

**Course Requirements and Registration Priorities
School of Science and Technology, Fall 2017**

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
SSH											
Biological Science											
1	BIOL 101	Biology for non-Science majors	3	6			BIOL 110 Modern Biology I (1070) (C- and above)	SHSS			
2	BIOL 110	Modern Biology I	3	6				Biological Sciences, Chemistry	SST	SHSS	
3	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	SHSS	
4	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	SHSS	
5	BIOL 320	Developmental Biology	3	6	BIOL 230 Human Anatomy and Physiology I (72) (C and above)			Biological Sciences	SST	SHSS	
6	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	SHSS	
7	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	SHSS	
8	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	SHSS	
9	BIOL 399	Biology Internship	3	6				Biological Sciences	SST	SHSS	
10	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	SHSS	
11	BIOL 455	Biotechnology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C- and above)			Biological Sciences	SST	SHSS	

12	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	SHSS	
13	BIOL 490	Graduation Project 1	4	8			Biological Sciences	SST	SHSS	
14	BIOL 501	Fundamentals of Biological Sciences	3	6						
15	BIOL 520	Statistical Methods in Life Sciences	3	6						
16	BIOL 600	Graduate Seminar Series	3	6						
17	BIOL 635	Hot Topics in Life Sciences	3	6						
18	BIOL 670	Gene Therapy	3	6						
19	BIOL 690	Research Thesis I	6	12						
Chemistry										
20	CHEM 090	Chemistry for Non-Science majors	3	6				SHSS		
21	CHEM 091	Survey of Physical Science	3	6				SHSS		
22	CHEM 101	General Chemistry I	3	6			Biological Sciences, Chemistry	SST	SHSS	
23	CHEM 101L	General Chemistry I lab	1	2		CHEM 101 General Chemistry I (113) (C and above)	Biological Sciences, Chemistry	SST	SHSS	
24	CHEM 102	General Chemistry II	3	6	CHEM 101 General Chemistry I (113) (C and above)		Chemistry	Biological Sciences	SST	
25	CHEM 102L	General Chemistry II lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 102 General Chemistry II (232) (C and above)	Chemistry	Biological Sciences	SST	
26	CHEM 189c	Independent Study	3	6						
27	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)		Chemistry	Biological Sciences	SST	

28	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	
29	CHEM 220	Quantitative Chemical Analysis	3	6	CHEM 102 General Chemistry II (232) (C and above)			Chemistry	Biological Sciences	SST	
30	CHEM 250	Descriptive Inorganic Chemistry	3	6	CHEM 102 General Chemistry II (232) (C and above)			Chemistry	Biological Sciences	SST	
31	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	
32	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	
33	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	
34	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	
35	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	
36	CHEM 400	Chemistry Seminar	3	6	CHEM 380 Research Methods (636) (C and above)			Chemistry	Biological Sciences	SST	
37	CHEM 410	Structural Spectroscopy	4	8	CHEM 212 Organic Chemistry II (443) (C and above)			Chemistry	Biological Sciences	SST	
38	CHEM 431	Computational Chemistry	3	6	CHEM 332 Physical Chemistry II (1056) (C and above) AND (CSCI 111 Web Programming & Problem Solving (110) (C- and above) OR CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above))			Chemistry	Biological Sciences	SST	
Mathematics											
39	MATH 109	Mathematical Discovery	3	6		MATH 161 Calculus I (118) (C- and above)		SHSS	SST		

40	MATH 161	Calculus I	4	8				1 year UG SST	SST	SHSS	
41	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			3 year UG SHSS, 4 year UG SHSS, Economics, SST	SHSS		
42	MATH 251	Discrete Mathematics	3	6	MATH 162 Calculus II (170) (C and above)			Computer Science, Mathematics	SST	SHSS	
43	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			3 year UG SHSS, 4 year UG SHSS, SST	SHSS		
44	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		
45	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			4 year UG SHSS, SST	SHSS		
46	MATH 301	Introduction to Number Theory	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			Mathematics	SHSS, SST		
47	MATH 302	Abstract Algebra I	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			Mathematics	SHSS, SST		
48	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, 5 year UG SST Biological Sciences, 5 year UG SST Computer Science	Mathematics, SHSS		
49	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		

50	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, SST		
51	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		
52	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		
53	MATH 411	Linear Programming	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 263 Calculus III (81) (C and above)			Mathematics	SHSS, SST		
54	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		
55	MATH 440	Regression Analysis	3	6	MATH 322 Mathematical Statistics (1165) (C and above)		SOC 203 Quantitative Methods in Sociology (1377) (C and above) OR PLS 211 Quantitative Methods (221) (C and above)	Mathematics	SHSS, SST		
56	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		
57	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		
58	MATH 517	Scientific Modeling and Simulation with Mathematics	3	6							
59	MATH 540	Statistical Learning	3	6							

Physics

60	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)	SST	SHSS		
61	PHYS 201	Introductory Astronomy I	3	6				SHSS, SST			
62	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	SHSS, SST		
63	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	SHSS, SST		
64	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	SHSS, SST		
65	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)		SHSS, SST			
66	PHYS 452	Quantum Mechanics II	3	6	PHYS 451 Quantum Mechanics I (1415) (C- and above)			SHSS, SST			
67	PHYS 465	Advanced Experimental Physics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)			Physics			
68	PHYS 474	Lasers and Photonics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)			SHSS, SST			
69	PHYS 491	Directed Study of Advanced Physics Topics	3	6				Through Add form only			

70	PHYS 505	Classical Mechanics	3	6							
71	PHYS 511	Computational Modeling and Simulation	3	6							
72	PHYS 515	Classical Electrodynamics	3	6							
73	PHYS 545	Advanced Instrumentation Methods	3	6							
74	PHYS 550	Advanced Mathematical Physics	3	6							
75	PHYS 574	Lasers and Photonics	3	6							
76	SST 501	Teaching and Learning	3	6							
77	SST 503	Laboratory Practicum	3	6	SST 501 Teaching and Learning (2260) (C- and above) AND SST 502 Teaching Practicum (2824) (C- and above)						
78	SST 591	Research Methods	3	6							
79	SST 693	Thesis Proposal	3	6	SST 591 Research Methods (3184) (C- and above)						
SEDS											
Computer Science											
80	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	SST	SHSS	
81	CSCI 231	Computer Systems and Organization	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
82	CSCI 262	Software Project Management	3	6	CSCI 152 Performance and Data Structures (489) (C and above)			Computer Science	SST	SHSS	
83	CSCI 281	Human-Computer Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science	SST	SHSS	
84	CSCI 307	Research Methods	3	6				Computer Science			
85	CSCI 341	Database Systems	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
86	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			

87	CSCI 390	Artificial Intelligence	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
88	CSCI 408	Senior Project I	3	6				Computer Science			
89	CSCI 434	Information Security	3	6		CSCI 333 Computer Networks (1145) (D and above)		Computer Science			
90	CSCI 471	Complexity and Computability	3	6	MATH 251 Discrete Mathematics (85) (C- and above)			Computer Science			
91	CSCI 501	Software Principles and Practice	3	6							
92	CSCI 511	CS Track Core-Theory	3	6							
93	CSCI 525	Quantum Computing	3	6							
94	CSCI 545	Big Data Analytics	3	6							
Robotics and Mechatronics											
95	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	SHSS, SST		
96	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	SHSS, SST		
97	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	SHSS, SST		
98	ROBT 301	Mechanical Design with CAD and Machining Laboratory	4	8	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above)			Robotics and Mechatronics	SHSS, SST		

99	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	SHSS, SST		
100	ROBT 305	Embedded Systems	3	6	ROBT 206 Microcontrollers with Lab (476) (C- and above)			Robotics and Mechatronics	SHSS, SST		
101	ROBT 307	Power Electronics	3	6	ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above)			Robotics and Mechatronics	SHSS, SST		
102	ROBT 401	Robot Dynamics and Control	3	6	ROBT 303 Linear Control Theory with Lab (623) (C- and above)			Robotics and Mechatronics	SHSS, SST		
103	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	SHSS, SST		
104	ROBT 414	Human-Robot Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Robotics and Mechatronics	SHSS, SST		
105	ROBT 501	Robot Manipulation and Mobility	3	6							
106	ROBT 503	Dynamic Systems and Control	3	6							
107	ROBT 611	Industrial Robotics	3	6	ROBT 501 Robot Manipulation and Mobility (2263) (C- and above) AND CSCI 501 Software Principles and Practice (2408) (C- and above)						
108	ROBT 613	Brain-Machine Interfaces	3	6							