

**Course Requirements and Registration Priorities
(Undergraduate), Fall 2018**

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
SST											
Mathematics											
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		
SHSS											
Kazakh Language and Turkic Studies											
2	KAZ 358	Technique of Translation	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	
Other											
Other											
3	T-18299	Organizations Sociology	3	6							
4	T-16673	Economic History of the World	3	6							
5	T-17289	Literature and Culture of English Speaking	3	6							
6	T-17312	Literature and Gender in English	3	6							
7	T-17328	European Literatures	3	6							
8	T-18271	Econometrics I	3	6							
9	T-18620	World System: Colonialism and Post-Colonialism	3	6							
10	T-18620	Intercultural Communication	3	6							
11	T-1C 90011	Japanese Culture	1	2							
12	T-1C 90031	Career Design I	1.5	3							
13	T-BC 51541	English Discussion Seminar (D)	2	4							
14	T-CMD 17	Computer and Data Processing	1.5	3							

15	T-E&E 17	Energetics and Environment	3	6							
16	T-EG 11442	English Communication for Biology I	1	2							
17	T-EG 32131	Chemical Ecology	2	4							
18	T-EG 34221	Metabolic and Physiological Chemistry II	1.5	3							
19	T-EG 35031	Molecular Developmental Genetics	1.5	3							
20	T-EG 35131	Molecular Biology III	2	4							
21	T-EG 38131	Vertebrate Evolution	1.5	3							
22	T-ENL 17	Culture and Business Environment (English)	1.5	3							
23	T-FRL 17	French Language	1.5	3							
24	T-HE 40131	Clinical Hematology	3	6							
25	T-ITR 17	Introduction to Research/Embedded System	1.5	3							
26	T-MAS 17	Material Science	3	6							
27	T-MAT 17	Mathematics	2	4							
28	T-MEC 17	Mechanics	1.5	3							
29	T-ROB 17	Robotics	1.5	3							
30	T-SCE 17	Civil and Environmental Engineering	1	2							
31	T-SPI 17	Basics of Signal Processing and Imaging Methods	1.5	3							
32	T-STR 17	Control Systems	2	4							
SoM											
Nursing											
33	NUR 401	Education: Principles and Practice for Teaching in Nursing	4	8							
34	NUR 403	Data Analytics for Quality Improvement in Healthcare	3	6							
35	NUR 404	Community and Home Health Nursing	4	8							

36	NUR 406.1	Medical-Surgical Nursing: Complex Surgical Management	4	8						
SSH										
Biological Science										
37	BIOL 101	Biology for non-Science majors	3	6			BIOL 110 Modern Biology I (1070) (C- and above)	SEng, SHSS, SMG		
38	BIOL 110	Modern Biology I	3	6				Biological Sciences, Chemistry	SST	SHSS
39	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
40	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
41	BIOL 310	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) OR BIOL 301 Molecular Cell Biology (5809) (C and above) OR BIOL 305 Introduction to Microbiology (5789) (C and above)	Biological Sciences	SST	SEng, SHSS, SMG
42	BIOL 320	Developmental Biology	3	6			BIOL 230 Human Anatomy and Physiology I (72) (C and above) OR BIOL 230 Human Anatomy and Physiology I (6217) (C and above)	Biological Sciences	SST	SEng, SHSS, SMG
43	BIOL 340	Introduction to Applied Bioinformatics	4	8			(BIOL 120 Modern Biology II (1195) (C and above) OR (BIOL 120 Modern Biology II (1195) (C and above) AND BIOL 120L Modern Biology II Laboratory (5443) (C and above))) AND MATH 310 Applied Statistical Methods (82) (C and above)	Biological Sciences	SST	SEng, SHSS, SMG
44	BIOL 355	Critical Research Reasoning	3	6			BIOL 120 Modern Biology II (1195) (C and above)	Biological Sciences	SST	SEng, SHSS, SMG
45	BIOL 385	Cell signaling: principles and mechanisms	3	6			BIOL 120 Modern Biology II (1195) (C and above)	Biological Sciences	SST	SEng, SHSS, SMG
46	BIOL 392	Directed Study in Biology	3	6				Through Add form only		

47	BIOL 452	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) OR BIOL 331 Human Anatomy and Physiology II (6218) (C and above) OR BIOL 301 Molecular Cell Biology (5809) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
48	BIOL 455	Biotechnology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C- and above) OR (BIOL 301 Molecular Cell Biology (5809) (C- and above) AND BIOL 301L Molecular Cell Biology Laboratory (5678) (C- and above))			Biological Sciences	SST	SEng, SHSS, SMG	
49	BIOL 470	Advanced Cell Biology	3	6	BIOL 120 Modern Biology II (1195) (C and above) AND BIOL 110L Modern Biology I Laboratory (5448) (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	
50	BIOL 490	Honors Thesis Research	0	0	BIOL 355 Critical Research Reasoning (1000) (B and above)			Through Add form only			
Chemistry											
51	CHEM 090	Chemistry for Non-Science majors	3	6				SHSS			
52	CHEM 091	Survey of Physical Science	3	6				SHSS			
53	CHEM 101	General Chemistry I	3	6				Biological Sciences, Chemistry, SMG	SST	SEng, SHSS	
54	CHEM 101L	General Chemistry I lab	1	2		CHEM 101 General Chemistry I (113) (C and above)		Biological Sciences, Chemistry, SMG	SST	SEng, SHSS	
55	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)			Chemistry	Biological Sciences	SST	
56	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	

57	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	
58	CHEM 220	Quantitative Chemical Analysis	3	6	CHEM 102 General Chemistry II (232) (C and above)		Chemistry	Biological Sciences	SST	
59	CHEM 250	Descriptive Inorganic Chemistry	3	6	CHEM 101 General Chemistry I (113) (C and above)		Chemistry	Biological Sciences	SST	
60	CHEM 331	Physical Chemistry I	3	6	CHEM 220 Quantitative Chemical Analysis (555) (C and above) AND PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C and above)		Chemistry	Biological Sciences	SST	
61	CHEM 331L	Physical Chemistry Lab	1	2		CHEM 331 Physical Chemistry I (634) (C and above)	Chemistry	Biological Sciences	SST	
62	CHEM 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)		Chemistry	Biological Sciences	SST	
63	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	
64	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	
65	CHEM 400	Chemistry Seminar	3	6	CHEM 380 Research Methods (636) (C and above)		Chemistry	Biological Sciences	SST	
66	CHEM 410	Structural Spectroscopy	4	8	CHEM 212 Organic Chemistry II (443) (C and above)		Chemistry	Biological Sciences	SST	
67	CHEM 471	Environmental Chemistry	3	6	CHEM 102 General Chemistry II (232) (C and above)		Chemistry	Biological Sciences	SST	
Communication and Composition										
68	WCS 150	Rhetoric and Composition	3	6			1 year UG SENG, 1 year UG SMG, 1 year UG SST	1 year UG SHSS, 2 year UG SENG, 2 year UG SHSS, 2 year UG SST	SEng, SHSS, SMG, SST	
69	WCS 240	Writing for Digital Media	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)		SHSS	SEng, SMG, SST		

70	WCS 390	Writing Fellows I - Composition and Collaboration in Theory and Practice	3	6	WCS 150 Rhetoric and Composition (2183) (B and above) AND (WCS 210 Technical and Professional Writing (4881) (B+ and above) OR WCS 220 Science Writing (5686) (B+ and above) OR WCS 230 Say What you Mean: Clarity, Precision, and Style in Academic Writing (3026) (B+ and above) OR WCS 240 Writing for Digital Media (4421) (B+ and above) OR WCS 250 Advanced Rhetoric and Composition (3027) (B+ and above))			Through Add form only			
Economics											
71	ECON 101	Introduction to Microeconomics	3	6				1 year UG SHSS	2 year UG SHSS	SEng, SHSS, SMG, SST	
72	ECON 102	Introduction to Macroeconomics	3	6				1 year UG SHSS	2 year UG SHSS	SEng, SHSS, SMG, SST	
73	ECON 201	Intermediate Microeconomics	3	6	ECON 101 Introduction to Microeconomics (379) (B- and above) AND (MATH 161 Calculus I (118) (B- and above) OR MATH 162 Calculus II (170) (B- and above))			Economics	SHSS	SEng, SMG, SST	
74	ECON 202	Intermediate Macroeconomics	3	6	ECON 102 Introduction to Macroeconomics (503) (B- and above) AND (MATH 161 Calculus I (118) (B- and above) OR MATH 162 Calculus II (170) (B- and above))			Economics	SHSS	SEng, SMG, SST	
75	ECON 211	Economic Statistics	3	6	ECON 101 Introduction to Microeconomics (379) (C and above) OR ECON 102 Introduction to Macroeconomics (503) (C and above)			Economics	SHSS	SEng, SMG, SST	
76	ECON 301	Econometrics I	3	6	ECON 211 Economic Statistics (2280) (C- and above) OR (MATH 321 Probability (482) (C- and above) AND (MATH 322 Mathematical Statistics (1165) (C- and above) OR MATH 310 Applied Statistical Methods (82) (C- and above)))			Economics	SHSS	SEng, SMG, SST	
77	ECON 302	Game Theory and Economic Analysis	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)		PLS 315 Political Game Theory (704) (C- and above)	Economics	SHSS	SEng, SMG, SST	

78	ECON 321	Economic Growth	3	6	ECON 202 Intermediate Macroeconomics (207) (C- and above)			Economics	SHSS	SEng, SMG, SST	
79	ECON 325	International Trade	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics	SHSS	SEng, SMG, SST	
80	ECON 326	The Economics of Financial Markets	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics	SHSS	SEng, SMG, SST	
81	ECON 328	Labor Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics	SHSS	SEng, SMG, SST	
82	ECON 341	Economic Simulation Modeling	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics	SHSS	SEng, SMG, SST	
83	ECON 399	Independent Study in Economics	3	6							
84	ECON 405	Behavioral and Experimental Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics	SHSS	SEng, SMG, SST	
85	ECON 413	Econometrics II Time Series	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics	SHSS	SEng, SMG, SST	
86	ECON 416	Empirical Industrial Organization	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics	SHSS	SEng, SMG, SST	
History, Philosophy and Religious Studies											
87	HST 100	History of Kazakhstan	3	6				4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SENG, 1 year UG SMG, 1 year UG SST	SEng, SHSS, SMG, SST	
88	HST 105	Introduction to World Environmental History	3	6				1 year UG SHSS, 2 year UG SHSS, History	SEng, SHSS, SMG, SST		
89	HST 123	Introduction to the History of Science and Technology	3	6				1 year UG SHSS, 2 year UG SHSS, History	SEng, SHSS, SMG, SST		
90	HST 124	Introduction to the History of Medicine	3	6				1 year UG SHSS, 2 year UG SHSS, History	SEng, SHSS, SMG, SST		
91	HST 238	Clash of Civilizations: Communities, Confessions and Empires in Central Europe, 1000-1890	3	6				History	SEng, SHSS, SMG, SST		
92	HST 240	Representations of Nature in the Early Modern World	3	6	HST 100 History of Kazakhstan (172) (C- and above)			History	SEng, SHSS, SMG, SST		

93	HST 336	The Totalitarian Phenomenon	3	6	HST 100 History of Kazakhstan (172) (C- and above)			History	SEng, SHSS, SMG, SST		
94	HST 498	Directed Reading	3	6				4 year UG SHSS History and Culture			
95	PHIL 101	Introduction to Philosophy	3	6				SEng, SHSS, SMG, SST			
96	PHIL 141	Critical Thinking	3	6				SEng, SHSS, SMG, SST			
97	PHIL 210	Ethics	3	6				SEng, SHSS, SMG, SST			
98	PHIL 232	Philosophy of Law	3	6				SEng, SHSS, SMG, SST			
99	PHIL 240	Formal Logic	3	6				SEng, SHSS, SMG, SST			
100	PHIL 241	Beyond Common Sense: An Introduction to Paradox	3	6				SEng, SHSS, SMG, SST			
101	PHIL 362	Philosophy of Mind	3	6				SEng, SHSS, SMG, SST			
102	PHIL 399	Special Topics in Philosophy	3	6	PHIL 101 Introduction to Philosophy (242) (C- and above) OR PHIL 210 Ethics (459) (C- and above) OR PHIL 320 Truth, Knowledge and Belief (470) (C- and above) OR PHIL 230/PLS 230 Religion and Democracy (671) (C- and above)						
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies											
103	HST 262/REL 264	Islamic History of Central Eurasia	3	6	HST 100 History of Kazakhstan (172) (C- and above)			History	SEng, SHSS, SMG, SST		
104	PHIL 265/REL 265	Becoming a Sage: Introduction to Daoism	3	6				SEng, SHSS, SMG, SST			
105	REL 110/HST 110	Introduction to World Religions	3	6				GSB, GSE, GSPP, SEng, SHSS, SMG, SST			
History, Philosophy and Religious Studies, Political Science and International Relations											
106	HST 213/PLS 241	Public Health, Society, and the State	3	6				History, Political Science and International Relations	SEng, SHSS, SMG, SST		
History, Philosophy and Religious Studies, Sociology and Anthropology											

107	ANT 313/REL 332	Islam and Politics in Eurasia	3	6				Anthropology, Political Science and International Relations, Sociology	3 year UG SHSS, 4 year UG SHSS	SEng, SHSS, SMG, SST	
Kazakh Language and Turkic Studies											
108	KAZ 201	Academic Kazakh I	3	6	KAZ 150 Basic Kazakh (1215) (C- and above) OR KLL "[B1.2] Intermediate"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	
109	KAZ 202	Academic Kazakh II	3	6	KAZ 201 Academic Kazakh I (4561) (C- and above) OR KLL "[B2.2] Upper-Interm."				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	
110	KAZ 211	Academic Speaking in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"		KAZ 212 Academic Writing in Kazakh (703) (C- and above)		1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	
111	KAZ 212	Academic Writing in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"		KAZ 211 Academic Speaking in Kazakh (702) (C- and above)		1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	
112	KAZ 226	Kazakh for Medical School	3	6	KLL "[B1.2] Intermediate"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	
113	KAZ 313	Kazakh for Business	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	
114	KAZ 351	Kazakh Short Stories	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	

115	KAZ 354	Kazakh Drama	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
116	KAZ 356	Kazakh Music History	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
117	KAZ 357	Literature of Alash	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
118	KAZ 362	Creative Writing in Kazakh Language	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
119	KAZ 363	Language and Globalization	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
120	KAZ 364	Kazakh for Civil Service	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
121	KAZ 368	Onomastics: History and Function of Names	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
122	KAZ 371	Contemporary Kazakh Literature	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST

123	KAZ 372	Language and ethnicity	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	
124	KAZ 373	Kazakh Terminology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	
125	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	
126	KAZ 375	Cultural Studies and Kazakh Culture	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	
Languages, Literature and Linguistics											
127	FRE 101	Beginning French I	4	8				World Languages, Literature and Culture	1 year UG SHSS, 2 year UG SHSS	SEng, SHSS, SMG, SST	
128	FRE 311	French for Oral Proficiency	3	6	FRE 201 Intermediate French I (667) (C- and above)			SEng, SHSS, SMG, SST			
129	GER 101	Beginning German	4	8				World Languages, Literature and Culture	1 year UG SHSS, 2 year UG SHSS	SEng, SHSS, SMG, SST	
130	GER 202	Intermediate German II	4	8	GER 201 Intermediate German I (3722) (C- and above)			SEng, SHSS, SMG, SST			
131	KOR 101	Beginning Korean I	4	8							
132	LING 130	Introduction to Language and Communication	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
133	LING 131	Introduction to Linguistics	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
134	LING 272	Language and the Mind	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
135	LING 273	Survey of Research Methods in Linguistics	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	

136	LING 275	Second Language Acquisition Theory and Research I	3	6			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
137	LING 277	Language Diversity and Language Universals	3	6	LING 131 Introduction to Linguistics (1394) (C and above)		World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
138	LING 278	Sounds of the World's Languages	3	6			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
139	LING 374	Language Contact in Central Asia	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)		World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
140	PER 101	Beginning Persian I	4	8			World Languages, Literature and Culture	1 year UG SHSS, 2 year UG SHSS	SEng, SHSS, SMG, SST	
141	SPA 101	Beginning Spanish I	4	8			World Languages, Literature and Culture	1 year UG SHSS, 2 year UG SHSS	SEng, SHSS, SMG, SST	
142	SPA 201	Intermediate Spanish I	4	8	SPA 102 Beginning Spanish II (1128) (C- and above)		SEng, SHSS, SMG, SST			
143	SPA 314	Advanced Spanish Grammar and Composition	3	6	SPA 202 Intermediate Spanish II (1842) (C- and above)		SEng, SHSS, SMG, SST			
144	WLL 110	Introduction to Literary Studies	3	6			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
145	WLL 201	World Literature I	3	6			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
146	WLL 209	Introduction to Translation Studies	3	6			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
147	WLL 257	Fan Culture in the Age of Convergence	3	6			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
148	WLL 314	Petersburg Text in Russian Literature	3	6	Subject "WLL" BETWEEN 100 and 499 OR Subject "HST" BETWEEN 100 and 499		World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
149	WLL 440	Oral Epic in Central Asia	3	6	Subject "WLL" BETWEEN 100 and 499		World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
150	WLL 498	Languages, Linguistics, and Literatures Capstone I	3	6			Through Add form only			

Languages, Literature and Linguistics, Sociology and Anthropology

151	ANT 376/WLL 376	Language, Gender, and Sexuality	3	6	WLL 171/ANT 175 Introduction to Linguistic Anthropology (4417) (C- and above) OR ANT 277/WLL 271 Language and Society (1027) (C- and above) OR LING 131 Introduction to Linguistics (1394) (C- and above) OR LING 130 Introduction to Language and Communication (4014) (C- and above)			4 year UG SHSS Anthropology, 4 year UG SHSS World Language and Literature	SHSS	SEng, SMG, SST	
152	ANT 385/WLL 385	Postcolonial Theory and its Applications in Eurasia	3	6	ANT 110 Introduction to Sociocultural Anthropology (501) (C- and above) OR SOC 101 Introduction to Sociology (508) (C- and above) OR WLL 121 Introduction to Cultural Studies (243) (C- and above) OR WLL 102 /PHIL 102 Language, Experience, Culture (2481) (C- and above)			Anthropology, Sociology, World Languages, Literature and Culture	3 year UG SHSS, 4 year UG SHSS	SEng, SHSS, SMG, SST	
153	WLL 171/ANT 175	Introduction to Linguistic Anthropology	3	6			ANT 277/WLL 271 Language and Society (1027) (C- and above)	1 year UG SHSS, Anthropology, World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
Mathematics											
154	MATH 109	Mathematical Discovery	3	6			MATH 161 Calculus I (118) (C- and above)		SHSS	SST	
155	MATH 161	Calculus I	4	8				1 year UG SENG, 1 year UG SMG, 1 year UG SST	SST	SEng, SHSS	
156	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			3 year UG SHSS, 4 year UG SHSS, SST	SHSS		
157	MATH 251	Discrete Mathematics	3	6	MATH 161 Calculus I (118) (C and above)			Computer Science, Mathematics		Physics, Robotics and Mechatronics, SHSS	
158	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			4 year UG SHSS, SST	SHSS		
159	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		
160	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			4 year UG SHSS, SST	SHSS		

161	MATH 310	Applied Statistical Methods	3	6	MATH 161 Calculus I (118) (C and above)		MATH 321 Probability (482) (C 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		
162	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		
163	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		
164	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		
165	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		
166	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		
167	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		
168	MATH 480	Complex Analysis	3	6	MATH 263 Calculus III (81) (C and above)			Mathematics	SHSS, SST		

169	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		
Physics											
170	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	
171	PHYS 201	Introductory Astronomy I	3	6				Physics	SEng, SHSS, SMG, SST		
172	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	
173	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	
174	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	
175	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	

176	PHYS 452	Quantum Mechanics II	3	6	PHYS 451 Quantum Mechanics I (1415) (C- and above)			Physics	SST	SEng, SHSS, SMG	
177	PHYS 465	Advanced Experimental Physics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)			Physics	SST	SEng, SHSS, SMG	
178	PHYS 474	Lasers and Photonics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)			Physics	SST	SEng, SHSS, SMG	
Political Science and International Relations											
179	PLS 101	Introduction to Political Science	3	6				SEng, SMG, SST	SHSS		
180	PLS 120	Introduction to Political Theory	3	6				Political Science and International Relations	SHSS	SEng, SMG, SST	
181	PLS 140	Introduction to Comparative Politics	3	6				1 year UG SHSS, Political Science and International Relations	SHSS	SEng, SMG, SST	
182	PLS 150	Introduction to International Relations	3	6				1 year UG SHSS, Political Science and International Relations	SHSS	SEng, SMG, SST	
183	PLS 210	Political Science Research Methods	3	6				Political Science and International Relations	SHSS	SEng, SMG, SST	
184	PLS 211	Quantitative Methods	3	6			ECON 211 Economic Statistics (2280) (C- and above)	Political Science and International Relations	SHSS	SEng, SMG, SST	
185	PLS 312	Public Opinion and Elections	3	6	PLS 211 Quantitative Methods (221) (C- and above) OR ECON 211 Economic Statistics (2280) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
186	PLS 315	Political Game Theory	3	6	PLS 211 Quantitative Methods (221) (C- and above) OR ECON 101 Introduction to Microeconomics (379) (C and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
187	PLS 340	Politics of East Asia	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
188	PLS 342	Political Corruption	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
189	PLS 359	United Nations	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
190	PLS 361	Memory Politics in East Asia	3	6				SEng, SHSS, SMG, SST			

191	PLS 370	Law, Politics and Society	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
192	PLS 395	Independent Study	3	6	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			Through Add form only			
193	PLS 416	Experimental Political Science	3	6	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
194	PLS 431	Politics and Governance of the Russian Federation	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
195	PLS 432	Comparative Democratization	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
196	PLS 441	Advanced Topics in Comparative Politics	3	6	PLS 140 Introduction to Comparative Politics (223) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
197	PLS 458	International Organization	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
198	PLS 465	Politics of International Finance	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
SSH											
199	SSH 300	School of Sciences and Humanities Internship	3	6				Through Add form only			
200	SSH 301	School of Sciences and Humanities Internship: Second Experience	3	6				Through Add form only			
Sociology and Anthropology											
201	ANT 110	Introduction to Sociocultural Anthropology	3	6				1 year UG SHSS, 2 year UG SHSS Sociology, Anthropology	2 year UG SHSS	SEng, SHSS, SMG, SST	
202	ANT 140	World Prehistory	3	6				1 year UG SHSS, 2 year UG SHSS Sociology, Anthropology	2 year UG SHSS	SEng, SHSS, SMG, SST	

203	ANT 262	Monkey business: Primate Society and Behavior	3	6				2 year UG SHSS, Anthropology, Biological Sciences	SHSS	SEng, SMG, SST	
204	ANT 280	Introduction to Medical Anthropology	3	6				1 year UG SHSS, 2 year UG SHSS Sociology, Anthropology, Biological Sciences	2 year UG SHSS	SEng, SHSS, SMG, SST	
205	ANT 312	The Anthropology of Conflict	3	6				Anthropology, Sociology	3 year UG SHSS, 4 year UG SHSS	SEng, SHSS, SMG, SST	
206	ANT 400	Research Assistance in Anthropology	1	2							
207	ANT 404	Research Assistance in Anthropology	3	6							
208	SOC 101	Introduction to Sociology	3	6				Anthropology, Sociology	1 year UG SHSS, 2 year UG SHSS, 3 year UG SST Biological Sciences	SEng, SHSS, SMG, SST	
209	SOC 201	Social Science Research Methods	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
210	SOC 210	Gender and Society	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
211	SOC 215	Sociology of Race and Ethnicity	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
212	SOC 223	Social Movements: How People Make Change	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
213	SOC 318	Sexuality and Gender in a Transnational World	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above) OR SOC 210 Gender and Society (226) (C- and above)			Anthropology, Sociology	SHSS	SEng, SMG, SST	
214	SOC 320	Organized Crime and Corruption	3	6	SOC 101 Introduction to Sociology (508) (C- and above)			Anthropology, Sociology	SHSS	SEng, SMG, SST	
215	SOC 322	Digital Media Research Methods	3	6	SOC 201 Social Science Research Methods (1341) (C- and above) OR SOC 203 Quantitative Methods in Sociology (1377) (C- and above) OR ECON 211 Economic Statistics (2280) (C- and above) OR PLS 210 Political Science Research Methods (129) (C- and above)			Anthropology, Sociology	SHSS	SEng, SMG, SST	
216	SOC 498	Capstone Seminar Part I	3	6				4 year UG SHSS Sociology			

Sociology and Anthropology, Sociology and Anthropology

217	ANT 281/SOC 281	Health, Illness and Society	3	6				Anthropology, Biological Sciences, Sociology	SHSS	SEng, SMG, SST	
218	SOC 212/ANT 285	Food and Society	3	6							
SEDS											
Chemical and Materials Engineering											
219	CHME 350	Soft Matter, Foods and Colloids	3	6				4 year UG SEng Chemical Engineering			
220	ECHE 126	Introduction to Chemical Engineering	3	6							
221	ECHE 222	Chemistry I	3	6							
222	ECHE 319	Chemical Engineering Thermodynamics	3	6							
223	ECHE 333	Separation Processes-I	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above)						
224	ECHE 369	Transport Phenomena-II	3	6							
225	ECHE 385	Research Practice	3	6							
226	ECHE 418	Capstone project 1	3	6	ECHE 323 Computational methods in Chemical Engineering-I (1272) (D and above)						
227	ECHE 478	Electrochemical Engineering and Corrosion Protection	3	6	ECHE 222 Chemistry I (731) (D and above)			4 year UG SEng Chemical Engineering			
228	ECHE 481	Chemical Reaction Engineering	3	6	ECHE 126 Introduction to Chemical Engineering (33) (D and above) AND BENG 124 Engineering Mathematics I (101) (D and above) AND BENG 225 Engineering Mathematics II (48) (D and above)						
229	ECHE 484	Multiphase Systems	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above) AND ECHE 270 Transport Phenomena-I (735) (D and above)			4 year UG SEng Chemical Engineering			
230	ECHE 486	Chemical Process Safety	3	6							

231	ECHE 488	Atmospheric Chemistry and Physics	3	6				4 year UG SEng Chemical Engineering			
Civil and Environmental Engineering											
232	ECE 215	Surveying	3	6							
233	ECE 216	Civil Engineering CAD	3	6							
234	ECE 217	Structural Analysis I	3	6	BENG 117 Engineering Mechanics (740) (D and above)						
235	ECE 302	Civil Engineering Materials	3	6	BENG 221 Engineering Materials (47) (D and above)						
236	ECE 303	Construction Management and Practice	3	6	BENG 148 Engineering Practice (1073) (D and above)						
237	ECE 307	Engineering Geology and Rock Mechanics	3	6							
238	ECE 318	Structural Design - Concrete	3	6	ECE 479 Structural Analysis II (2460) (C- and above)						
239	ECE 401	Capstone Project 1	3	6							
240	ECE 404	Construction Technologies and Processes	3	6	BENG 148 Engineering Practice (1073) (D and above) AND ECE 302 Civil Engineering Materials (1040) (D and above)						
241	ECE 405	Environmental Engineering	3	6	ECE 473 Environmental Systems (1953) (D and above) OR ECE 218 Environmental Chemistry (3296) (D and above)						
242	ECE 416	Highway Engineering	3	6	ECE 302 Civil Engineering Materials (1040) (D and above)						
243	ECE 421	Behaviour and Design of Structural System	3	6	(ECE 318 Structural Design - Concrete (3709) (D and above) OR ECE 314 Structural Engineering Applications I (1042) (D and above)) AND (ECE 319 Structural Design - Steel (4038) (D and above) OR ECE 315 Structural Engineering Applications II (1041) (D and above))			4 year UG SEng Civil Engineering			
244	ECE 481	Individual Research Projects in Civil Engineering	3	6							
245	ECE 482	Solid and Hazardous Waste Management	3	6	ECE 405 Environmental Engineering (1265) (C- and above)			4 year UG SEng Civil Engineering			
Computer Science											

246	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)	1 year UG SST	SMG, SST	SHSS	
247	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			
248	CSCI 235	Programming Languages	4	8	CSCI 152 Performance and Data Structures (489) (C- and above)		Computer Science			
249	CSCI 262	Software Project Management	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)		Computer Science	SST	SHSS	
250	CSCI 281	Human-Computer Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)		Computer Science	SST	SHSS	
251	CSCI 299	Internship I	3	6			Through Add form only			
252	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			
253	CSCI 361	Software Engineering	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)		Computer Science			
254	CSCI 390	Artificial Intelligence	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)		Computer Science			
255	CSCI 398	Directed Study	3	6			Through Add form only			
256	CSCI 408	Senior Project I	3	6			Computer Science			

257	CSCI 434	Information Security	3	6		CSCI 333 Computer Networks (1145) (D and above)			Computer Science			
258	CSCI 471	Complexity and Computability	3	6	MATH 251 Discrete Mathematics (85) (C- and above)				Computer Science			
259	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			
Electrical and Computer Engineering												
260	EEE 212	Signals and Systems	3	6	BENG 225 Engineering Mathematics II (48) (D and above)							
261	EEE 238	Digital Signal and Image Processing	3	6								
262	EEE 250	Microelectronic Devices and Circuits	3	6	BENG 114 Introduction to Electrical Systems (1076) (D and above)							
263	EEE 251	Electronic Engineering Design Principles	3	6	BENG 114 Introduction to Electrical Systems (1076) (D and above)							
264	EEE 342	Electromagnetics	3	6								
265	EEE 345	Power Electronics	3	6								
266	EEE 382	Antennas and Propagation	3	6								
267	EEE 384	Digital Integrated Circuits Design	3	6	EEE 250 Microelectronic Devices and Circuits (3152) (C- and above)							
268	EEE 437	Capstone Project 1	3	6								
269	EEE 448	Power Transmission and Distribution plants	3	6								
270	EEE 450	RF and Microwave Circuit Design	3	6								
271	EEE 451	High Voltage Engineering	3	6								
272	EEE 452	Power Systems Protection	3	6								
273	EEE 482	Mobile Communications	3	6	EEE 239 Communication systems (534) (C- and above)							
274	EEE 490	Introduction to Big Data	3	6								
275	EEE 491	Internet of Things	3	6	BENG 146 Programming for Engineers (2234) (C- and above) AND EEE 343 Embedded Microcontrollers (1532) (C- and above)							
276	EEE 492	Deep Learning Machines	3	6								

277	EEE 493	Industry 4.0	3	6							
Mechanical and Aerospace Engineering											
278	EME 253	Computer Aided Engineering	3	6							
279	EME 254	Mechanics of Materials	3	6							
280	EME 262	Machine Dynamics I	3	6							
281	EME 354	Advanced Control Systems	3	6	BENG 219 Control Systems (728) (D and above)						
282	EME 358	Heat Transfer	3	6	BENG 226 Engineering Thermodynamics (1553) (D and above) AND EME 275 Fluid Mechanics I (1988) (D and above)						
283	EME 361	Machine Design	3	6							
284	EME 410	Aerodynamics	3	6	EME 357 Fluid Mechanics II (1280) (D and above)						
285	EME 412	Heating, Ventilating and Air Conditioning	3	6							
286	EME 413	Computer Aided Geometric Design	3	6	EME 253 Computer Aided Engineering (1050) (C- and above)						
287	EME 451	Capstone Project 1	3	6							
288	EME 463	Machine Dynamics II	3	6							
289	EME 467	Vehicle Propulsion Systems	3	6							
290	EME 487	Mechatronics Systems Design	3	6	BENG 219 Control Systems (728) (C- and above)						
291	ENG 100	Introduction to Engineering	3	6				1 year UG SENG	1 year UG SMG, 1 year UG SST	1 year UG SHSS	

292	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 SENG	1 year UG SMG, 1 year UG SST	1 year UG SHSS	
293	MAE 457	Feasibility Analysis of Clean Energy Technologies	3	6						
Robotics and Mechatronics										
294	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		
295	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		

296	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		
297	ROBT 301	Mechanical Design I with CAD Laboratory	4	8	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above)			Robotics and Mechatronics	SST		
298	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		
299	ROBT 305	Embedded Systems	3	6	ROBT 206 Microcontrollers with Lab (476) (C- and above)			Robotics and Mechatronics	SST		
300	ROBT 307	Power Electronics	3	6	ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above)			Robotics and Mechatronics	SST		
301	ROBT 308	Industrial Automation	3	6				Robotics and Mechatronics	SST		
302	ROBT 401	Robot Dynamics and Control	3	6	ROBT 303 Linear Control Theory with Lab (623) (C- and above)			Robotics and Mechatronics	SST		
303	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 and Mechatronics	SST		
304	ROBT 414	Human-Robot Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Robotics and Mechatronics	SST		
School of Engineering											
305	BENG 215	Sensors and Actuators	3	6							
306	BENG 228	Engineering Mathematics III	3	6	BENG 124 Engineering Mathematics I (101) (D and above) AND BENG 225 Engineering Mathematics II (48) (D and above)						
307	BENG 405	Project Management	3	6							