

Course Requirements and Registration Priorities Spring 2017

#	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	
2	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	SST	SHSS	
3	MATH 444	Nonparametric Methods	3	6	MATH 322 Mathematical Statistics (1165) (C and above)			Mathematics	SST	SHSS	
4	MATH 476	Numerical Methods for Partial Differential Equations	3	6	MATH 351 Numerical Methods with Applications (1166) (C and above) AND MATH 481 Partial Differential Equations (1168) (C and above)			Mathematics	SST	SHSS	
CPS											
NUFYP											
5	FEAP 020	Foundation English for Academic Purposes	1	2							
6	FHUM 030	FOUNDATIONS OF HUMANITIES AND SOCIAL SCIENCE 2	0	0							
7	FMAT 020	Foundation Statistics	1	2							
8	FMAT 030	Mathematics for Life Sciences (Biology and Chemistry)	1	2							
9	FMAT 040	Mathematics for Physical Sciences	1	2							
10	FPHY 030	FOUNDATION PHYSICS 2	0	0							
11	FSCI 030	ESSENTIAL BIOLOGY & CHEMISTRY 2	0	0							

GSB**GSB**

12	MBA 06	Global Financial management	2	4							
13	MBA 10	Foundations of Strategy	2	4							
14	MBA 12	Operations Management	2	4							
15	MBA 13	Macroeconomics	2	4							
16	MBA 14	Decision Models	2	4							
17	MBA 15	Corporate Finance	2	4							
18	MBA 16	Entrepreneurship	2	4							
19	MBA 18	Financial Statement Analysis	2	4							

GSPP**GSPP**

20	MPA 608	Strategic Management and Leadership	4	8							
21	MPA 610	National Identity and Public Policy	4	8			1 year GSPP Public Administration	GSPP			
22	MPA 611	Benefit Cost Analysis	4	8							
23	MPA 615	Law, institutions and development	3	6							
24	MPA 616	Development, Industrial and Finance Policies	3	6							
25	MPA 621	Global Health Policies and Systems	3	6							
26	MPA 622	Public Policy and Economics of Health Systems	4	8			1 year GSPP Public Administration	GSPP			
27	MPA 699	Master's Project with Overseas Component	0	0							
28	MPE 617	Institutions and development policies	4	8			1 year GSPP Public Administration	GSPP			
29	MPE 639	International Financial Policy	4	8			1 year GSPP Public Administration	GSPP			
30	MPP 602	Macroeconomics and Public Policy	4	8							
31	MPP 613	Public Policy Research Design and Analysis	4	8							
32	MPP 622	Economics, Philosophy and Public Policy	4	8			Public Policy	GSPP			
33	MPP 623	International Political Economy	4	8			Public Policy	GSPP			
34	MPP 626	International Political Economy of Energy and Climate Change	4	8			Public Policy	GSPP			

35	MPP 632	Public International Law	4	8				Public Policy	GSPP		
36	MPP 641	Public Management and Leadership	4	8							
37	MPP 662	Public Project Evaluation and Analysis	4	8	MPP 601 Microeconomics and Public Policy (1449) (D and above)			Public Policy	GSPP		
38	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											
39	EDHE 642	Globalisation and higher education	3	6							
40	EDHE 649	Fundamentals of Higher Education	3	6							
41	EDIE 651	Inclusive Education: Policy Perspectives	3	6							
42	EDML 611	Plurilingual Individual	3	6							
43	EDML 612	Multilingual Society	3	6							
44	EDML 614	Multilingual curriculum development and assessment	3	6							
45	EDML 629	Multiliteracies: Teaching Language and Literacy for a Multilingual Context	3	6							
46	EDML 691	Thesis Research II	6	12							
47	EDSE 623	Foundations of Early Childhood Education	3	6							
48	EDSE 630	Professional Identity	3	6							

49	EDUC 506	Academic English II	1.5	3							
50	EDUC 511	Advanced English for Education Professionals II	3	6							
51	EDUC 512	English for Thesis Writing I	3	6							
52	EDUC 513	English for Thesis Writing II	3	6							
53	EDUC 571	Basic Kazakh	3	6							
54	EDUC 572	Kazakh for Professional Purposes	3	6							
55	EDUC 573	Academic Writing in Kazakh	3	6							
56	EDUC 591	Academic English Writing for Doctoral Students II	3	6							
57	EDUC 600	Research Methods II	3	6							
58	EDUC 640	Thesis Seminar (Part III)	1.5	3							
59	EDUC 670	Internship Project	6	12							
60	EDUC 671	Work-based project	6	12							
61	EDUC 704	Advanced Methods of Education Research	3	6							
62	EDUC 705	Advanced Methods of Education Research: Qualitative Methods	3	6							
63	EDUC 711	Globalisation and Education	3	6							
64	EDUC 730	Preparation for Proposal Defence I	6	12							
65	EDUC 737	Pre-Dissertation Seminar	3	6							
66	EDUC 740	Doctoral Seminar	3	6							
67	EDUC 750	Dissertation Research	9	18							
SoM											
Public Health											
68	PUBH 512	Biostatistical Modeling and Sampling	3	6							
69	PUBH 522	Advanced Analytical Epidemiology	3	6							

70	PUBH 561	Graduate Research Seminar I	3	6							
71	PUBH 631	Social and Behavioral Sciences in Public Health	3	6							
SSH											
Area Studies											
72	EAS 502	Disciplinary Methodology	4	8							
73	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)						
Biological Science											
74	BIOL 101	Biology for non-Science majors	3	6			BIOL 110 Modern Biology I (1070) (C- and above)	SHSS			
75	BIOL 110	Modern Biology I	3	6				Biological Sciences, Chemistry	SST	SHSS	
76	BIOL 120	Modern Biology II	3	6	BIOL 110 Modern Biology I (1070) (C and above)			Biological Sciences, Chemistry	SST	SHSS	
77	BIOL 231	Human Anatomy and Physiology II	4	8	BIOL 230 Human Anatomy and Physiology I (72) (C and above)			Biological Sciences, Chemistry	SST	SHSS	
78	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, Chemistry	SST	SHSS	
79	BIOL 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			Biological Sciences, Chemistry	SST	SHSS	
80	BIOL 370	Genetics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences			
81	BIOL 399	Biology Internship	3	6				Biological Sciences			
82	BIOL 420	Bioethics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			4 year UG SST Biological Sciences	Biological Sciences		
83	BIOL 430	Histology with Laboratory	4	8	BIOL 230 Human Anatomy and Physiology I (72) (C and above)			Biological Sciences			
84	BIOL 440	Neuroscience	3	6	BIOL 230 Human Anatomy and Physiology I (72) (C and above)			Biological Sciences			
85	BIOL 456	Biology Research Design	3	6	BIOL 355 Critical Research Reasoning (1000) (C and above)			Biological Sciences			

86	BIOL 491	Graduation Project 2	4	8	BIOL 490 Graduation Project 1 (1581) (C- and above)			Biological Sciences			
87	BIOL 530	Bioethics Principles and Practices	3	6							
88	BIOL 550	Structural and Molecular Biology in Health and Disease	3	6							
89	BIOL 560	Molecular Biology of Prokaryotic Cells	3	6							
90	BIOL 600	Graduate Seminar Series	3	6							
91	BIOL 699	Research Thesis II	6	12							
Chemistry											
92	CHEM 090	Chemistry for Non-Science majors	3	6				SHSS			
93	CHEM 092	Survey of Environmental Sciences for Non-Science Majors	3	6				SHSS			
94	CHEM 101	General Chemistry I	3	6				Chemistry	Biological Sciences	SST	
95	CHEM 102	General Chemistry II	3	6	CHEM 101 General Chemistry I (113) (C and above)			Biological Sciences, Chemistry	SST		
96	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)					
97	CHEM 189c	Independent Study	3	6				Through Add form only			
98	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)						
99	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)					
100	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	

101	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	
102	CHEM 320	Instrumental Analysis	3	6	CHEM 220 Quantitative Chemical Analysis (555) (C and above)			Chemistry	Biological Sciences	SST	
103	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	
104	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	
105	CHEM 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above) AND BIOL 120 Modern Biology II (1195) (C and above)						
106	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)					
107	CHEM 380	Research Methods	3	6							
108	CHEM 400	Chemistry Seminar	3	6	CHEM 380 Research Methods (636) (C and above)			Chemistry	Biological Sciences	SST	
109	CHEM 413	Natural Product Chemistry	3	6	CHEM 212 Organic Chemistry II (443) (C and above) AND CHEM 220 Quantitative Chemical Analysis (555) (C and above)						
110	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)						
111	CHEM 451	Applied Homogenous Catalysis	3	6	CHEM 350 Advanced Inorganic Chemistry (1905) (C and above)						
112	CHEM 471	Environmental Chemistry	3	6	CHEM 320 Instrumental Analysis (1055) (C and above) AND CHEM 212 Organic Chemistry II (443) (C and above)			Chemistry	Biological Sciences	SST	

113	CHEM 490	Nanochemistry	3	6	CHEM 331 Physical Chemistry I (634) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)						
Communication and Composition											
114	COMM 240	Health Communication	3	6				3 year UG SEng Civil Engineering, SHSS, SST			
115	COMM 350	Science, Health, and Social Influence	3	6				3 year UG SEng Civil Engineering, SHSS, SST			
116	SHSS 300	SHSS Internship	3	6				Through Add form only			
117	SHSS 301	SHSS Internship Second Experience	3	6				Through Add form only			
118	SHSS 398	Independent Study	1	2				Through Add form only			
119	WCS 150	Rhetoric and Composition	3	6				1 year UG SHSS, 2 year UG SHSS	SST	3 year UG SEng Civil Engineering, SHSS	
120	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			
121	WCS 250	Advanced Rhetoric and Composition	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			SHSS	SST	3 year UG SEng Civil Engineering	
122	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			
Economics											
123	ECON 101	Introduction to Microeconomics	3	6				1 year UG SHSS, 2 year UG SHSS	SHSS	3 year UG SEng Civil Engineering, SST	
124	ECON 102	Introduction to Macroeconomics	3	6				1 year UG SHSS, 2 year UG SHSS	SHSS	3 year UG SEng Civil Engineering, SST	
125	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	

126	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
127	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
128	ECON 300	Research Assistance in Economics	1	2	ECON 101 Introduction to Microeconomics (379) (C- and above) AND ECON 102 Introduction to Macroeconomics (503) (C- and above)		Through Add form only		
129	ECON 302	Game Theory and Economic Analysis	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)		Economics	SHSS	3 year UG SEng Civil Engineering, SST
130	ECON 322	Natural Resources and Environmental Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)	ECON 331 Environmental Economics (1687) (C- and above)	Economics	SHSS	3 year UG SEng Civil Engineering, SST
131	ECON 326	The Economics of Financial Markets	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)		Economics	SHSS	3 year UG SEng Civil Engineering, SST
132	ECON 328	Labor Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)		Economics	SHSS	3 year UG SEng Civil Engineering, SST
133	ECON 329	International Finance	3	6	ECON 202 Intermediate Macroeconomics (207) (C- and above)		Economics	SHSS	3 year UG SEng Civil Engineering, SST
134	ECON 399	Independent Study in Economics	3	6			Through Add form only		
135	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	3 year UG SEng Civil Engineering, SST
136	ECON 413	Econometrics II	3	6	ECON 301 Econometrics I (664) (C- and above)		Economics	SHSS	3 year UG SEng Civil Engineering, SST

137	ECON 415	Industrial Organization	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics	SHSS	3 year UG SEng Civil Engineering, SST	
138	ECON 521	Microeconomic Theory II	4	8	ECON 501 Microeconomics I (2187) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)						
139	ECON 522	Macroeconomics II	4	8	ECON 502 Macroeconomics I (2186) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)						
140	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)					
141	ECON 531	Econometrics	4	8	ECON 511 Statistics (2188) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)						
142	ECON 590	Thesis II	8	16	ECON 589 Thesis I (3714) (P)						
History, Philosophy and Religious Studies											
143	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 SHSS, 1 year UG SST	SEng, SHSS, SST	
144	HST 122	World History II (from 1500)	3	6				1 year UG SHSS, 1 year UG SST, History	SEng, SHSS, SST		
145	HST 132	European History II (from 1700)	3	6				1 year UG SENG, 1 year UG SHSS, 1 year UG SST, History	3 year UG SEng Civil Engineering, SHSS, SST		
146	HST 151	US History I (to 1877)	3	6				1 year UG SENG, 1 year UG SHSS, 1 year UG SST, History	3 year UG SEng Civil Engineering, SHSS, SST		
147	HST 220	India 1757-1947: Empire, Nationalism and Independence	3	6	Subject "HST" BETWEEN 100 and 199			History	SHSS	3 year UG SEng Civil Engineering, SST	
148	HST 222	History of Medical Ethics	3	6	Subject "HST" BETWEEN 100 and 199			History	Biological Sciences, SHSS	3 year UG SEng Civil Engineering, SST	
149	HST 399	Independent Study	3	6				Through Add form only			

150	HST 499	History Capstone: Undergraduate Dissertation	4	8	HST 498 Directed Reading (1365) (C- and above)			Through Add form only			
151	PHIL 101	Introduction to Philosophy	3	6				1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
152	PHIL 210	Ethics	3	6				Chemistry	3 year UG SEng Civil Engineering, SHSS, SST		
153	PHIL 215	Bioethics	3	6				4 year UG SST Biological Sciences	3 year UG SEng Civil Engineering, SHSS, SST		
154	PHIL 223	Philosophy of Science	3	6				1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
155	PHIL 240	Formal Logic	3	6				SHSS	3 year UG SEng Civil Engineering, SST		
156	PHIL 325	Truth, Lies, Media, and Propaganda	3	6				SHSS	3 year UG SEng Civil Engineering, SST		
157	REL 212	Buddhist Religious Traditions	3	6				SHSS	3 year UG SEng Civil Engineering, SST		
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies											
158	REL 273/HST 273	History of Sufism in the Middle East and Central Asia	3	6	Subject "HST" BETWEEN 100 and 199			History	SHSS	3 year UG SEng Civil Engineering, SST	
159	REL 572/HST 572	History of Sufism in the Middle East and Central Asia	4	8							
History, Philosophy and Religious Studies, Languages, Literature and Linguistics											
160	WLL 102 /PHIL 102	Language, Experience, Culture	3	6				1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
History, Philosophy and Religious Studies, Political Science and International Relations											

161	PHIL 431/PLS 420	Human Rights and Cultural Differences	3	6	Subject "PHIL" BETWEEN 100 and 199 OR Subject "PHIL" BETWEEN 200 and 299 OR Subject "PHIL" BETWEEN 300 and 399 OR Subject "PHIL" BETWEEN 400 and 499 OR Subject "" BETWEEN 100 and 199 OR Subject "" BETWEEN 200 and 299 OR Subject "" BETWEEN 300 and 399 OR Subject "" BETWEEN 400 and 499 OR PLS 120 Introduction to Political Theory (512) (C- and above) OR PLS 328/REL 328 Confucianism and the Development of Chinese Politics (2396) (C- and above) OR PLS 331 Nationalism and Multi-Ethnic Governance (99) (C- and above)			SHSS	3 year UG SEng Civil Engineering, SST	
162	PLS 430/HST 424	Science, Politics and the State in Comparative Context, c.1850-1980	3	6	Subject "HST" BETWEEN 200 and 299 OR Subject "HST" BETWEEN 300 and 399			History	SHSS	3 year UG SEng Civil Engineering, SST
History, Philosophy and Religious Studies, Sociology and Anthropology										
163	ANT 302/REL 301	Anthropology of Religion and Secularism	3	6	Subject "HST" BETWEEN 100 and 499 OR Subject "ANT" BETWEEN 100 and 499 OR Subject "SOC" BETWEEN 100 and 499 OR Subject "PLS" BETWEEN 100 and 499			Anthropology, Sociology	3 year UG SEng Civil Engineering, SHSS, SST	
164	ANT 313/REL 332	Islam and Politics in Eurasia	3	6				1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST
Kazakh Language and Turkic Studies										
165	KAZ 101	Basic Kazakh I	3	6	KLL "Basic"					
166	KAZ 111	Intermediate Kazakh I	3	6	KLL "Intermediate"					
167	KAZ 114	Intermediate Kazakh II	3	6	KLL ""					
168	KAZ 121	Upper-Intermediate Kazakh	3	6	KLL "Upper-Intermediate"					

169	KAZ 150	Basic Kazakh	3	6	KLL "Basic"						
170	KAZ 211	Academic Speaking in Kazakh	3	6	KAZ 201 Academic Kazakh I (4561) (C- and above) OR KLL "Upper-Intermediate" OR KLL "Advanced"						
171	KAZ 212	Academic Writing in Kazakh	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"						
172	KAZ 226	Kazakh for Medical School	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"						
173	KAZ 263	Business Etiquette	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"						
174	KAZ 313	Kazakh for Business	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"						
175	KAZ 314	Speech Culture in Business	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"						
176	KAZ 351	Kazakh Short Stories	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"						
177	KAZ 357	Literature of Alash	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"						
178	KAZ 358	Technique of Translation	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"						
179	KAZ 362	Creative Writing in Kazakh Language	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"						
180	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)						
181	KAZ 366	Kazakh Language for Engineers	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"						
182	KAZ 368	Onomastics: History and Function of Names	3	6	KLL "Advanced" OR KLL "Upper-Intermediate"						
183	KAZ 370	Kazakh for Career Development	3	6	KLL "Upper-Intermediate" OR KLL "Advanced"						
184	KAZ 371	Contemporary Kazakh Literature	3	6	KLL "Advanced"						
185	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)						
186	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)						

187	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"						
188	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)						
Languages, Literature and Linguistics											
189	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	
190	CHN 201	Intermediate Mandarin I	4	8	CHN 102 Beginning Mandarin II (1844) (B- and above)			World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST	
191	FRE 102	Beginning French II	4	8	FRE 101 Beginning French I (246) (C- and above)			World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST	
192	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	
193	GER 101	Beginning German	4	8				1 year UG SHSS	World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST	
194	GER 102	Beginning German II	4	8	GER 101 Beginning German (3173) (C- and above)			World Languages, Literature and Culture	SHSS	3 year UG SEng Civil Engineering, SST	
195	LING 131	Introduction to Linguistics	3	6				1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
196	LING 270	Languages of Eurasia	3	6				World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST		

197	LING 470	Multilingualism and Language Contact	3	6	LING 131 Introduction to Linguistics (1394) (C- and above) OR LING 270 Languages of Eurasia (2485) (C- and above) OR ANT 277/WLL 271 Language and Society (1027) (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) OR LING 274 Introduction to Applied Linguistics (2486) (C- and above) OR () (and above)			World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST		
198	LING 570	Multilingualism and Language Contact	4	8							
199	SPA 102	Beginning Spanish II	4	8	SPA 101 Beginning Spanish I (685) (C- and above)			1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
200	SPA 202	Intermediate Spanish II	4	8	SPA 201 Intermediate Spanish I (1475) (C- and above)			1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
201	WLL 101	Introduction to Critical Issues in the Humanities and Social Sciences	3	6				1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
202	WLL 110	Introduction to Literary Studies	3	6				1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
203	WLL 111	Introduction to Theatre	3	6				1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
204	WLL 121	Introduction to Cultural Studies	3	6				1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
205	WLL 155	Introduction to the Comic Book	3	6				1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
206	WLL 211	World Literature II: from the 18th to the 20th century	3	6				World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST		

207	WLL 212	Introduction to Poetry	3	6				1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
208	WLL 222	Acting: Praxis, Theory and History	3	6				World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST		
209	WLL 241	Survey of Folk Tales	3	6				World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST		
210	WLL 245	Terrible Perfection: Heroines of Classical Russian Literature	3	6				World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST		
211	WLL 251	Hong Kong Cinema	3	6				World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST		
212	WLL 257	Fan Culture in the Age of Convergence	3	6				World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST		
213	WLL 399	Independent Study	3	6				Through Add form only			
214	WLL 442	Contemporary Russian and Russophone Literature	3	6	Subject "WLL" BETWEEN 100 and 199			World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST		
215	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			
216	WLL 542	Contemporary Russian and Russophone Literature	4	8							
Languages, Literature and Linguistics, Languages, Literature and Linguistics											
217	WLL 352/SPA 352	Contemporary Spanish Literature and Cinema: from the transition to the recent economic crisis	3	6				World Languages, Literature and Culture	3 year UG SEng Civil Engineering, SHSS, SST		
Mathematics											
218	MATH 161	Calculus I	4	8				Biological Sciences, Chemistry	SST	SHSS	
219	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			1 year UG SST	SST	SHSS	
220	MATH 251	Discrete Mathematics	3	6	MATH 162 Calculus II (170) (C and above)			Mathematics	SST	SHSS	
221	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			Mathematics	SST	SHSS	

222	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	
223	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			Mathematics	SST	SHSS	
224	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	
225	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	
226	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	
227	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	
228	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	
229	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	
230	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	
231	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	
232	MATH 460	Topology	3	6	MATH 361 Real Analysis I (483) (C and above)			Mathematics	SST	SHSS	

233	MATH 461	Real Analysis II	3	6	MATH 361 Real Analysis I (483) (C and above)			Mathematics	SST	SHSS	
234	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	
235	MATH 499	Capstone Project	3	6				Through Add form only			
Physics											
236	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 SST	SST	SHSS	
237	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)	1 year UG SST	SST	SHSS	
238	PHYS 202	Introductory Astrophysics	3	6	PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			SST		SHSS	
239	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		
240	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	Mathematics	SST	
241	PHYS 271	Applied Methods of Computational Physics with Laboratory	3	6	MATH 162 Calculus II (170) (C- and above) AND MATH 273 Linear Algebra with Applications (84) (C- and above)		PHYS 270 Computational Physics with Laboratory (488) (C- and above)	Economics	Mathematics	SST	

242	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		
243	PHYS 362	Classical Electrodynamics II	3	6	PHYS 361 Classical Electrodynamics I (651) (C- and above)			Physics	SST		
244	PHYS 370	Optics with Laboratory	4	8	PHYS 361 Classical Electrodynamics I (651) (C- and above)			Physics	SST		
245	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)						
246	PHYS 474	Lasers and Photonics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)			Physics	SST		
247	PHYS 491	Directed Study of Advanced Physics Topics	3	6				Through Add form only			
248	PHYS 495	Physics Colloquium	0	0				Physics	SST		
249	PHYS 499	Honors Thesis	3	6				Through Add form only			
250	PHYS 510	Quantum Mechanics	3	6							
251	PHYS 520	Statistical Physics	3	6							
252	SST 502	Teaching Practicum	3	6	SST 501 Teaching and Learning (2260) (C- and above)						
253	SST 504	Innovation & Entrepreneurship	3	6							
254	SST 592	Research Seminar	3	6							
255	SST 692	Thesis	15	30							
Political Science and International Relations											
256	PLS 101	Introduction to Political Science	3	6				1 year UG SHSS	SST	3 year UG SEng Civil Engineering, SHSS	

257	PLS 120	Introduction to Political Theory	3	6				1 year UG SHSS, 1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	1 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST	
258	PLS 140	Introduction to Comparative Politics	3	6				1 year UG SHSS, 1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	1 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST	
259	PLS 150	Introduction to International Relations	3	6				1 year UG SHSS, 1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	1 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST	

260	PLS 180	European Union	1	2				Through Add form only			
261	PLS 210	Political Science Research Methods	3	6				1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
262	PLS 211	Quantitative Methods	3	6			ECON 211 Economic Statistics (2280) (C- and above)	1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
263	PLS 326	Modern Political Theory	3	6	PLS 120 Introduction to Political Theory (512) (C- and above)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	

264	PLS 330	Politics and Governance of Eurasia	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
265	PLS 338	U.S. Government and Politics	3	6	(PLS 140 Introduction to Comparative Politics (223) (C- and above) OR PLS 101 Introduction to Political Science (513) (C- and above)) AND PLS 210 Political Science Research Methods (129) (C- and above)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
266	PLS 341	Politics of Development	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	

267	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)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
268	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)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
269	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)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	

270	PLS 360	Foreign Policy Analysis	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
271	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)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
272	PLS 371	Comparative Welfare States	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	

273	PLS 391	Intermediate Special Topics in Comparative Politics	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
274	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			
275	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)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
276	PLS 421	Theories of Political Obligations	3	6	PLS 325 Ancient Political Theory (675) (C- and above) OR PLS 326 Modern Political Theory (1131) (C- and above)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	

277	PLS 422	Just War Theory	3	6	PLS 120 Introduction to Political Theory (512) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
278	PLS 431	Politics and Governance of the Russian Federation	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
279	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)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	

280	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)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
281	PLS 451	Advanced Topics 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)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
282	PLS 472	Negotiation, Cooperation and Strategy	3	6	ECON 302 Game Theory and Economic Analysis (1378) (C- and above) OR PLS 315 Political Game Theory (704) (C- and above)			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations	SHSS	3 year UG SEng Civil Engineering, SST	
283	PLS 510	Advanced Research II	4	8	PLS 511 Advanced Research I (1631) (D and above)						
284	PLS 516	Experimental Political Science	4	8	PLS 511 Advanced Research I (1631) (C- and above)						

285	PLS 521	Theories of Political Obligations	4	8							
286	PLS 522	Just War Theory	4	8							
287	PLS 541	Advanced Topics in Comparative Politics	4	8							
288	PLS 547	Comparative Political Parties	4	8							
289	PLS 557	International Security and Conflict	4	8							
290	PLS 598	MA Thesis I	6	12							
Sociology and Anthropology											
291	ANT 101	Introduction to Sociocultural Anthropology	3	6				1 year UG SHSS, Anthropology	3 year UG SEng Civil Engineering, SHSS, SST		
292	ANT 140	World Prehistory	3	6				1 year UG SHSS, Anthropology	2 year UG SHSS, 4 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST	
293	ANT 160	Introduction to Biological Anthropology	3	6			ANT 361 Human Evolution: Bones, Stones and Genomes (160) (C- and above)	2 year UG SHSS, Anthropology	SHSS	3 year UG SEng Civil Engineering, SST	
294	ANT 231	Frauds and Fallacies in Archaeology	3	6				2 year UG SHSS, Anthropology	SHSS	3 year UG SEng Civil Engineering, SST	
295	ANT 232	Life, Death and Economy: Archaeology of Central Asia	3	6				2 year UG SHSS, Anthropology	SHSS	3 year UG SEng Civil Engineering, SST	
296	ANT 286	Nomads: Around the world and through time	3	6				2 year UG SHSS, Anthropology	3 year UG SEng Civil Engineering, SHSS, SST		
297	ANT 306	Anthropology of Performance	3	6				3 year UG SHSS, 4 year UG SHSS, Anthropology	3 year UG SEng Civil Engineering, SHSS, SST		

298	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			1 year UG SHSS Political Sciences and International Relations, 2 year UG SHSS Political Sciences and International Relations, 3 year UG SHSS Political Sciences and International Relations, 4 year UG SHSS Political Sciences and International Relations, Anthropology	SHSS	3 year UG SEng Civil Engineering, SST	
299	ANT 361	Human Evolution: Bones, Stones and Genomes	3	6			2 year UG SHSS, Anthropology	SHSS	3 year UG SEng Civil Engineering, SST		
300	ANT 400	Research Assistance in Anthropology	1	2			Through Add form only				
301	ANT 403	Research Assistance in Anthropology	2	4			Through Add form only				
302	ANT 475	Digital Ethnographies	3	6	ANT 101 Introduction to Sociocultural Anthropology (501) (C- and above) OR PLS 210 Political Science Research Methods (129) (C- and above) OR SOC 201 Social Science Research Methods (1341) (C- and above) OR ANT 214/SOC 214 Qualitative Methods (1033) (C- and above)		3 year UG SHSS, 4 year UG SHSS, 4 year UG SST Computer Science, Anthropology	SHSS	3 year UG SEng Civil Engineering, SST		
303	ANT 499	Capstone Seminar II	3	6	ANT 498 Capstone Seminar I (2965) (C- and above)		4 year UG SHSS Anthropology, 4 year UG SHSS Sociology				
304	SOC 101	Introduction to Sociology	3	6			Anthropology, Sociology	1 year UG SHSS, 2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
305	SOC 115	Global Social Problems	3	6			Anthropology, Sociology	1 year UG SHSS, 2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
306	SOC 201	Social Science Research Methods	3	6			Anthropology, Sociology	SHSS	3 year UG SEng Civil Engineering, SST		

307	SOC 218	Introduction to Social Policy	3	6				Sociology	2 year UG SHSS, 3 year UG SHSS, 4 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
308	SOC 220	Science, Technology, and Society	3	6				Sociology	2 year UG SHSS, 3 year UG SHSS, 3 year UG SST, 4 year UG SHSS, 4 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST	
309	SOC 221	International Migration	3	6				Sociology	2 year UG SHSS, 3 year UG SHSS, 3 year UG SST, 4 year UG SHSS, 4 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST	
310	SOC 225	Environment and Society	3	6				Sociology	SHSS	3 year UG SEng Civil Engineering, SST	
311	SOC 227	Economy and Society	3	6				Sociology	2 year UG SHSS, 3 year UG SHSS, 4 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
312	SOC 403	Research Assistance in Sociology	2	4				Through Add form only			
313	SOC 499	Capstone Seminar II	3	6	SOC 498 Capstone Seminar Part I (3043) (C- and above)			4 year UG SHSS Anthropology, 4 year UG SHSS Sociology			
Sociology and Anthropology, Sociology and Anthropology											
314	ANT 214/SOC 214	Qualitative Methods	3	6				Sociology	2 year UG SHSS, 3 year UG SHSS, 4 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
315	ANT 222/SOC 222	Approaches to Global Development	3	6			ANT 222/SOC 222 Approaches to Global Development (158) (C- and above)	2 year UG SHSS, Anthropology, Sociology	SHSS	3 year UG SEng Civil Engineering, SST	
316	ANT 480/SOC 418	Gender, Power and Social Change in South Asia	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	3 year UG SHSS, 4 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
317	SOC 518/ANT 580	Gender, Power and Social Change in South Asia	4	8							
SEDS											

Chemical Engineering

318	MCHE 601	Pipeline Engineering & Flow Assurance	3	6							
319	MCHE 602	Process Engineering and Simulation	3	6	MCHE 615 Advanced Unit Operations (3145) (D and above)						
320	MCHE 603	Crude Oil Processing	3	6							
321	MCHE 604	Natural Gas Processing	3	6							
322	MCHE 605	Petroleum Refining Water/Wastewater Use and Management	3	6							

Chemical and Materials Engineering

323	ECHE 210	Foundations of Unit Operations	3	6							
324	ECHE 221	Engineering Fluid Mechanics	3	6							
325	ECHE 270	Transport Phenomena-I	3	6							
326	ECHE 319	Chemical Engineering Thermodynamics	3	6							
327	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)					
328	ECHE 327	Micro and Nanotechnology	3	6							
329	ECHE 328	Mineral Processing	3	6							
330	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)						
331	ECHE 384	Interdisciplinary Design Project	3	6							
332	ECHE 478	Electrochemical Engineering and Corrosion Protection	3	6	ECHE 222 Chemistry I (731) (D and above)						
333	ECHE 479	Capstone Project II	9	18	ECHE 418 Capstone project 1 (1278) (D and above)						

334	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)						
335	ECHE 483	Chemistry II	3	6	ECHE 222 Chemistry I (731) (D and above)						
Civil Engineering											
336	ECE 210	Soil Mechanics	3	6							
337	ECE 218	Environmental Chemistry	3	6							
338	ECE 219	Hydraulics	3	6							
339	ECE 302	Civil Engineering Materials	3	6	BENG 221 Engineering Materials (47) (D and above)						
340	ECE 306	Geotechnical Design	3	6	ECE 210 Soil Mechanics (862) (D and above)						
341	ECE 315	Structural Engineering Applications II	3	6	ECE 213 Structural Engineering Analysis (863) (D and above) OR ECE 217 Structural Analysis I (3156) (D and above)						
342	ECE 405	Environmental Engineering	3	6	ECE 473 Environmental Systems (1953) (D and above) OR ECE 218 Environmental Chemistry (3296) (D and above)						
343	ECE 478	Capstone Project II	9	18	ECE 401 Capstone Project 1 (1270) (D and above)						
344	ECE 479	Structural Analysis II	3	6	ECE 217 Structural Analysis I (3156) (D and above)						
345	EMEM 510	Managerial Accounting	2	4							
346	EMEM 511	Business Strategy	2	4							
347	EMEM 512	Leading Change	2	4							
348	EMEM 513	Entrepreneurship	2	4							
349	EMEM 514	Finance	2	4							
350	EMEM 516	Management of Organizations	2	4							
351	EMEM 517	Marketing	2	4							
352	EMEM 527	Globalization and Engineering	3	6							
353	EMEM 529	Capstone Project	8	16							

354	EMEM 544	Lean Production	1.5	3							
355	EMEM 545	Business Communication	2	4							
356	MCE 610	Sustainable Transportation Systems	3	6							
357	MCE 611	Sustainable Infrastructure Systems	3	6							
358	MCE 612	Resilient Structural and Geotechnical Systems	3	6							
359	MCE 613	Numerical Method in Geotechnical Engineering	3	6							
360	MCE 615	Applications of Geomatics in Civil Engineering	3	6							
Computer Science											
361	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	
362	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	
363	CSCI 235	Programming Languages	4	8	CSCI 152 Performance and Data Structures (489) (C and above)			3 year UG SST Computer Science	Computer Science	SST	
364	CSCI 245	System Analysis and Design	3	6	CSCI 341 Database Systems (195) (C- and above)			Computer Science	SST	SHSS	
365	CSCI 307	Research Methods	3	6				3 year UG SST Computer Science			
366	CSCI 332	Operating Systems	3	6	CSCI 231 Computer Systems and Organization (194) (C- and above)			2 year UG SST Computer Science	Computer Science	SST	
367	CSCI 333	Computer Networks	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science	SST	SHSS	
368	CSCI 336	Ubiquity and Sensing	3	6	CSCI 333 Computer Networks (1145) (C- and above)			Computer Science	SST	SHSS	

369	CSCI 398	Directed Study	3	6				Through Add form only			
370	CSCI 408	Senior Project I	3	6							
371	CSCI 409	Senior Project II	3	6	CSCI 408 Senior Project I (1481) (C- and above)			Through Add form only			
372	CSCI 455	Scripting Languages	3	6		CSCI 235 Programming Languages (638) (C- and above)		Computer Science	SST	SHSS	
373	CSCI 462	Open Source Software	3	6	CSCI 361 Software Engineering (640) (C- and above)			Computer Science	SST	SHSS	
374	CSCI 502	Hardware Software Co-Design	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above)						
375	CSCI 591	Advanced Artificial Intelligence	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above)						
Electrical and Electronic Engineering											
376	EEE 210	Software Engineering	3	6	BENG 146 Programming for Engineers (2234) (D and above)						
377	EEE 211	Computer Systems Architecture	3	6	ECHE 126 Introduction to Chemical Engineering (33) (D and above)						
378	EEE 212	Signals and Systems	3	6	BENG 225 Engineering Mathematics II (48) (D and above)						
379	EEE 239	Communication systems	3	6							
380	EEE 340	Data Communications	3	6							
381	EEE 341	Digital Electronic System Design	3	6							
382	EEE 379	Power Systems Analysis	3	6							
383	EEE 380	Integrated Circuits Design	3	6							
384	EEE 381	Electrical Machines and Drives	3	6							
385	EEE 410	Nonlinear Circuits and Systems	3	6	EEE 380 Integrated Circuits Design (1954) (D and above)						
386	EEE 411	Special Topics in Signal Processing	3	6							
387	EEE 480	Capstone Project II	9	18							
388	MEE 601	Industrial and Commercial Power System	3	6							
389	MEE 602	Advanced Power Electronics	3	6							

390	MEE 603	Special Topics in Power Engineering	3	6							
391	MEE 609	Internet of Things	3	6							
392	MEE 615	Wireless Communications	3	6							
393	MEE 618	Optical Communication	3	6							
394	MEE 619	Photonics Technology	3	6							
395	MEE 620	RF and Microwave Communications Systems	3	6							
Mechanical Engineering											
396	EME 262	Machine Dynamics I	3	6							
397	EME 275	Fluid Mechanics I	3	6							
398	EME 354	Advanced Control Systems	3	6	BENG 219 Control Systems (728) (D and above)						
399	EME 377	Mechanical Systems Design	3	6	EME 361 Machine Design (1051) (D and above)						
400	EME 410	Aerodynamics	3	6	EME 357 Fluid Mechanics 2 (1280) (D and above)						
401	EME 411	Air Conditioning and Fire Engineering	3	6	BENG 226 Engineering Thermodynamics (1553) (D and above)						
402	EME 463	Machine Dynamics II	3	6							
403	EME 464	Materials and Manufacturing 1	3	6							
404	EME 476	Materials and Manufacturing II	3	6							
405	EME 477	Capstone Project II	9	18							
406	EME 480	Industrial Automation	3	6							
407	MME 622	Advanced Design and Manufacturing	3	6							
408	MME 623	Design and Manufacturing with Environmental Concern	3	6							
409	MME 624	Design Optimization	3	6							
410	MME 625	Advanced Computer Aided Engineering	3	6							
411	MME 626	Advanced Manufacturing Processes and Strategies	3	6							

Robotics and Mechatronics

412	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		
413	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		
414	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		
415	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		
416	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		
417	ROBT 308	Industrial Automation	3	6				Computer Science, Robotics and Mechatronics	SST		
418	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		
419	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			
420	ROBT 491	Graduation Project	3	6				Robotics and Mechatronics			
421	ROBT 502	Robot Perception & Vision	3	6	ROBT 501 Robot Manipulation and Mobility (2263) (C- and above)						
School of Engineering											
422	BENG 114	Introduction to Electrical Systems	3	6							

423	BENG 147	Introduction to Fluid Mechanics and Thermodynamics	3	6	BENG 124 Engineering Mathematics I (101) (D and above)						
424	BENG 148	Engineering Practice	3	6							
425	BENG 201	Engineering Economy	3	6							
426	BENG 225	Engineering Mathematics II	3	6							
427	BENG 226	Engineering Thermodynamics	3	6							
428	BENG 343	Interdisciplinary Design Project	3	6							
429	DENG 783	Statistics	3	6							
430	DENG 784	Doctoral Proposal I	0	6							
431	DENG 785	PhD proposal oral defence	0	0							
432	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)					
433	DENG 794	Dissertation Research	12	24	DENG 785 PhD proposal oral defence (2604) (C- and above)						