

Course Requirements and Registration Priorities Spring 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 417	Cryptography	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND (MATH 251 Discrete Mathematics (85) (C and above) OR MATH 301 Introduction to Number Theory (613) (C and above) OR MATH 355 Introduction to Proofs (86) (C and above))			Mathematics	SST	SHSS	
CPS											
GSPP											
2	ZEST 061	Basic Economics and Statistics	0	0							
Mathematics											
3	MATH 500Z	Linear Algebra with Applications	0	0							
NUFYP											
4	FEAP 020	Foundation English for Academic Purposes	1	2							
5	FHUM 030	FOUNDATIONS OF HUMANITIES AND SOCIAL SCIENCE 2	0	0							
6	FMAT 020	Foundation Statistics	1	2							
7	FMAT 030	Mathematics for Life Sciences (Biology and Chemistry)	1	2							
8	FMAT 040	Mathematics for Physical Sciences	1	2							
9	FPHY 030	FOUNDATION PHYSICS 2	0	0							
10	FSCI 030	ESSENTIAL BIOLOGY & CHEMISTRY 2	0	0							
NUZYP											
11	ZCOM 041	Academic Communications for Graduate Studies II	0	0							
12	ZRDG 031	Academic Reading for Graduate Studies II	0	0							

13	ZWRT 021	Academic Writing for Graduate Studies II	0	0							
Sociology and Anthropology											
14	SOC 201Z	Social Science Research Methods	0	0							
GSB											
GSB											
15	GSBF 512	Principles of Finance	2	4							
16	GSBF 514	Corporate Finance	2	4							
17	GSBF 518	Risk Management	2	4							
18	GSBF 519	Financial Reporting and Analysis	2	4							
19	GSBF 521	Ethics, Governance and Regulation	2	4							
20	GSBF 541	Global Finance Experience Residency (I)	2	4							
21	MBA 10	Foundations of Strategy	2	4							
22	MBA 13	Macroeconomics	2	4							
23	MBA 14	Decision Models	2	4							
24	MBA 15	Corporate Finance	2	4							
25	MBA 17	Negotiations	2	4							
26	MBAE 13	Raising Capital	2	4							
27	MBAE 2	Emerging Markets Strategy	2	4							
28	MSF 01	Financial Modeling	2	4							
29	MSF 02	Thesis Preparation Seminar	2	4							
GSPP											
GSPP											
30	DPP 602	Macroeconomics in Public Sector	4	8							
31	DPP 613	Research Design (qualitative and quantitative)	4	8							
32	DPP 615	Governance and Public Policy	4	8							
33	DPP 631	Politics of Public Policy	4	8							
34	MPA 608	Strategic Management and Leadership	4	8							
35	MPA 610	National Identity and Public Policy	4	8						GSPP	
36	MPA 611	Benefit Cost Analysis	4	8						GSPP	

37	MPA 624	Public Management Reforms in Transitional Countries	4	8					GSPP		
38	MPA 699	Master's Project with Overseas Component	0	0							
39	MPE 617	Institutions and development policies	4	8					GSPP		
40	MPP 602	Macroeconomics and Public Policy	4	8							
41	MPP 613	Public Policy Research Design and Analysis	4	8							
42	MPP 623	International Political Economy	4	8				2 year GSPP Public Policy	GSPP		
43	MPP 627	Environmental Economics and Public Policy	4	8				2 year GSPP Public Policy	GSPP		
44	MPP 628	Economic Growth in Developing Asia	4	8				2 year GSPP Public Policy	GSPP		
45	MPP 641	Public Management and Leadership	4	8							
46	MPP 685	Urban Planning and Public Policy	4	8				2 year GSPP Public Policy	GSPP		
47	MPP 699	Policy Analysis Exercise with Singapore Component	8	16	MPP 601 Microeconomics and Public Policy (1449) (D and above) AND MPP 602 Macroeconomics and Public Policy (1023) (D and above) AND MPP 611 Statistical Techniques for Public Policy (1450) (D and above) AND MPP 612 Public Policy Research and Evaluation (1025) (D and above) AND MPP 613 Public Policy Research Design and Analysis (1301) (D and above) AND MPP 621 Introduction to Public Policy and Analysis (1451) (D and above) AND MPP 631 Politics and Public Policy (1303) (D and above)						
GSE											
GSE											
48	EDHE 610	Applying Educational Leadership in Kazakhstan	3	6							
49	EDHE 692	Thesis Seminar III	4.5	9							
50	EDIE 610	Applying Educational Leadership in Kazakhstan	3	6							
51	EDIE 692	Thesis Seminar III	4.5	9							

52	EDML 611	Plurilingual Individual	3	6				1 year GSE MA in Multil.Education			
53	EDML 612	Multilingual Society	3	6				1 year GSE MA in Multil.Education			
54	EDML 621	Principles and Methods of Language Education in Multilingual Contexts	3	6				2 year GSE MA in Multil.Education			
55	EDML 691	Thesis Research II	6	12							
56	EDSE 610	Applying Educational Leadership in Kazakhstan	3	6							
57	EDSE 620	Perspectives on Inclusive Education	3	6							
58	EDSE 692	Thesis Seminar III	4.5	9							
59	EDUC 506	Academic English II	1.5	3				1 year GSE Educ.Leadership			
60	EDUC 508	Academic English IV	1.5	3							
61	EDUC 511	Advanced English for Education Professionals II	3	6				1 year GSE MA in Multil.Education			
62	EDUC 513	English for Thesis Writing II	3	6							
63	EDUC 572	Kazakh for Professional Purposes	3	6				1 year GSE MA in Multil.Education, 1 year GSE PhD Education			
64	EDUC 573	Academic Writing in Kazakh	3	6				1 year GSE Educ.Leadership, 1 year GSE MA in Multil.Education, 1 year GSE PhD Education			
65	EDUC 600	Research Methods II	3	6				1 year GSE Educ.Leadership, 1 year GSE MA in Multil.Education			
66	EDUC 670	Internship Project	6	12				1 year GSE Educ.Leadership			
67	EDUC 671	Work-based project	6	12				1 year GSE Educ.Leadership			
68	EDUC 675	Learning to Work	4.5	9							
69	EDUC 703	Kazakh Language	3	6				1 year GSE PhD Education			
70	EDUC 704	Advanced Methods of Education Research	3	6				1 year GSE PhD Education			

71	EDUC 705	Advanced Methods of Education Research: Qualitative Methods	3	6				1 year GSE PhD Education			
72	EDUC 711	Globalisation and Education	3	6				1 year GSE PhD Education			
73	EDUC 730	Preparation for Proposal Defence I	6	12				1 year GSE PhD Education			
74	EDUC 740	Doctoral Seminar	3	6							
75	EDUC 750	Dissertation Research	9	18							
Other											
Other											
76	T-ELEG 3304	Energy Systems	4	8							
77	T-MEEG 4104	Machine Element Design	3	6							
78	T-PLSC 2003	American National GOVT	3	6							
79	T-THTR 1683	Acting I	3	6							
SoM											
Biomedical Sciences											
80	MMMM 507	Critical Analysis of the Contemporary Concepts in Molecular Medicine	3	6							
81	MMMM 508	Molecular Immunology	2	4							
82	MMMM 509	From the Bench to the Bedside: Drug Development and Clinical Trials	3	6							
83	MMMM 510	Natural Medicine	3	6							
84	MMMM 511	Research Methods in Molecular Biomedicine	3	6							
85	MMMM 512	Molecular Basis of Chronic Inflammation	1	2							
Nursing											
86	NUR 305	Research Methods for Nursing	3	6							
87	NUR 306	Medical-Surgical Nursing: Complex Medical Management for Acute and Chronic Patient	4	8							

88	NUR 307	Health Promotion and Disease Prevention in Culturally Diverse Populations	4	8						
89	NUR 308	Enhanced Communication in Professional Nursing	4	8						
Public Health										
90	PUBH 512	Biostatistical Modeling and Sampling	3	6						
91	PUBH 522	Advanced Analytical Epidemiology	3	6						
92	PUBH 561	Graduate Research Seminar I	3	6						
93	PUBH 631	Social and Behavioral Sciences in Public Health	3	6						
94	PUBH 633	Methods in Public Health	3	6						
95	PUBH 682	Master's Project Implementation	12	24						
SMG										
Mining Engineering										
96	MINE 505	Advanced Mine Ventilation	3	6						
97	MINE 509	Advanced Surface Mine Design	3	6						
98	MINE 510	Advanced Underground Mine Design	3	6						
99	MINE 601	Mine Management and Sustainability	3	6						
School of Mining and Geosciences										
100	SMG 520	Research Methods	3	6						
SSH										
Area Studies										
101	EAS 502	Disciplinary Methodology	4	8						
102	EAS 504	Thesis II	12.5	25	EAS 500 Introduction to Eurasia (1632) (C- and above) AND EAS 501 General Methodology (1633) (C- and above) AND EAS 502 Disciplinary Methodology (1379) (C- and above) AND EAS 503 Thesis I (2141) (C- and above)			Eurasian Studies		
103	EAS 511	Independent Study in Eurasian Studies	4	8				Through Add form only		
Biological Science										

104	BIOL 101	Biology for non-Science majors	3	6			BIOL 110 Modern Biology I (1070) (C- and above)	SHSS			
105	BIOL 110	Modern Biology I	3	6				Biological Sciences, Chemistry	SST	SHSS	
106	BIOL 120	Modern Biology II	3	6	BIOL 110 Modern Biology I (1070) (C and above)			Biological Sciences, Chemistry	SST	SHSS	
107	BIOL 231	Human Anatomy and Physiology II	4	8	BIOL 230 Human Anatomy and Physiology I (72) (C and above)			Biological Sciences	SST	SEng, SHSS	
108	BIOL 301	Molecular Biology of Cell with Lab	4	8	BIOL 120 Modern Biology II (177) (C and above) OR BIOL 120 Modern Biology II (177) (C and above) OR BIOL 120 Modern Biology II Lab (1445) (C and above) OR BIOL 120L Modern Biology II Laboratory (5443) (C and above)			Biological Sciences	SST	SEng, SHSS	
109	BIOL 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			Biological Sciences	SST	SEng, SHSS	
110	BIOL 370	Genetics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	SST	SEng, SHSS	
111	BIOL 420	Bioethics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	SST	SEng, SHSS	
112	BIOL 430	Histology with Laboratory	4	8	BIOL 230 Human Anatomy and Physiology I (72) (C and above)			Biological Sciences	SST	SEng, SHSS	
113	BIOL 440	Neuroscience	3	6	BIOL 230 Human Anatomy and Physiology I (72) (C and above)			Biological Sciences	SST	SEng, SHSS	
114	BIOL 456	Biology Research Design	3	6	BIOL 355 Critical Research Reasoning (1000) (C and above)			Biological Sciences	SST	SEng, SHSS	
115	BIOL 491	Graduation Project 2	4	8	BIOL 490 Graduation Project 1 (1581) (C- and above)			Through Add form only			
116	BIOL 492	Directed Study in Biology	3	6							
117	BIOL 530	Bioethics Principles and Practices	3	6				1 year Gr SST Biological Sciences			
118	BIOL 550	Structural and Molecular Biology in Health and Disease	3	6				1 year Gr SST Biological Sciences			
119	BIOL 560	Molecular Biology of Prokaryotic Cells	3	6				1 year Gr SST Biological Sciences			
120	BIOL 600	Graduate Seminar Series	3	6				1 year Gr SST Biological Sciences, 2 year Gr SST Biological Sciences			

121	BIOL 637	Fundamentals of Advanced Microscopy	3	6	BIOL 501 Fundamentals of Biological Sciences (1201) (C- and above)						
122	BIOL 699	Research Thesis II	6	12				2 year Gr SST Biological Sciences			
Chemistry											
123	CHEM 092	Survey of Environmental Sciences for Non-Science Majors	3	6				SHSS			
124	CHEM 101	General Chemistry I	3	6				Biological Sciences, Chemistry	SST	SHSS	
125	CHEM 102	General Chemistry II	3	6	CHEM 101 General Chemistry I (113) (C and above)			Biological Sciences, Chemistry	SST	SHSS	
126	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)		Biological Sciences, Chemistry	SST	SHSS	
127	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)			2 year UG SST Biological Sciences, Chemistry	Biological Sciences	SST	
128	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)		2 year UG SST Biological Sciences, Chemistry	Biological Sciences	SST	
129	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	
130	CHEM 212L	Organic Chemistry II Lab	1	2	CHEM 211L Organic Chemistry I Lab (156) (C and above)	CHEM 212 Organic Chemistry II (443) (C and above) OR CHEM 292 Organic Chemistry for Biologists II (1901) (C and above)		Chemistry	Biological Sciences	SST	
131	CHEM 320	Instrumental Analysis	3	6	CHEM 220 Quantitative Chemical Analysis (555) (C and above)			Chemistry	Biological Sciences	SST	

132	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)						
133	CHEM 332	Physical Chemistry II	3	6	CHEM 331 Physical Chemistry I (634) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above)			Chemistry	Biological Sciences	SST	
134	CHEM 332L	Physical Chemistry II Lab	1	2	CHEM 331L Physical Chemistry Lab (1060) (C and above)	CHEM 332 Physical Chemistry II (1056) (C and above)		Chemistry	Biological Sciences	SST	
135	CHEM 380	Research Methods	3	6				Chemistry	Biological Sciences	SST	
136	CHEM 442	Biochemistry II with Lab-Metabolic Biochemistry	3	6	CHEM 341 Biochemistry I (1058) (C and above) AND CHEM 212 Organic Chemistry II (443) (C and above)			Chemistry	Biological Sciences	SST	
137	CHEM 451	Applied Homogenous Catalysis	3	6	CHEM 350 Advanced Inorganic Chemistry (1905) (C and above)			Chemistry	Biological Sciences	SST	
138	CHEM 490	Nanochemistry	3	6	CHEM 331 Physical Chemistry I (634) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)			Chemistry	Biological Sciences	SST	
139	CHEM 491	Special Topics in Chemistry	3	6				Chemistry	Biological Sciences	SST	
Communication and Composition											
140	COMM 240	Health Communication	3	6				3 year UG SEng Civil Engineering, SHSS, SST			
141	COMM 325	Computer-Mediated Communication	3	6				3 year UG SEng Civil Engineering, SHSS, SST			
142	SHSS 300	SHSS Internship	3	6				Through Add form only			
143	SHSS 301	SHSS Internship Second Experience	3	6							
144	WCS 150	Rhetoric and Composition	3	6				1 year UG SHSS	2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	

145	WCS 202	Introduction to Public Speaking	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			3 year UG SEng Civil Engineering, SHSS, SST		
146	WCS 230	Say What you Mean: Clarity, Precision, and Style in Academic Writing	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
147	WCS 391	Writing Fellows II - Practicum in Composition & Collaboration	3	6	WCS 390 Writing Fellows I - Composition and Collaboration in Theory and Practice (1969) (B and above)			Through Add form only		
Communication and Composition, Languages, Literature and Linguistics										
148	WCS 260/WLL 235	Creative Writing: Introduction to Fiction Writing I	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			Through Add form only		
Economics										
149	ECON 101	Introduction to Microeconomics	3	6				1 year UG SHSS	SHSS	3 year UG SEng Civil Engineering, SST
150	ECON 102	Introduction to Macroeconomics	3	6				1 year UG SHSS	SHSS	3 year UG SEng Civil Engineering, SST
151	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	3 year UG SEng Civil Engineering, SST
152	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	3 year UG SEng Civil Engineering, SST
153	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	3 year UG SEng Civil Engineering, SST
154	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)))			4 year UG SHSS	3 year UG SHSS	SST

155	ECON 321	Economic Growth	3	6	ECON 202 Intermediate Macroeconomics (207) (C- and above)			Economics	SHSS	3 year UG SEng Civil Engineering, SST	
156	ECON 341	Economic Simulation Modeling	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics	SHSS	3 year UG SEng Civil Engineering, SST	
157	ECON 345	The Economics of Family	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics	SHSS	3 year UG SEng Civil Engineering, SST	
158	ECON 413	Econometrics II	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics	SHSS	3 year UG SEng Civil Engineering, SST	
159	ECON 428	Wages and the Labor Market	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics	SHSS	3 year UG SEng Civil Engineering, SST	
160	ECON 451	Topics in Microeconomics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Through Add form only			
161	ECON 521	Microeconomic Theory II	4	8	ECON 501 Microeconomics I (2187) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)			Economics, Eurasian Studies, Political Science and International Relations			
162	ECON 522	Macroeconomics II	4	8	ECON 502 Macroeconomics I (2186) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)			Economics, Eurasian Studies, Political Science and International Relations			
163	ECON 524	Research Methodology	4	8	ECON 501 Microeconomics I (2187) (C- and above) AND ECON 502 Macroeconomics I (2186) (C- and above) AND ECON 511 Statistics (2188) (C- and above)	ECON 531 Econometrics (2505) (D and above)		Economics, Eurasian Studies, Political Science and International Relations			
164	ECON 528	Wages and the Labor Market	4	8	ECON 521 Microeconomic Theory II (2506) (C- and above) AND ECON 531 Econometrics (2505) (C- and above)			Economics, Eurasian Studies, Political Science and International Relations			
165	ECON 531	Econometrics	4	8	ECON 511 Statistics (2188) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)			Economics, Eurasian Studies, Political Science and International Relations			

166	ECON 590	Thesis II	8	16	ECON 589 Thesis I (3714) (P)						
History, Philosophy and Religious Studies											
167	HST 100	History of Kazakhstan	3	6				4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS	SEng, SHSS, SST	
168	HST 132	European History II (from 1700)	3	6				History	1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
169	HST 152	US History II (from 1877)	3	6				History	3 year UG SEng Civil Engineering, SHSS, SST		
170	HST 232	Russian History from Riurik to Catherine the Great	3	6				History	1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
171	HST 239	Modernizing the Periphery: Nationalism, Communism, and Empire in Central Europe, 1890-Present	3	6	Subject "HST" BETWEEN 100 and 199			History	1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
172	HST 272	Modern Turkey: from the Ottoman Empire to the Turkish Republic	3	6				1 year UG SENG, 1 year UG SHSS, 1 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST		
173	HST 331	The Eurasian Enlightenment	3	6	HST 100 History of Kazakhstan (172) (B and above) OR Subject "HST" BETWEEN 100 and 199			History	3 year UG SEng Civil Engineering, SHSS, SST		
174	HST 499	History Capstone: Undergraduate Dissertation	4	8	HST 498 Directed Reading (1365) (C- and above)			Through Add form only			
175	HST 524	Global Histories	4	8							
176	PHIL 101	Introduction to Philosophy	3	6				SHSS	3 year UG SEng Civil Engineering, SST		
177	PHIL 124	Knowledge and Reality	3	6				SHSS	3 year UG SEng Civil Engineering, SST		
178	PHIL 131	Introduction to Contemporary Political Philosophy	3	6				SHSS	3 year UG SEng Civil Engineering, SST		
179	PHIL 205	Introduction to Modern Philosophy	3	6				SHSS	3 year UG SEng Civil Engineering, SST		

180	PHIL 210	Ethics	3	6			Chemistry	SHSS	3 year UG SEng Civil Engineering, SST	
181	PHIL 223	Philosophy of Science	3	6			SHSS	3 year UG SEng Civil Engineering, SST		
182	PHIL 240	Formal Logic	3	6			SHSS	3 year UG SEng Civil Engineering, SST		
183	PHIL 320	Truth, Knowledge and Belief	3	6			SHSS	3 year UG SEng Civil Engineering, SST		
184	PHIL 321	Social Contract Theory	3	6	PLS 120 Introduction to Political Theory (512) (C- and above)		SHSS	3 year UG SEng Civil Engineering, SST		
185	PHIL 352	Sex, Life, and Death: The Philosophy of Biology	3	6			SHSS	3 year UG SEng Civil Engineering, SST		
186	REL 212	Buddhist Religious Traditions	3	6			1 year UG SENG, 1 year UG SHSS, 1 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST		
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies										
187	HST 263/REL 263	The History of Islam II: Islam in the Modern World	3	6	Subject "HST" BETWEEN 100 and 199		History	1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
History, Philosophy and Religious Studies, Languages, Literature and Linguistics										
188	WLL 102 /PHIL 102	Language, Experience, Culture	3	6			3 year UG SEng Civil Engineering, SHSS, SST			
History, Philosophy and Religious Studies, Languages, Literature and Linguistics, Political Science and International Relations										
189	HST 342/WLL 342/PLS 322	Russian Intellectual History (1762 - 1905)	3	6	Subject "HST" BETWEEN 100 and 199 OR Subject "WLL" BETWEEN 100 and 199 OR Subject "PLS" BETWEEN 100 and 199 OR Subject "REL" BETWEEN 100 and 199		History	3 year UG SEng Civil Engineering, SHSS, SST		
History, Philosophy and Religious Studies, Political Science and International Relations										
190	PLS 328/REL 328	Confucianism and the Development of Chinese Politics	3	6			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	

History, Philosophy and Religious Studies, Sociology and Anthropology										
191	ANT 313/REL 332	Islam and Politics in Eurasia	3	6				4 year UG SHSS Political Sciences and International Relations, Anthropology	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST
192	HST 223/ANT 287	Cannibalism and Civilization	3	6				Anthropology, History	1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST
193	HST 381/SOC 319	AIDS and Society	3	6	Subject "HST" BETWEEN 100 and 199 OR HST 100 History of Kazakhstan (172) (B- and above)			History, Sociology	1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST
Kazakh Language and Turkic Studies										
194	KAZ 001	Kazakh Language Placement Test	0	0						
195	KAZ 101	Basic Kazakh I	3	6	KLL "Basic"					SEng, SHSS, SST
196	KAZ 111	Intermediate Kazakh I	3	6	KLL "Intermediate"					SEng, SHSS, SST
197	KAZ 121	Upper-Intermediate Kazakh	3	6	KLL "Upper-Intermediate"					SEng, SHSS, SST
198	KAZ 211	Academic Speaking in Kazakh	3	6	KAZ 201 Academic Kazakh I (4561) (C- and above) OR KLL "Upper-Intermediate" OR KLL "Advanced"					SEng, SHSS, SST
199	KAZ 212	Academic Writing in Kazakh	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"					SEng, SHSS, SST
200	KAZ 226	Kazakh for Medical School	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"					SEng, SHSS, SST
201	KAZ 263	Business Etiquette	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"					SEng, SHSS, SST
202	KAZ 313	Kazakh for Business	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"					SEng, SHSS, SST
203	KAZ 314	Speech Culture in Business	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"					SEng, SHSS, SST
204	KAZ 351	Kazakh Short Stories	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"					SEng, SHSS, SST
205	KAZ 354	Kazakh Drama	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"					SEng, SHSS, SST
206	KAZ 356	Kazakh Music History	3	6	KLL "Advanced"					SEng, SHSS, SST
207	KAZ 357	Literature of Alash	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"					SEng, SHSS, SST
208	KAZ 362	Creative Writing in Kazakh Language	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"					SEng, SHSS, SST

209	KAZ 364	Kazakh for Civil Service	3	6	KLL "Advanced" OR KLL "Upper-Intermediate" OR KAZ 314 Speech Culture in Business (1836) (C- and above)					SEng, SHSS, SST	
210	KAZ 370	Kazakh for Career Development	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"					SEng, SHSS, SST	
211	KAZ 371	Contemporary Kazakh Literature	3	6	KLL "Advanced"					SEng, SHSS, SST	
212	KAZ 372	Language and ethnicity	3	6	KLL "Advanced" OR KAZ 211 Academic Speaking in Kazakh (702) (C- and above) OR KAZ 212 Academic Writing in Kazakh (703) (C- and above)					SEng, SHSS, SST	
213	KAZ 373	Kazakh Terminology	3	6	KLL "Advanced" OR KAZ 202A Kazakh Literature 2/K(C) (228) (C- and above) OR KAZ 211 Academic Speaking in Kazakh (702) (C- and above) OR KAZ 212 Academic Writing in Kazakh (703) (C- and above)					SEng, SHSS, SST	
214	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202A Kazakh Literature 2/K(C) (228) (C- and above) OR KAZ 211 Academic Speaking in Kazakh (702) (C- and above) OR KAZ 212 Academic Writing in Kazakh (703) (C- and above) OR KLL "Advanced"					SEng, SHSS, SST	
215	KAZ 375	Cultural Studies and Kazakh Culture	3	6	KLL "Advanced" OR KAZ 202A Kazakh Literature 2/K(C) (228) (C- and above) OR KAZ 211 Academic Speaking in Kazakh (702) (C- and above) OR KAZ 212 Academic Writing in Kazakh (703) (C- and above)					SEng, SHSS, SST	
216	TUR 230	Literatures of Central Asia	3	6					3 year UG SEng Civil Engineering, SHSS, SST		
217	TUR 412	Advanced Turkish in Media and Politics	3	6					3 year UG SEng Civil Engineering, SHSS, SST		
218	TUR 451	The Turkish Novel	3	6					3 year UG SEng Civil Engineering, SHSS, SST		
Languages, Literature and Linguistics											
219	CHN 101	Beginning Mandarin I	4	8							
220	CHN 102	Beginning Mandarin II	4	8	CHN 101 Beginning Mandarin I (1384) (B- and above)			World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST	

221	CHN 202	Intermediate Mandarin II	4	8	CHN 201 Intermediate Mandarin I (2181) (B- and above)			World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST
222	FRE 202	Intermediate French II	4	8	FRE 201 Intermediate French I (667) (C- and above)			World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST
223	FRE 322	Contemporary French Civilization	3	6	FRE 202 Intermediate French II (1122) (C- and above)			World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST
224	GER 201	Intermediate German I	4	8	GER 102 Beginning German II (3335) (C- and above)			World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST
225	GER 202	Intermediate German II	4	8	GER 201 Intermediate German I (3722) (C- and above)			World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST
226	LING 130	Introduction to Language and Communication	3	6				World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST	
227	LING 131	Introduction to Linguistics	3	6				World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST	
228	LING 270	Languages of Eurasia	3	6				World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST
229	LING 272	Language and the Mind	3	6				SHSS	3 year UG SEng Civil Engineering, SST	
230	LING 278	Sounds of the World's Languages	3	6				World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST
231	LING 375	Psycholinguistics	3	6	LING 131 Introduction to Linguistics (1394) (C- and above) OR LING 272 Language and the Mind (1847) (C- and above) OR LING 273 Survey of Research Methods in Linguistics (2158) (C- and above)			World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST

232	SPA 102	Beginning Spanish II	4	8	SPA 101 Beginning Spanish I (685) (C- and above)			World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST
233	SPA 202	Intermediate Spanish II	4	8	SPA 201 Intermediate Spanish I (1475) (C- and above)			World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST
234	SPA 320	The Hispanic Short Story	3	6	Subject "WLL" BETWEEN 100 and 199 AND SPA 202 Intermediate Spanish II (1842) (C- and above)			3 year UG SEng Civil Engineering, SHSS, SST		
235	WLL 101	Introduction to Critical Issues in the Humanities and Social Sciences	3	6						
236	WLL 110	Introduction to Literary Studies	3	6				1 year UG SENG, 1 year UG SHSS, 1 year UG SST	SHSS	3 year UG SEng Civil Engineering, SST
237	WLL 121	Introduction to Cultural Studies	3	6				1 year UG SENG, 1 year UG SHSS, 1 year UG SST	SHSS	3 year UG SEng Civil Engineering, SST
238	WLL 211	World Literature II: from the 18th to the 20th century	3	6				World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST
239	WLL 240	Introduction to the Novel	3	6				World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST
240	WLL 313	Dante's Inferno	3	6	Subject "WLL" BETWEEN 100 and 499 OR Subject "HST" BETWEEN 100 and 499			3 year UG SEng Civil Engineering, SHSS, SST		
241	WLL 399	Independent Study	3	6				Through Add form only		
242	WLL 499	Languages, Linguistics, and Literatures Capstone II	3	6	WLL 498 Languages, Linguistics, and Literatures Capstone I (3048) (C- and above)			Through Add form only		
Mathematics										
243	MATH 161	Calculus I	4	8				Biological Sciences, Chemistry	SST	SHSS
244	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			1 year UG SST	SST	SHSS
245	MATH 251	Discrete Mathematics	3	6	MATH 162 Calculus II (170) (C and above)			Computer Science, Mathematics	SST	SHSS

246	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			2 year UG SST Undeclared, Mathematics	SST	SHSS	
247	MATH 273	Linear Algebra with Applications	4	8	MATH 161 Calculus I (118) (C and above)	MATH 162 Calculus II (170) (C and above)		Mathematics	SST	SHSS	
248	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			2 year UG SST Undeclared, Mathematics	SST	SHSS	
249	MATH 310	Applied Statistical Methods	3	6	MATH 161 Calculus I (118) (C and above)		MATH 322 Mathematical Statistics (1165) (D and above)	Mathematics	SST	SHSS	
250	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)	Mathematics	SST	SHSS	
251	MATH 322	Mathematical Statistics	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			Mathematics	SST	SHSS	
252	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	SST	SHSS	
253	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	SST	SHSS	
254	MATH 407	Graph Theory	3	6	MATH 301 Introduction to Number Theory (613) (C and above) OR (MATH 251 Discrete Mathematics (85) (C and above) AND MATH 273 Linear Algebra with Applications (84) (C and above))			Mathematics	SST	SHSS	
255	MATH 412	Nonlinear Optimization	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 263 Calculus III (81) (C and above)			Mathematics	SST	SHSS	

256	MATH 423	Actuarial Mathematics II	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			Mathematics	SST	SHSS	
257	MATH 460	Topology	3	6	MATH 361 Real Analysis I (483) (C and above)			Mathematics	SST	SHSS	
258	MATH 461	Real Analysis II	3	6	MATH 361 Real Analysis I (483) (C and above)			Mathematics	SST	SHSS	
259	MATH 477	Applied Finite Element Methods	3	6	MATH 351 Numerical Methods with Applications (1166) (C and above)			Mathematics	SST	SHSS	
260	MATH 480	Complex Analysis	3	6	MATH 263 Calculus III (81) (C and above)			Mathematics	SST	SHSS	
261	MATH 482	Fourier Analysis	3	6	MATH 263 Calculus III (81) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above)			Mathematics	SST	SHSS	
262	MATH 490	Special Topics in Mathematics I	3	6				Mathematics	SST	SHSS	
263	MATH 499	Capstone Project	3	6				Through Add form only			
264	MATH 512	Optimization Methods and Techniques	3	6	MATH 517 Scientific Modeling and Simulation with Mathematics (2341) (B- and above)			1 year Gr SST Applied Mathematics			
265	MATH 541	Data Analysis and Statistical Learning	3	6	MATH 540 Statistical Learning (2340) (B- and above)			1 year Gr SST Applied Mathematics			
266	MATH 551	Advanced Numerical Methods	3	6	MATH 517 Scientific Modeling and Simulation with Mathematics (2341) (B- and above)			1 year Gr SST Applied Mathematics			
Physics											
267	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		SEng, SHSS	
268	PHYS 162	Physics II for Scientists and Engineers with Laboratory	4	8	PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C- and above) OR PHYS 151 Introductory Physics I with Lab (649) (C- and above)		PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above)	SST		SEng, SHSS	
269	PHYS 202	Introductory Astrophysics	3	6	PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			SST		SEng, SHSS	

270	PHYS 222	Classical Mechanics II	3	6	PHYS 221 Classical Mechanics I (652) (C- and above)	MATH 274 Introduction to Differential Equations (484) (D and above)		Physics	SST		
271	PHYS 270	Computational Physics with Laboratory	3	6	(CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above)) AND MATH 263 Calculus III (81) (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))	MATH 273 Linear Algebra with Applications (84) (D and above)		Physics	SST		
272	PHYS 280	Thermodynamics and Statistical Physics	3	6	MATH 263 Calculus III (81) (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))			Physics	SST		
273	PHYS 362	Classical Electrodynamics II	3	6	PHYS 361 Classical Electrodynamics I (651) (C- and above)			Physics	SST		
274	PHYS 370	Optics with Laboratory	4	8	PHYS 361 Classical Electrodynamics I (651) (C- and above)			Physics	SST		
275	PHYS 395	Research Methods	3	6				Physics	SST		
276	PHYS 451	Quantum Mechanics I	3	6	PHYS 221 Classical Mechanics I (652) (C- and above) AND PHYS 361 Classical Electrodynamics I (651) (C- and above)			Physics	SST		
277	PHYS 483	Statistical Mechanics	3	6	PHYS 280 Thermodynamics and Statistical Physics (1179) (C- and above)			Physics	SST		
278	PHYS 491	Directed Study of Advanced Physics Topics	3	6				Through Add form only			
279	PHYS 499	Honors Thesis	3	6				Through Add form only			
280	PHYS 510	Quantum Mechanics	3	6				1 year Gr SST Physics			

281	PHYS 520	Statistical Physics	3	6				1 year Gr SST Physics			
282	SST 502	Teaching Practicum	3	6	SST 501 Teaching and Learning (2260) (C- and above)			1 year Gr SST Applied Mathematics, 1 year Gr SST Computer Science, 1 year Gr SST Physics, 1 year Gr SST Robotics and Mechatronics			
283	SST 504	Innovation & Entrepreneurship	3	6				1 year Gr SST Computer Science, 1 year Gr SST Physics, 1 year Gr SST Robotics and Mechatronics			
284	SST 592	Research Seminar	3	6				1 year Gr SST Applied Mathematics, 1 year Gr SST Computer Science, 1 year Gr SST Physics, 1 year Gr SST Robotics and Mechatronics			
285	SST 692	Thesis	15	30				2 year Gr SST Computer Science, 2 year Gr SST Physics, 2 year Gr SST Robotics and Mechatronics			
Political Science and International Relations											
286	PLS 101	Introduction to Political Science	3	6				3 year UG SEng Civil Engineering, SST	Anthropology, Economics, History, Sociology, Undeclared, World Languages, Literature and Culture		
287	PLS 120	Introduction to Political Theory	3	6				1 year UG SHSS	4 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
288	PLS 140	Introduction to Comparative Politics	3	6				4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	

289	PLS 210	Political Science Research Methods	3	6				4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
290	PLS 211	Quantitative Methods	3	6			ECON 211 Economic Statistics (2280) (C- and above)	4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
291	PLS 295	Asian Community	3	6				3 year UG SEng Civil Engineering, SHSS, SST			
292	PLS 325	Ancient Political Theory	3	6	PLS 120 Introduction to Political Theory (512) (C- and above)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
293	PLS 330	Politics and Governance of Eurasia	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
294	PLS 331	Nationalism and Multi-Ethnic Governance	3	6	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 140 Introduction to Comparative Politics (223) (C- and above)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
295	PLS 351	International Political Economy	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
296	PLS 352	International Relations Theory	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
297	PLS 354	Introduction to International Law	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
298	PLS 355	European Union: Institutions and Policies	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	

299	PLS 365	Civil-Military Relations	3	6	PLS 211 Quantitative Methods (221) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			4 year UG SHSS Political Sciences and International Relations, Sociology	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
300	PLS 391	Intermediate Special Topics in Comparative Politics	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
301	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			
302	PLS 431	Politics and Governance of the Russian Federation	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
303	PLS 447	Comparative Political Parties	3	6	PLS 140 Introduction to Comparative Politics (223) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
304	PLS 455	The Politics of Arms in International Relations	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
305	PLS 457	International Security and Conflict	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
306	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)			4 year UG SHSS Political Sciences and International Relations	3 year UG SHSS Political Sciences and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
307	PLS 495	Research Practicum in PSIR	1	2	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			Through Add form only			

308	PLS 510	Advanced Research II	4	8	PLS 511 Advanced Research I (1631) (D and above)			1 year Gr SHSS Political Sciences and Int. Relations			
309	PLS 531	Politics and Governance of the Russian Federation	4	8				2 year Gr SHSS Political Sciences and Int. Relations	1 year Gr SHSS Political Sciences and Int. Relations		
310	PLS 540	Core Seminar in Comparative Politics	4	8				1 year Gr SHSS Political Sciences and Int. Relations			
311	PLS 547	Comparative Political Parties	4	8				2 year Gr SHSS Political Sciences and Int. Relations	1 year Gr SHSS Political Sciences and Int. Relations		
312	PLS 555	The Politics of Arms in International Relations	4	8				2 year Gr SHSS Political Sciences and Int. Relations	1 year Gr SHSS Political Sciences and Int. Relations		
313	PLS 558	International Organization	4	8	PLS 550 Core Seminar in IR (1372) (C- and above)			2 year Gr SHSS Political Sciences and Int. Relations	1 year Gr SHSS Political Sciences and Int. Relations		
314	PLS 598	MA Thesis I	6	12				2 year Gr SHSS Political Sciences and Int. Relations			
Sociology and Anthropology											
315	ANT 101	Introduction to Sociocultural Anthropology	3	6				1 year UG SHSS, Anthropology, Sociology	2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
316	ANT 140	World Prehistory	3	6				1 year UG SHSS, Anthropology, Sociology	2 year UG SHSS, 4 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST	
317	ANT 160	Introduction to Biological Anthropology	3	6			ANT 361 Human Evolution: Bones, Stones and Genomes (160) (C- and above)	1 year UG SHSS, Anthropology, Sociology	2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
318	ANT 286	Nomads: Around the world and through time	3	6				Anthropology, Sociology	2 year UG SHSS, 3 year UG SHSS, 3 year UG SST, 4 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST	
319	ANT 306	Anthropology of Performance	3	6				3 year UG SHSS, 4 year UG SHSS, Anthropology	1 year UG SHSS, 2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	

320	ANT 314	Politics of Identity in Eurasia	3	6	Subject "HST" BETWEEN 100 and 499 OR Subject "SOC" BETWEEN 100 and 499 OR Subject "ANT" BETWEEN 100 and 499 OR Subject "PLS" BETWEEN 100 and 499		Anthropology, Political Science and International Relations	2 year UG SHSS, 3 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
321	ANT 361	Human Evolution: Bones, Stones and Genomes	3	6			3 year UG SHSS, 4 year UG SHSS, Anthropology	1 year UG SHSS, 2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
322	ANT 399	Special Topics in Anthropology	3	6						
323	ANT 400	Research Assistance in Anthropology	1	2			Through Add form only			
324	ANT 499	Capstone Seminar II	3	6	ANT 498 Capstone Seminar I (2965) (C- and above)		3 year UG SEng Civil Engineering, SHSS, SST			
325	ANT 520	Materiality in Eurasian Society	4	8						
326	SOC 101	Introduction to Sociology	3	6			1 year UG SHSS	2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
327	SOC 201	Social Science Research Methods	3	6			Anthropology, Sociology	3 year UG SEng Civil Engineering, SHSS, SST		
328	SOC 215	Sociology of Race and Ethnicity	3	6			Anthropology, Sociology	2 year UG SHSS, 3 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
329	SOC 220	Science, Technology, and Society	3	6			Anthropology, Sociology	2 year UG SHSS, 3 year UG SHSS, 3 year UG SST, 4 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST	
330	SOC 223	Social Movements: How People Make Change	3	6			Anthropology, Sociology	2 year UG SHSS, 3 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
331	SOC 227	Economy and Society	3	6			2 year UG SHSS, Sociology	3 year UG SHSS, Economics	3 year UG SEng Civil Engineering, SHSS, SST	
332	SOC 302	Decolonizing Social Theory: Can Women and Non-Europeans Think?	3	6			Anthropology, Sociology	2 year UG SHSS, 3 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
333	SOC 400	Research Assistance in Sociology	1	2			Through Add form only			

334	SOC 404	Research Assistance in Sociology	3	6				Through Add form only		
335	SOC 499	Capstone Seminar II	3	6	SOC 498 Capstone Seminar Part I (3043) (C- and above)			3 year UG SEng Civil Engineering, SHSS, SST		
Sociology and Anthropology, Sociology and Anthropology										
336	ANT 216/SOC 216	Marriage and Kinship	3	6				1 year UG SHSS, 2 year UG SHSS, Anthropology	4 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST
337	SOC 212/ANT 285	Food and Society	3	6				Anthropology, Sociology	2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST
SEDS										
Chemical Engineering										
338	MCHE 601	Pipeline Engineering & Flow Assurance	3	6						
339	MCHE 602	Process Engineering and Simulation	3	6	MCHE 615 Advanced Unit Operations (3145) (D and above)					
340	MCHE 603	Crude Oil Processing	3	6						
341	MCHE 604	Natural Gas Processing	3	6						
342	MCHE 605	Petroleum Refining Water/Wastewater Use and Management	3	6						
Chemical and Materials Engineering										
343	ECHE 210	Foundations of Unit Operations	3	6						
344	ECHE 221	Engineering Fluid Mechanics	3	6						
345	ECHE 270	Transport Phenomena-I	3	6						
346	ECHE 323	Computational methods in Chemical Engineering-I	3	6	ECHE 333 Separation Processes-I (1271) (D and above)	ECHE 481 Chemical Reaction Engineering (1985) (D and above)				
347	ECHE 383	Separation Processes II	3	6	ECHE 126 Introduction to Chemical Engineering (33) (D and above) AND ECHE 225 Heat and Mass Transfer Operations (541) (D and above)					
348	ECHE 386	Chemical Plant Design and Optimization	3	6						

349	ECHE 387	Chemical Reaction Engineering 2	3	6						
350	ECHE 388	Process Dynamics and Control	3	6						
351	ECHE 420	Polymer Processing and Rheology	3	6						
352	ECHE 421	Tissue Engineering	3	6						
353	ECHE 478	Electrochemical Engineering and Corrosion Protection	3	6	ECHE 222 Chemistry I (731) (D and above)					
354	ECHE 479	Capstone Project II	9	18	ECHE 418 Capstone project 1 (1278) (D and above)					
355	ECHE 483	Chemistry II	3	6	ECHE 222 Chemistry I (731) (D and above)					
Civil Engineering										
356	ECE 210	Soil Mechanics	3	6						
357	ECE 218	Environmental Chemistry	3	6						
358	ECE 219	Hydraulics	3	6						
359	ECE 306	Geotechnical Design	3	6	ECE 210 Soil Mechanics (862) (D and above)					
360	ECE 319	Structural Design - Steel	3	6						
361	ECE 320	Engineering Hydrology	3	6						
362	ECE 405	Environmental Engineering	3	6	ECE 473 Environmental Systems (1953) (D and above) OR ECE 218 Environmental Chemistry (3296) (D and above)					
363	ECE 420	Modern Information Technology in Construction	3	6						
364	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))					
365	ECE 422	Prestressed Concrete Design	3	6						
366	ECE 423	Structure and Properties of Concrete Materials	3	6						
367	ECE 472	Water and Wastewater Treatment Processes	3	6	ECE 218 Environmental Chemistry (3296) (D and above)					
368	ECE 478	Capstone Project II	9	18	ECE 401 Capstone Project 1 (1270) (D and above)					

369	ECE 479	Structural Analysis II	3	6	ECE 217 Structural Analysis I (3156) (D and above)						
370	EMEM 510	Managerial Accounting	2	4							
371	EMEM 511	Business Strategy	2	4							
372	EMEM 512	Leading Change	2	4							
373	EMEM 513	Entrepreneurship	2	4							
374	EMEM 514	Finance	2	4							
375	EMEM 516	Management of Organizations	2	4							
376	EMEM 517	Marketing	2	4							
377	EMEM 529	Capstone Project	8	16							
378	EMEM 535	Managing Product and Service Development	3	6							
379	EMEM 543	Quality and Lean Management	3	6							
380	EMEM 545	Business Communication	2	4							
381	MCE 609	Contaminated Site Management and Soil Treatment Technologies	3	6							
382	MCE 610	Sustainable Transportation Systems	3	6							
383	MCE 611	Sustainable Infrastructure Systems	3	6							
384	MCE 612	Resilient Structural and Geotechnical Systems	3	6							
Computer Science											
385	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	

386	CSCI 152	Performance and Data Structures	4	8	CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 261 Object Oriented Programming with Java I (171) (C- and above) OR ROBT 102 Programming for robotics and physics (188) (C- and above)			1 year UG SST	SST	SHSS	
387	CSCI 235	Programming Languages	4	8	CSCI 152 Performance and Data Structures (489) (C and above)			3 year UG SST Computer Science	Computer Science	SEng, SHSS, SST	
388	CSCI 245	System Analysis and Design	3	6	CSCI 341 Database Systems (195) (C- and above)			Computer Science	SST	SEng, SHSS	
389	CSCI 330	Mobile Computing	3	6	CSCI 332 Operating Systems (490) (C- and above)			Computer Science	SST	SEng, SHSS	
390	CSCI 332	Operating Systems	3	6	CSCI 231 Computer Systems and Organization (194) (C- and above)			2 year UG SST Computer Science	Computer Science	SEng, SHSS, SST	
391	CSCI 333	Computer Networks	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			2 year UG SST Computer Science	Computer Science	SEng, SHSS, SST	
392	CSCI 336	Ubiquity and Sensing	3	6	CSCI 333 Computer Networks (1145) (C- and above)			Computer Science	SST	SEng, SHSS	
393	CSCI 361	Software Engineering	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			3 year UG SST Computer Science	Computer Science	SEng, SHSS, SST	
394	CSCI 398	Directed Study	3	6				Through Add form only			
395	CSCI 399	Internship II	3	6				Through Add form only			
396	CSCI 408	Senior Project I	3	6				4 year UG SST Computer Science			
397	CSCI 409	Senior Project II	3	6	CSCI 408 Senior Project I (1481) (C- and above)			Through Add form only			
398	CSCI 462	Open Source Software	3	6	CSCI 361 Software Engineering (640) (C- and above)			Computer Science	SST	SEng, SHSS	
399	CSCI 502	Hardware Software Co-Design	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above)			1 year Gr SST Computer Science, 1 year Gr SST Robotics and Mechatronics			
400	CSCI 591	Advanced Artificial Intelligence	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above)			1 year Gr SST Computer Science			

Electrical and Electronic Engineering

401	EEE 210	Software Engineering	3	6	BENG 146 Programming for Engineers (2234) (D and above)						
402	EEE 211	Computer Systems Architecture	3	6	ECHE 126 Introduction to Chemical Engineering (33) (D and above)						
403	EEE 239	Communication systems	3	6							
404	EEE 340	Data Communications	3	6							
405	EEE 341	Digital Electronic System Design	3	6							
406	EEE 343	Embedded Microcontrollers	3	6							
407	EEE 379	Power Systems Analysis	3	6							
408	EEE 381	Electrical Machines and Drives	3	6							
409	EEE 411	Special Topics in Signal Processing	3	6							
410	EEE 480	Capstone Project II	9	18							
411	EEE 484	Electric Power Generation	3	6							
412	EEE 485	Power System Operation and Control	3	6	EEE 379 Power Systems Analysis (1956) (D and above) OR EEE 452 Power Systems Protection (2652) (D and above)						
413	EEE 486	Photonics for Engineering	3	6	EEE 342 Electromagnetics (533) (D and above)						
414	EEE 487	Intelligent Algorithms for Power Systems	3	6							
415	EEE 488	Numerical Optimization Techniques and Computer Applications	3	6							
416	EEE 489	Analog Circuit Design	3	6							
417	MEE 601	Industrial and Commercial Power System	3	6							
418	MEE 602	Advanced Power Electronics	3	6							
419	MEE 609	Internet of Things	3	6							
420	MEE 615	Wireless Communications	3	6							
421	MEE 618	Optical Communication	3	6							
422	MEE 620	RF and Microwave Communications Systems	3	6							
423	MEE 624	Pattern Recognition	3	6							

424	MEE 627	Switched Capacitor Converters (Special Topics in Power Engineering)	3	6						
425	MEE 629	System Design for Wireless	3	6						
Mechanical Engineering										
426	EME 275	Fluid Mechanics I	3	6						
427	EME 300	Research Project	3	6						
428	EME 352	Computational Fluid Dynamics	3	6						
429	EME 357	Fluid Mechanics 2	3	6						
430	EME 377	Mechanical Systems Design	3	6	EME 361 Machine Design (1051) (D and above)					
431	EME 414	Fire Engineering	3	6	BENG 226 Engineering Thermodynamics (1553) (D and above)					
432	EME 415	Flight Mechanics	3	6						
433	EME 464	Materials and Manufacturing 1	3	6						
434	EME 476	Materials and Manufacturing II	3	6						
435	EME 477	Capstone Project II	9	18						
436	EME 479	Particulate Technology	3	6						
437	EME 480	Industrial Automation	3	6						
438	EME 488	Structural Mechanics	3	6						
439	MME 622	Advanced Design and Manufacturing	3	6						
440	MME 623	Design and Manufacturing with Environmental Concern	3	6						
441	MME 624	Design Optimization	3	6						
442	MME 625	Advanced Computer Aided Engineering	3	6						
443	MME 626	Advanced Manufacturing Processes and Strategies	3	6						
Robotics and Mechatronics										

444	ROBT 202	System Dynamics and Modeling	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) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			Robotics and Mechatronics	SST	SHSS	
445	ROBT 204	Electrical and Electronic Circuits II with Lab	4	8	ROBT 203 Electrical and Electronic Circuits I with Lab (62) (C- and above)			Physics, Robotics and Mechatronics	SST	SHSS	
446	ROBT 206	Microcontrollers with Lab	4	8	CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR ROBT 102 Programming for robotics and physics (188) (C- and above) OR CSCI 150 Fundamentals of Programming (1501) (C- and above)			Computer Science, Robotics and Mechatronics	SST	SHSS	
447	ROBT 302	Mechanical Design II with Machining Laboratory	4	8	ROBT 301 Mechanical Design with CAD and Machining Laboratory (622) (C- and above)			Robotics and Mechatronics	SST	SHSS	
448	ROBT 304	Electromechanical Systems with lab	4	8	ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above)			Robotics and Mechatronics	SST	SHSS	
449	ROBT 308	Industrial Automation	3	6				Computer Science, Robotics and Mechatronics	SST	SHSS	
450	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)			Computer Science, Robotics and Mechatronics	SST	SHSS	
451	ROBT 402	Robotic/Mechatronic System Design	3	6	ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above) AND ROBT 206 Microcontrollers with Lab (476) (C- and above) AND ROBT 302 Mechanical Design II with Machining Laboratory (1170) (C- and above)			Robotics and Mechatronics			
452	ROBT 414	Human-Robot Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science, Robotics and Mechatronics	SST	SHSS	
453	ROBT 491	Graduation Project	3	6				Robotics and Mechatronics			
454	ROBT 502	Robot Perception & Vision	3	6	ROBT 501 Robot Manipulation and Mobility (2263) (C- and above)			1 year Gr SST Robotics and Mechatronics			

School of Engineering

455	BENG 114	Introduction to Electrical Systems	3	6						
456	BENG 147	Introduction to Fluid Mechanics and Thermodynamics	3	6	BENG 124 Engineering Mathematics I (101) (D and above)					
457	BENG 148	Engineering Practice	3	6						
458	BENG 201	Engineering Economy	3	6						
459	BENG 219	Control Systems	3	6						
460	BENG 225	Engineering Mathematics II	3	6						
461	BENG 226	Engineering Thermodynamics	3	6						
462	BENG 304	Internship	2	4						
463	DENG 785	PhD proposal oral defence	0	0						
464	DENG 787	Doctoral Proposal II	3	6	DENG 784 Doctoral Proposal I (1774) (C- and above)	DENG 785 PhD proposal oral defence (2604) (D and above)				
465	DENG 794	Dissertation Research	12	24	DENG 785 PhD proposal oral defence (2604) (C- and above)					
466	DENG 796	Thesis Completion	0	0						
467	DENG 797	Oral Defence of PhD Dissertation	0	0	DENG 785 PhD proposal oral defence (2604) (C- and above) AND DENG 789 Doctoral Seminar I (4598) (C- and above) AND DENG 790 Doctoral Seminar II (4599) (C- and above)					