	SST	SEng, SHSS, SMG	
14	BIOL 490	Graduation Project 1	4	8			Through Add form only			
15	BIOL 492	Directed Study in Biology	3	6			Through Add form only			
<b>Chemistry</b>										
16	CHEM 090	Chemistry for Non-Science majors	3	6			SHSS			
17	CHEM 091	Survey of Physical Science	3	6			SHSS			
18	CHEM 101	General Chemistry I	3	6			Biological Sciences, Chemistry, SMG	SST	SEng, SHSS	
19	CHEM 101L	General Chemistry I lab	1	2		CHEM 101 General Chemistry I (113) (C and above)	Biological Sciences, Chemistry, SMG	SST	SEng, SHSS	
20	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)		Chemistry	Biological Sciences	SST	
21	CHEM 211L	Organic Chemistry I Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 211 Organic Chemistry I (154) (C and above)	Chemistry	Biological Sciences	SST	
22	CHEM 212	Organic Chemistry II	3	6	CHEM 211 Organic Chemistry I (154) (C and above) OR CHEM 191 Chemistry I for Engineers (1908) (C and above)		Chemistry	Biological Sciences	SST	
23	CHEM 220	Quantitative Chemical Analysis	3	6	CHEM 102 General Chemistry II (232) (C and above)		Chemistry	Biological Sciences	SST	
24	CHEM 250	Descriptive Inorganic Chemistry	3	6	CHEM 102 General Chemistry II (232) (C and above)		Chemistry	Biological Sciences	SST	

25	CHEM 331	Physical Chemistry I	3	6	CHEM 220 Quantitative Chemical Analysis (555) (C and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C and above)		Chemistry	Biological Sciences	SST	
26	CHEM 331L	Physical Chemistry Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 331 Physical Chemistry I (634) (C and above)	Chemistry	Biological Sciences	SST	
27	CHEM 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above) AND BIOL 120 Modern Biology II (1195) (C- and above)		Chemistry	Biological Sciences	SST	
28	CHEM 341L	Biochemistry I Lab	1	2	CHEM 212L Organic Chemistry II Lab (444) (C and above)	CHEM 341 Biochemistry I (1058) (C and above)	Chemistry	Biological Sciences	SST	
29	CHEM 350	Advanced Inorganic Chemistry	3	6	CHEM 212 Organic Chemistry II (443) (C and above) AND CHEM 212L Organic Chemistry II Lab (444) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)		Chemistry	Biological Sciences	SST	
30	CHEM 400	Chemistry Seminar	3	6	CHEM 380 Research Methods (636) (C and above)		Chemistry	Biological Sciences	SST	
31	CHEM 410	Structural Spectroscopy	4	8	CHEM 212 Organic Chemistry II (443) (C and above)		Chemistry	Biological Sciences	SST	
32	CHEM 471	Environmental Chemistry	3	6	CHEM 320 Instrumental Analysis (1055) (C and above) AND CHEM 212 Organic Chemistry II (443) (C and above)		Chemistry	Biological Sciences	SST	
<b>Mathematics</b>										
33	MATH 109	Mathematical Discovery	3	6		MATH 161 Calculus I (118) (C- and above)	SHSS	SST		
34	MATH 161	Calculus I	4	8			1 year UG SENG, 1 year UG SMG, 1 year UG SST	SST	SEng, SHSS	
35	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)		3 year UG SHSS, 4 year UG SHSS, SST	SHSS		
36	MATH 251	Discrete Mathematics	3	6	MATH 162 Calculus II (170) (C and above)		Computer Science, Mathematics	Physics, Robotics and Mechatronics, SHSS		
37	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)		4 year UG SHSS, SST	SHSS		

38	MATH 273	Linear Algebra with Applications	4	8	MATH 161 Calculus I (118) (C and above)	MATH 162 Calculus II (170) (C and above)		4 year UG SHSS, SST	SHSS		
39	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			4 year UG SHSS, SST	SHSS		
40	MATH 310	Applied Statistical Methods	3	6	MATH 161 Calculus I (118) (C and above)		MATH 322 Mathematical Statistics (1165) (D and above)	2 year UG SST Biological Sciences, 2 year UG SST Computer Science, 3 year UG SST Biological Sciences, 3 year UG SST Computer Science, 4 year UG SST Biological Sciences, 4 year UG SST Computer Science	Mathematics, SHSS		
41	MATH 321	Probability	3	6	MATH 162 Calculus II (170) (C and above)		ECON 211 Economic Statistics (2280) (C- and above) OR PLS 211 Quantitative Methods (221) (C- and above)	4 year UG SHSS, Computer Science, Mathematics	SHSS, SST		
42	MATH 323	Actuarial Mathematics I	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above) OR (MATH 162 Calculus II (170) (C and above) AND MATH 310 Applied Statistical Methods (82) (C and above))			Mathematics	SHSS		
43	MATH 351	Numerical Methods with Applications	3	6	MATH 274 Introduction to Differential Equations (484) (C and above) AND MATH 263 Calculus III (81) (C and above)		ENG 202 Numerical Methods in Engineering (5506) (C and above)	Mathematics	SHSS, SST		
44	MATH 361	Real Analysis I	3	6	MATH 263 Calculus III (81) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			Mathematics	SHSS, SST		
45	MATH 425	Stochastic Processes	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			Mathematics	SHSS, SST		
46	MATH 471	Nonlinear Differential Equations	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above)			Mathematics	SHSS, SST		

47	MATH 480	Complex Analysis	3	6	MATH 263 Calculus III (81) (C and above)			Mathematics	SHSS, SST		
48	MATH 481	Partial Differential Equations	3	6	MATH 274 Introduction to Differential Equations (484) (C and above)	MATH 480 Complex Analysis (618) (C and above)		Mathematics	SHSS, SST		
<b>Physics</b>											
49	PHYS 161	Physics I for Scientists and Engineers with Laboratory	4	8		MATH 161 Calculus I (118) (C and above)	PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above)	1 year UG SENG, 1 year UG SMG, 1 year UG SST	SST	SEng, SHSS, SMG	
50	PHYS 201	Introductory Astronomy I	3	6				Physics	SEng, SHSS, SMG, SST		
51	PHYS 221	Classical Mechanics I	3	6	(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)) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			Physics	SST	SEng, SHSS, SMG	
52	PHYS 261	Modern Physics with laboratory	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 152 Introductory Physics II with Lab (1176) (C- and above) OR 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))			Physics	SST	SEng, SHSS, SMG	
53	PHYS 315	Mathematical Methods of Physics	3	6	(PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above) OR PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)) AND MATH 274 Introduction to Differential Equations (484) (C- and above)			Physics	SST	SEng, SHSS, SMG	
54	PHYS 361	Classical Electrodynamics I	3	6		PHYS 315 Mathematical Methods of Physics (653) (D and above) OR PHYS 411 Advanced Mathematical Physics (3142) (D and above)		Physics	SST	SEng, SHSS, SMG	
55	PHYS 452	Quantum Mechanics II	3	6	PHYS 451 Quantum Mechanics I (1415) (C- and above)			Physics	SST	SEng, SHSS, SMG	

56	PHYS 465	Advanced Experimental Physics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)		Physics	SST	SEng, SHSS, SMG	
57	PHYS 474	Lasers and Photonics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)		Physics	SST	SEng, SHSS, SMG	
<b>SEDS</b>										
<b>Computer Science</b>										
58	CSCI 151	Programming for Scientists and Engineers	4	8			ROBT 102 Programming for robotics and physics (188) (C- and above) OR CSCI 150 Fundamentals of Programming (1501) (C- and above)	1 year UG SST	SMG, SST	SHSS
59	CSCI 231	Computer Systems and Organization	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science		
60	CSCI 235	Programming Languages	4	8	CSCI 152 Performance and Data Structures (489) (C and above)			Computer Science		
61	CSCI 262	Software Project Management	3	6	CSCI 152 Performance and Data Structures (489) (C and above)			Computer Science	SST	SHSS
62	CSCI 281	Human-Computer Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science	SST	SHSS
63	CSCI 299	Internship I	3	6				Through Add form only		
64	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)			Computer Science		
65	CSCI 361	Software Engineering	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science		
66	CSCI 390	Artificial Intelligence	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science		
67	CSCI 398	Directed Study	3	6				Through Add form only		
68	CSCI 408	Senior Project I	3	6				Computer Science		
69	CSCI 434	Information Security	3	6		CSCI 333 Computer Networks (1145) (D and above)		Computer Science		
70	CSCI 471	Complexity and Computability	3	6	MATH 251 Discrete Mathematics (85) (C- and above)			Computer Science		

71	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)			Computer Science			
<b>Robotics and Mechatronics</b>											
72	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))			Robotics and Mechatronics	SST		
73	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 and Mechatronics	SST		
74	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 and Mechatronics	SST		
75	ROBT 301	Mechanical Design with CAD and Machining Laboratory	4	8	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above)			Robotics and Mechatronics	SST		
76	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 and Mechatronics	SST		
77	ROBT 305	Embedded Systems	3	6	ROBT 206 Microcontrollers with Lab (476) (C- and above)			Robotics and Mechatronics	SST		
78	ROBT 307	Power Electronics	3	6	ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above)			Robotics and Mechatronics	SST		
79	ROBT 308	Industrial Automation	3	6				Robotics and Mechatronics	SST		
80	ROBT 401	Robot Dynamics and Control	3	6	ROBT 303 Linear Control Theory with Lab (623) (C- and above)			Robotics and Mechatronics	SST		

81	ROBT 407	Machine Learning with Applications	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 and Mechatronics	SST		
82	ROBT 414	Human-Robot Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Robotics and Mechatronics	SST		