

Course Requirements and Registration Priorities Fall 2016

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
SST											
Computer Science											
1	CSCI 512	Information Theory	3	6							
Mathematics											
2	MATH 355	Introduction to Proofs	3	6	MATH 162 Calculus II (170) (C and above) AND MATH 273 Linear Algebra with Applications (84) (C and above)			Mathematics	SHSS, SST		
SHSS											
Economics											
3	ECON 327	Energy Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			4 year UG SHSS Economics	3 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST	
4	ECON 329	International Finance	3	6	ECON 202 Intermediate Macroeconomics (207) (C- and above)						
5	ECON 445	Public Finance	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			4 year UG SHSS Economics	3 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST	
6	ECON 451	Topics in Microeconomics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			4 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST		
History, Philosophy and Religious Studies, Political Science and International Relations											
7	PLS 328/REL 328	Confucianism and the Development of Chinese Politics	3	6				Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST		
Kazakh Language and Turkic Studies											
8	KAZ 314	Speech Culture in Business	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
9	KAZ 358	Technique of Translation	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
CPS											
NUFYP											

10	FEAP 010	Foundation English for Academic Purposes 1	0	0						
11	FHUM 001	Humanities	0	0						
12	FMAT 010	Foundation Mathematics 1	0	0						
13	FSCIEN 001	Sciences	0	0						
GSB										
GSB										
14	MBA 01	Consequential Leadership	1	2						
15	MBA 02	Business Mathematics and Business Computer Application	1	2						
16	MBA 03	Financial Accounting	2	4						
17	MBA 04	Probability and Statistics	2	4						
18	MBA 05	Business Communication	2	4						
19	MBA 07	Managerial Effectiveness	2	4						
20	MBA 08	Managerial Economics	2	4						
21	MBA 09	Marketing Management	2	4						
22	MBA 18	Financial Statement Analysis	2	4						
23	MBA 19	Distinguished Speaker Series	0	1						
24	MBA 20	Practicum Project	2.5	5						
25	MBAE 1	Investments	2	4						
26	MBAE 6	International Finance	2	4						
27	MBAE 7	Supply Chain Management	2	4						
28	MBAE 8	Leadership	2	4						
29	MBAE 9	Marketing Strategy	2	4						
GSP										
Master in Public Administration										
30	MPA 602	Public Administration in Theory and Practice	4	8						
31	MPA 603	Economic Applications for Public Managers	4	8						
32	MPA 605	Research Methods for Public Managers	4	8						
33	MPA 608	Strategic Management and Leadership	4	8						
34	MPA 613	Economic and Social Policy	3	6						
35	MPA 614	Comparative Economic Development	3	6						
36	MPA 699	Master's Project with Overseas Component	0	0						

37	MPE 609	Organizational Behavior in the Public Sector	4	8						
38	MPE 611	Benefit Cost Analysis	4	8						
39	MPE 671	Game Theory and Public Policy	4	8						
40	MPE 683	Energy Systems and Climate Policy	4	8						
Master in Public Policy										
41	MPP 601	Microeconomics and Public Policy	4	8						
42	MPP 611	Statistics for Public Policy	4	8						
43	MPP 612	Public Policy Research and Evaluation	4	8						
44	MPP 621	Public Policy and Analysis	4	8						
45	MPP 625	Central Asian politics: Comparative Analysis	4	8						
46	MPP 631	Politics and Public Policy	4	8						
47	MPP 636	Weapons of Mass Destruction Nonproliferation and Disarmament	4	8						
48	MPP 639	International Financial Policy	4	8						
GSE										
MA in Multilingual Education										
49	EDML 601	Introduction to Linguistics	3	6						
50	EDML 610	Foundations of Multilingual Education	3	6						
51	EDML 613	The Multilingual School	3	6						
52	EDML 620	Language and Literacy Development	3	6						
53	EDML 621	Principles and Methods of Language Education in Multilingual Contexts	3	6						
54	EDML 623	Globalization and Language Education	3	6						
55	EDML 690	Thesis Research I	3	6						
MSc Educational Leadership HE										
56	EDHE 609	Introduction to Educational Leadership: Higher Education	3	6						
57	EDUC 500	English Language Preparation	0	0						

58	EDUC 502	English for Research	3	6							
59	EDUC 505	Academic English 1	1.5	3							
60	EDUC 510	Advanced English for Education Professionals I	3	6							
61	EDUC 512	English for Thesis Writing I	3	6							
62	EDUC 573	Academic Writing in Kazakh	3	6							
63	EDUC 590	Academic English Writing for Doctoral Students I	3	6							
64	EDUC 600	Research Methods II	3	6							
65	EDUC 602	Educational Context and Reform in Kazakhstan	3	6							
66	EDUC 607	Research Methods 1	3	6							
67	EDUC 640	Thesis Seminar (Part I)	1.5	3							
68	EDUC 640	Thesis Seminar (Part II)	3	6							
69	EDUC 701	Education Research Methods	3	6							
70	EDUC 710	Educational Studies in Context	3	6							
71	EDUC 712	Educational Policy and Reform	3	6							
72	EDUC 720	Philosophy of Education	3	6							
73	EDUC 731	Proposal Defence	3	6							
74	EDUC 740	Doctoral Seminar	3	6							
75	EDUC 750	Dissertation Research	9	18							
76	EDUC 800	International Study	12	24							
MSc Educational Leadership IE											
77	EDIE 609	Introduction to Educational Leadership: Inclusive Education	3	6							
MSc Educational Leadership SE											
78	EDSE 609	Introduction to Educational Leadership: School Education	3	6							
79	EDSE 620	Perspectives on Inclusive Education	3	6							

80	EDSE 621	Education Policy Analysis and Development	3	6							
81	EDSE 624	Psychology of Learning (Children as Learners)	3	6							
82	EDSE 630	Professional Identity	3	6							
83	EDSE 634	Assessment: Theories, policies, practices	3	6							
84	EDSE 636	Preparing Children for the Future: Skills and Employability	3	6							
Other											
Other											
85	T - 17191	Artists, Patrons and Academies in Early Modern Europe	3	6							
86	T- 17266	Literature and Culture of English Speaking Countries: The 19th Century I	3	6							
87	T- 17319	Techniques and Languages in English Narrative	3	6							
88	T- 205512	Narrativa Espanola actual: novela y cuento	3	6							
89	T- 205514	El espanol y su cultura	3	6							
90	T-HIST 1228	Survey of US History Since 1865	3	6							
91	T-PLSI 3250	Electoral Behavior/Political Parties	3	6							
92	T-PLSI 3320	Government and Politics: China	3	6							
93	T-PP 5136	Applied Public Sector Economics	4	8							
94	T-PP 5147	Asian Global Cities	4	8							
95	T-PP 5168	Public Service Leadership	4	8							
96	T-PP 5178	Leadership and Decision-Making Skills	4	8							
97	T-PPA 2008	American Government and Public Administration	3	6							
98	T-SCI 1600	Physics for Liberal Studies	3	6							
SoM											
Public Health											
99	PUBH 501	Principles of Public Health Problem Solving	3	6							

100	PUBH 511	Inferential Biostatistics	3	6						
101	PUBH 521	Principles of Analytical Epidemiology	3	6						
102	PUBH 528	Qualitative Research Methods	3	6						
103	PUBH 531	Emerging Infectious Diseases	3	6						
SSH										
Area Studies										
104	EAS 500	Introduction to Eurasia	4	8						
105	EAS 501	General Methodology	4	8						
106	EAS 503	Thesis I	7.5	15	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)					
Area Studies, Political Science and International Relations, Sociology and Anthropology										
107	SOC 514/PLS 514/EAS 506	Qualitative Research Methods	4	8						
Biological Science										
108	BIOL 101	Biology for non-Science majors	3	6		BIOL 110 Modern Biology I (1070) (C- and above)				
109	BIOL 110	Modern Biology I	3	6			1 year UG SST	SST	SHSS	
110	BIOL 230	Human Anatomy and Physiology I	4	8	BIOL 110 Modern Biology I (107) (C and above) OR BIOL 110 Modern Biology I (1070) (C and above)			Biological Sciences	SST	SHSS
111	BIOL 305	Introduction to Microbiology with Lab	4	8	BIOL 110 Modern Biology I (1070) (C and above) AND BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	SST	SHSS
112	BIOL 310	Immunology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) OR BIOL 305 Introduction to Microbiology with Lab (1642) (C and above) OR BIOL 301 Molecular Cell Biology (5809) (C and above) OR BIOL 305 Introduction to Microbiology (5789) (C and above)			Biological Sciences	SST	SHSS

113	BIOL 320	Developmental Biology with Lab	4	8	((BIOL 110 Modern Biology I (107) (C- and above) AND BIOL 110 Modern Biology I Lab (1444) (C- and above)) OR PREM 110 Pre-med Biology I with lab (1071) (C- and above) OR BIOL 110 Modern Biology I (1070) (C- and above)) AND (BIOL 120 Modern Biology II (1195) (C- and above) OR (BIOL 120 Modern Biology II (177) (C- and above) AND BIOL 120 Modern Biology II Lab (1445) (C- and above))) AND ((BIOL 220 Molecular Biology of Cell (477) (C- and above) AND BIOL 220 Molecular Biology of Cell Lab (478) (C- and above)) OR BIOL 301 Molecular Biology of Cell with Lab (1197) (C- and above) OR BIOL 231 Human Anatomy and Physiology II (479) (C- and above))			Biological Sciences	SST	SHSS	
114	BIOL 340	Introduction to Applied Bioinformatics	4	8	(BIOL 120 Modern Biology II (1195) (C and above) OR (BIOL 120 Modern Biology II (1195) (C and above) AND BIOL 120L Modern Biology II Laboratory (5443) (C and above))) AND MATH 310 Applied Statistical Methods (82) (C and above)			Biological Sciences	SST	SHSS	
115	BIOL 355	Critical Research Reasoning	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	SST	SHSS	
116	BIOL 399	Biology Internship	3	6				Through Add form only			
117	BIOL 452	Biology of Cancer	3	6	BIOL 231 Human Anatomy and Physiology II (479) (C and above) OR BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) OR BIOL 331 Human Anatomy and Physiology II (6218) (C and above) OR BIOL 301 Molecular Cell Biology (5809) (C and above)			Biological Sciences	SST	SHSS	

118	BIOL 455	Biotechnology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C- and above) OR (BIOL 301 Molecular Cell Biology (5809) (C- and above) AND BIOL 301L Molecular Cell Biology Laboratory (5678) (C- and above))			Biological Sciences	SST	SHSS	
119	BIOL 470	Advanced Cell Biology	3	6	BIOL 120 Modern Biology II (1195) (C and above) AND BIOL 110L Modern Biology I Laboratory (5448) (C and above) AND (BIOL 341 Biochemistry I (2002) (C and above) OR CHEM 341 Biochemistry I (1058) (C and above))			Biological Sciences	SST	SHSS	
120	BIOL 490	Honors Thesis Research	0	0	BIOL 355 Critical Research Reasoning (1000) (B and above)			Through Add form only			
121	BIOL 501	Fundamentals of Biological Sciences	3	6							
122	BIOL 520	Statistical Methods in Life Sciences	3	6							
123	BIOL 600	Graduate Seminar Series	3	6							
124	BIOL 635	Hot Topics in Life Sciences	3	6							
125	BIOL 670	Gene Therapy	3	6							
126	BIOL 690	Research Thesis I	6	12							
Chemistry											
127	CHEM 090	Chemistry for Non-Science majors	3	6							
128	CHEM 091	Survey of Physical Science	3	6							
129	CHEM 101	General Chemistry I	3	6				1 year UG SST	SST	SHSS	
130	CHEM 101L	General Chemistry I lab	1	2		CHEM 101 General Chemistry I (113) (C and above)		1 year UG SST	SST	SHSS	
131	CHEM 102	General Chemistry II	3	6	CHEM 101 General Chemistry I (113) (C and above)			Chemistry	SST	SHSS	

132	CHEM 102L	General Chemistry II lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 102 General Chemistry II (232) (C and above)		Chemistry	SST	SHSS	
133	CHEM 189c	Independent Study	3	6							
134	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)			Chemistry	SST	SHSS	
135	CHEM 211L	Organic Chemistry I Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 211 Organic Chemistry I (154) (C and above)		Chemistry	SST	SHSS	
136	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	SST	SHSS	
137	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	SST	SHSS	
138	CHEM 220	Quantitative Chemical Analysis	3	6	CHEM 102 General Chemistry II (232) (C and above)			Chemistry	SST	SHSS	
139	CHEM 250	Descriptive Inorganic Chemistry	3	6	CHEM 101 General Chemistry I (113) (C and above)			Chemistry	SST	SHSS	
140	CHEM 331	Physical Chemistry I	3	6	CHEM 220 Quantitative Chemical Analysis (555) (C and above) AND PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C and above)			Chemistry	SST	SHSS	
141	CHEM 331L	Physical Chemistry Lab	1	2		CHEM 331 Physical Chemistry I (634) (C and above)		Chemistry	SST	SHSS	

142	CHEM 350	Advanced Inorganic Chemistry	3	6	CHEM 212 Organic Chemistry II (443) (C and above) AND CHEM 212L Organic Chemistry II Lab (444) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)			Chemistry	SST	SHSS	
143	CHEM 410	Structural Spectroscopy	4	8	CHEM 212 Organic Chemistry II (443) (C and above)			Chemistry	SST	SHSS	
144	CHEM 431	Computational Chemistry	3	6	CHEM 332 Physical Chemistry II (1056) (C and above) AND (CSCI 111 Web Programming and Problem Solving (110) (C- and above) OR CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above))			SST			
145	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	SST	SHSS	
Communication and Composition											
146	COMM 220	Media History	3	6							
147	COMM 270	Introduction to Public Relations	3	6							
148	WCS 150	Rhetoric and Composition	3	6				1 year UG SHSS, 2 year UG SHSS	SST	3 year UG SEng Civil Engineering, SHSS	
149	WCS 230	Say What you Mean: Clarity, Precision, and Style in Academic Writing	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)						
150	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	

151	WCS 390	Writing Fellows I - Composition and Collaboration in Theory and Practice	3	6	WCS 150 Rhetoric and Composition (2183) (B and above) AND (WCS 210 Technical and Professional Writing (4881) (B+ and above) OR WCS 220 Science Writing (5686) (B+ and above) OR WCS 230 Say What you Mean: Clarity, Precision, and Style in Academic Writing (3026) (B+ and above) OR WCS 240 Writing for Digital Media (4421) (B+ and above) OR WCS 250 Advanced Rhetoric and Composition (3027) (B+ and above))			Through Add form only			
Economics											
152	ECON 101	Introduction to Microeconomics	3	6				1 year UG SHSS	2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
153	ECON 102	Introduction to Macroeconomics	3	6				1 year UG SHSS	2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
154	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))			2 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST		
155	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))			4 year UG SHSS Economics	3 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST	
156	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			

157	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)))			3 year UG SHSS Economics, 4 year UG SHSS Economics	2 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST	
158	ECON 305	Advanced Microeconomics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)	ECON 211 Economic Statistics (2280) (D and above)	ECON 398 General Special Topics in Economics (2184) (C- and above)	4 year UG SHSS Economics	3 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST	
159	ECON 320	Money and Banking	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			4 year UG SHSS Economics	3 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST	
160	ECON 321	Economic Growth	3	6	ECON 202 Intermediate Macroeconomics (207) (C- and above)			4 year UG SHSS Economics	3 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST	
161	ECON 341	Economic Simulation Modeling	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			4 year UG SHSS Economics	3 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST	
162	ECON 345	The Economics of Family	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			4 year UG SHSS Economics	3 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST	
163	ECON 399	Independent Study in Economics	3	6							
164	ECON 403	Introduction to Contract Theory and Auctions	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			4 year UG SHSS Economics	3 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST	
165	ECON 415	Industrial Organization	3	6	ECON 301 Econometrics I (664) (C- and above)			4 year UG SHSS Economics	3 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST	
166	ECON 416	Empirical Industrial Organization	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			4 year UG SHSS Economics	3 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST	

167	ECON 443	Topics in Macroeconomic Theory	3	6	ECON 202 Intermediate Macroeconomics (207) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			4 year UG SHSS Economics	3 year UG SEng Civil Engineering, SHSS, SST		
168	ECON 501	Microeconomics I	4	8							
169	ECON 502	Macroeconomics I	4	8							
170	ECON 503	Introduction to Contract Theory and Auctions	4	8							
171	ECON 511	Statistics	4	8							
172	ECON 512	Mathematical Economics	4	8							
173	ECON 516	Empirical Industrial Organization	4	8	ECON 501 Microeconomics I (2187) (C- and above) AND ECON 531 Econometrics (2505) (C- and above)						
174	ECON 532	Applied Econometrics	4	8							
175	ECON 543	Topics in Macroeconomic Theory	4	8	ECON 502 Macroeconomics I (2186) (C- and above)						
176	ECON 545	Public Finance	4	8	ECON 501 Microeconomics I (2187) (C- and above) OR ECON 413 Econometrics II Time Series (1037) (C- and above) OR ECON 531 Econometrics (2505) (C- and above)						
177	ECON 551	Topics in Microeconomic Theory	4	8	ECON 501 Microeconomics I (2187) (C- and above)						
History, Philosophy and Religious Studies											
178	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	
179	HST 123	Introduction to the History of Science and Technology	3	6				1 year UG SHSS, History	1 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST	
180	HST 124	Introduction to the History of Medicine	3	6				1 year UG SHSS, History	1 year UG SST	3 year UG SEng Civil Engineering, SHSS, SST	
181	HST 182	East Asian History II (from 1500)	3	6				1 year UG SHSS, History	3 year UG SEng Civil Engineering, SHSS, SST		

182	HST 199	Freshman Seminar	3	6				History	3 year UG SEng Civil Engineering, SHSS, SST		
183	HST 212	Coins, cotton, and cocoons: Global trade and Eurasian materiality (ca. 1500-1850)	3	6	Subject "HST" BETWEEN 100 and 199			History	3 year UG SEng Civil Engineering, SHSS, SST		
184	HST 232	Russian History from Rurik to Catherine the Great	3	6				History	3 year UG SEng Civil Engineering, SHSS, SST		
185	HST 313	From Columbus to AIDS: Sex and Disease in the Modern World	3	6				History	3 year UG SEng Civil Engineering, SHSS, SST		
186	HST 322	Technology and Modernity	3	6				3 year UG SHSS, History	4 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
187	HST 498	Directed Reading	3	6				Through Add form only			
188	PHIL 110	The Good Life in Practice	3	6				1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
189	PHIL 240	Formal Logic	3	6				SHSS	3 year UG SEng Civil Engineering, SST		
190	PHIL 320	Truth, Knowledge and Belief	3	6				SHSS	3 year UG SEng Civil Engineering, SST		
191	PHIL 360	Philosophy of Artificial Intelligence	3	6				SHSS	3 year UG SEng Civil Engineering, SST		
192	REL 410	Buddhism in Central Asia	3	6	Subject "REL" BETWEEN 100 and 199			History	3 year UG SEng Civil Engineering, SHSS, SST		
193	REL 510	Buddhism in Central Asia	4	8							
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies											
194	HST 341/REL 341	Eastern Christianity	3	6			REL 240 Christian Religious Traditions (1348) (C- and above)	History	3 year UG SEng Civil Engineering, SHSS, SST		

195	REL 320/HST 320	The Crusades	3	6	Subject "HST" BETWEEN 100 and 199			History	3 year UG SEng Civil Engineering, SHSS, SST		
History, Philosophy and Religious Studies, Languages, Literature and Linguistics											
196	WLL 102 /PHIL 102	Language, Experience, Culture	3	6				1 year UG SHSS	SHSS	3 year UG SEng Civil Engineering, SST	
History, Philosophy and Religious Studies, Sociology and Anthropology											
197	ANT 313/REL 332	Islam and Politics in Eurasia	3	6				3 year UG SHSS, 4 year UG SHSS, Anthropology, Sociology	SHSS	3 year UG SEng Civil Engineering, SST	
Kazakh Language and Turkic Studies											
198	KAZ 101	Basic Kazakh I	3	6	KLL "[A2] Basic"						
199	KAZ 111	Intermediate Kazakh I	3	6	KLL "[B1.2] Intermediate"						
200	KAZ 114	Intermediate Kazakh II	3	6	KLL ""						
201	KAZ 121	Upper-Intermediate Kazakh	3	6	KLL "[B2.2] Upper-Interm."						
202	KAZ 150	Basic Kazakh	3	6	KLL "[A2] Basic"						
203	KAZ 211	Academic Speaking in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				KAZ 212 Academic Writing in Kazakh (703) (C- and above)		
204	KAZ 212	Academic Writing in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				KAZ 211 Academic Speaking in Kazakh (702) (C- and above)		
205	KAZ 263	Business Etiquette	3	6	KLL "[B2.2] Upper-Interm." OR KLL "[C1.1] Advanced"						
206	KAZ 313	Kazakh for Business	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
207	KAZ 351	Kazakh Short Stories	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
208	KAZ 356	Kazakh Music History	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
209	KAZ 357	Literature of Alash	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
210	KAZ 362	Creative Writing in Kazakh Language	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						

211	KAZ 363	Language and Globalization	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
212	KAZ 364	Kazakh for Civil Service	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
213	KAZ 365	Abai's World	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
214	KAZ 366	Kazakh Language for Engineers	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
215	KAZ 373	Kazakh Terminology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
216	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
217	KAZ 375	Cultural Studies and Kazakh Culture	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
Kazakh Language and Turkic Studies, Languages, Literature and Linguistics											
218	LING 280/TUR 280	Introduction to Turkic Historical and Comparative Linguistics	3	6				SHSS	3 year UG SEng Civil Engineering, SST		
Languages, Literature and Linguistics											
219	CHN 101	Beginning Mandarin I	4	8				1 year UG SHSS, World Languages, Literature and Culture	1 year UG SST, 2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
220	CHN 102	Beginning Mandarin II	4	8	CHN 101 Beginning Mandarin I (1384) (C and above)			2 year UG SHSS	SHSS	3 year UG SEng Civil Engineering, SST	
221	FRE 101	Beginning French I	4	8				1 year UG SHSS, World Languages, Literature and Culture	1 year UG SST, 2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
222	FRE 201	Intermediate French I	4	8	FRE 102 Beginning French II (454) (C- and above)			SHSS	3 year UG SEng Civil Engineering, SST		
223	GER 101	Beginning German	4	8				1 year UG SHSS, World Languages, Literature and Culture	1 year UG SST, 2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	

224	LING 131	Introduction to Linguistics	3	6				1 year UG SHSS	SHSS	3 year UG SEng Civil Engineering, SST
225	LING 273	Survey of Research Methods in Linguistics	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			SHSS	3 year UG SEng Civil Engineering, SST	
226	LING 374	Language Contact in Central Asia	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			SHSS	3 year UG SEng Civil Engineering, SST	
227	SPA 101	Beginning Spanish I	4	8				1 year UG SHSS, World Languages, Literature and Culture	1 year UG SST, 2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST
228	SPA 201	Intermediate Spanish I	4	8	SPA 102 Beginning Spanish II (1128) (C- and above)			SHSS	SEng, SST	
229	WLL 101	Introduction to Critical Issues in the Humanities and Social Sciences	3	6				SHSS	SEng, SST	
230	WLL 110	Introduction to Literary Studies	3	6				1 year UG SHSS	SHSS	3 year UG SEng Civil Engineering, SST
231	WLL 111	Introduction to Theatre	3	6				1 year UG SHSS	SHSS	3 year UG SEng Civil Engineering, SST
232	WLL 155	Introduction to the Comic Book	3	6				1 year UG SHSS	SHSS	3 year UG SEng Civil Engineering, SST
233	WLL 201	World Literature I	3	6				SHSS	3 year UG SEng Civil Engineering, SST	
234	WLL 247	Survey of East Asian Literature	3	6				SHSS	3 year UG SEng Civil Engineering, SST	
235	WLL 321	Creative Writing/Theatre - Intermediate/Advanced	3	6				SHSS	3 year UG SEng Civil Engineering, SST	
236	WLL 333	Literary Modernism: Tradition and Innovation	3	6	Subject "WLL" BETWEEN 200 and 299			SHSS	3 year UG SEng Civil Engineering, SST	

237	WLL 498	Languages, Linguistics, and Literatures Capstone I	3	6				Through Add form only			
Languages, Literature and Linguistics, Languages, Literature and Linguistics											
238	SPA 258/WLL 258	Literature and The Spanish Civil War	3	6				SHSS	3 year UG SEng Civil Engineering, SST		
239	SPA 260/WLL 260	The Spanish American Short Story	3	6	Subject "WLL" BETWEEN 100 and 199			SHSS	3 year UG SEng Civil Engineering, SST		
240	SPA 281/WLL 281	Survey of 20th Century Spanish Literature	3	6				SHSS	3 year UG SEng Civil Engineering, SST		
241	SPA 351/WLL 351	Literature and Film of the Postcolonial World	3	6	Subject "WLL" BETWEEN 200 and 299			SHSS	3 year UG SEng Civil Engineering, SST		
Languages, Literature and Linguistics, Sociology and Anthropology											
242	ANT 277/WLL 271	Language and Society	3	6				1 year UG SHSS, 2 year UG SHSS, Anthropology	SHSS	3 year UG SEng Civil Engineering, SST	
Mathematics											
243	MATH 109	Mathematical Discovery	3	6			MATH 161 Calculus I (118) (C- and above)	SHSS	SST		
244	MATH 161	Calculus I	4	8				1 year UG SST	SST	SHSS	
245	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			3 year UG SHSS, 4 year UG SHSS, SST	SHSS		
246	MATH 251	Discrete Mathematics	3	6	MATH 161 Calculus I (118) (C and above)			Computer Science, Physics, Robotics and Mechatronics, Undeclared	Mathematics, SHSS		
247	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			4 year UG SHSS, SST	SHSS		
248	MATH 273	Linear Algebra with Applications	4	8	MATH 161 Calculus I (118) (C and above)	MATH 162 Calculus II (170) (C and above)		4 year UG SHSS, SST	SHSS		
249	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			4 year UG SHSS, SST	SHSS		

250	MATH 301	Introduction to Number Theory	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			Mathematics	SHSS, SST		
251	MATH 302	Abstract Algebra I	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			Mathematics	SHSS, SST		
252	MATH 310	Applied Statistical Methods	3	6	MATH 161 Calculus I (118) (C and above)		MATH 321 Probability (482) (C and above)	2 year UG SST Biological Sciences, 2 year UG SST Computer Science, 3 year UG SST Biological Sciences, 3 year UG SST Computer Science, 4 year UG SST Biological Sciences, 4 year UG SST Computer Science	Mathematics, SHSS		
253	MATH 321	Probability	3	6	MATH 162 Calculus II (170) (C and above)		ECON 211 Economic Statistics (2280) (C- and above) OR PLS 211 Quantitative Methods (221) (C- and above)	4 year UG SHSS, Computer Science, Mathematics	SHSS, SST		
254	MATH 351	Numerical Methods with Applications	3	6	MATH 274 Introduction to Differential Equations (484) (C and above) AND MATH 263 Calculus III (81) (C and above)		ENG 202 Numerical Methods in Engineering (5506) (C and above)	Mathematics	SHSS, SST		
255	MATH 361	Real Analysis I	3	6	MATH 263 Calculus III (81) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			Mathematics	SHSS, SST		
256	MATH 399	Internship	3	6							

257	MATH 411	Linear Programming	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 263 Calculus III (81) (C and above)			Mathematics	SHSS, SST		
258	MATH 425	Stochastic Processes	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			Mathematics	SHSS, SST		
259	MATH 440	Regression Analysis	3	6	MATH 322 Mathematical Statistics (1165) (C and above)		SOC 203 Quantitative Methods in Sociology (1377) (C and above) OR PLS 211 Quantitative Methods (221) (C and above)	Mathematics	SHSS, SST		
260	MATH 449	Statistical Programming	3	6	MATH 322 Mathematical Statistics (1165) (C and above)			Mathematics	SHSS, SST		
261	MATH 471	Nonlinear Differential Equations	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above)			Mathematics	SHSS, SST		
262	MATH 480	Complex Analysis	3	6	MATH 263 Calculus III (81) (C and above)			Mathematics	SHSS, SST		
263	MATH 481	Partial Differential Equations	3	6	MATH 274 Introduction to Differential Equations (484) (C and above)	MATH 480 Complex Analysis (618) (C and above)		Mathematics	SST	SHSS	
Physics											
264	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	
265	PHYS 201	Introductory Astronomy I	3	6				Physics	SHSS, SST		

266	PHYS 221	Classical Mechanics I	3	6	(PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above)) AND MATH 273 Linear Algebra with Applications (84) (C- and above)		Physics	SHSS, SST		
267	PHYS 261	Modern Physics with laboratory	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 152 Introductory Physics II with Lab (1176) (C- and above) OR PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))		Physics	SHSS, SST		
268	PHYS 361	Classical Electrodynamics I	3	6		PHYS 315 Mathematical Methods of Physics (653) (D and above) OR PHYS 411 Advanced Mathematical Physics (3142) (D and above)	Physics	SHSS, SST		
269	PHYS 411	Advanced Mathematical Physics	3	6	MATH 274 Introduction to Differential Equations (484) (C- and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)		Physics	SST	SHSS	
270	PHYS 452	Quantum Mechanics II	3	6	PHYS 451 Quantum Mechanics I (1415) (C- and above)		Physics	SHSS, SST		
271	PHYS 465	Advanced Experimental Physics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)		Physics	SHSS, SST		

272	PHYS 473	Introduction to Solid State Physics	4	8	PHYS 261 Modern Physics with laboratory (125) (C- and above) OR CHEM 331 Physical Chemistry I (634) (C- and above) OR MAE 301 Engineering Thermodynamics (5927) (C- and above) OR CHME 201 Chemical Engineering Thermodynamics (5007) (C- and above) OR ELCE 204 Solid State Devices (5508) (C- and above)			Physics	SHSS, SST		
273	PHYS 491	Directed Study of Advanced Physics Topics	3	6				Through Add form only			
274	PHYS 505	Classical Mechanics	3	6							
275	PHYS 511	Computational Modeling and Simulation	3	6							
276	PHYS 515	Classical Electrodynamics	3	6							
277	PHYS 530	Solid State Physics	4	8							
278	PHYS 545	Advanced Instrumentation Methods	3	6							
279	PHYS 550	Advanced Mathematical Physics	3	6							
280	SST 501	Teaching and Learning	3	6							
Political Science and International Relations											
281	PLS 101	Introduction to Political Science	3	6				1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST		
282	PLS 120	Introduction to Political Theory	3	6				1 year UG SHSS	Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
283	PLS 140	Introduction to Comparative Politics	3	6				1 year UG SHSS	Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
284	PLS 150	Introduction to International Relations	3	6				1 year UG SHSS	Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST	
285	PLS 210	Political Science Research Methods	3	6				Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST		

286	PLS 211	Quantitative Methods	3	6		ECON 211 Economic Statistics (2280) (C- and above)	Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST		
287	PLS 315	Political Game Theory	3	6	PLS 211 Quantitative Methods (221) (C- and above) OR ECON 101 Introduction to Microeconomics (379) (C and above)		Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST		
288	PLS 325	Ancient Political Theory	3	6	PLS 120 Introduction to Political Theory (512) (C- and above)		Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST		
289	PLS 340	Politics of East Asia	3	6	PLS 210 Political Science Research Methods (129) (C- and above)		Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST		
290	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)		Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST		
291	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)		Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST		
292	PLS 412	Scientific Research 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)		Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST		
293	PLS 415	Maximum Likelihood Models	3	6	PLS 210 Political Science Research Methods (129) (C- and above) OR PLS 211 Quantitative Methods (221) (C- and above)		Political Science and International Relations	3 year UG SEng Civil Engineering, SHSS, SST		
294	PLS 432	Comparative Democratization	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	
295	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)		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 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	
297	PLS 465	Politics of International Finance	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			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 469	International Relations of Eurasia	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	
299	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)						
300	PLS 511	Advanced Research I	4	8							
301	PLS 512	Scientific Research in International Relations	4	8	PLS 511 Advanced Research I (1631) (C- and above) AND PLS 510 Advanced Research I (1946) (C- and above) AND PLS 550 Core Seminar in IR (1372) (C- and above)						
302	PLS 515	Maximum Likelihood Models	4	8	PLS 510 Advanced Research I (1946) (C- and above)						
303	PLS 532	Comparative Democratization	4	8	PLS 540 Core Seminar in Comparative Politics (1374) (C- and above)						
304	PLS 540	Core Seminar in Comparative Politics	4	8							
305	PLS 541	Advanced Topics in Comparative Politics	4	8							
306	PLS 550	Core Seminar in IR	4	8							
307	PLS 551	Advanced Topics in International Relations	4	8							
308	PLS 565	Politics of International Finance	4	8							
309	PLS 569	International Relations of Eurasia	4	8							
310	PLS 597	Research for Thesis	6	12							
SSH											
311	SSH 301	School of Sciences and Humanities Internship: Second Experience	3	6				Through Add form only			

Sociology and Anthropology

312	ANT 101	Being Human: An Introduction to Four Field Anthropology	3	6				1 year UG SHSS, Anthropology	2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
313	ANT 110	Introduction to Sociocultural Anthropology	3	6				1 year UG SHSS, Anthropology	2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
314	ANT 140	World Prehistory	3	6				1 year UG SHSS, Anthropology	2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
315	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	2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
316	ANT 232	Life, Death and Economy: Archaeology of Central Asia	3	6				2 year UG SHSS, Anthropology	1 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
317	ANT 399	Special Topics in Anthropology	3	6				3 year UG SHSS, 4 year UG SHSS, Anthropology, Sociology	SHSS	3 year UG SEng Civil Engineering, SST	
318	ANT 400	Research Assistance in Anthropology	1	2				Through Add form only			
319	SOC 101	Introduction to Sociology	3	6				1 year UG SHSS, 2 year UG SHSS	SHSS	3 year UG SEng Civil Engineering, SST	
320	SOC 115	Global Social Problems	3	6				1 year UG SHSS, Sociology	2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
321	SOC 203	Quantitative Methods in Sociology	3	6				Anthropology, Sociology	SHSS	3 year UG SEng Civil Engineering, SST	
322	SOC 221	International Migration	3	6				Sociology	SHSS	3 year UG SEng Civil Engineering, SST	

323	SOC 301	Classical Sociological Theory	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above) OR ANT 110 Introduction to Sociocultural Anthropology (501) (C- and above)			Anthropology, Sociology	3 year UG SHSS, 4 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
324	SOC 310	Social Inequality	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above)			Anthropology, Sociology	3 year UG SHSS, 4 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
325	SOC 314	Organizations and Society	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above)			Anthropology, Sociology	SHSS	3 year UG SEng Civil Engineering, SST	
326	SOC 317	Economy and Society	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR Subject "SOC" BETWEEN 200 and 299 OR Subject "SOC" BETWEEN 200 and 299 OR ECON 102 Introduction to Macroeconomics (503) (C- and above) OR PLS 120 Introduction to Political Theory (512) (C- and above) OR PLS 150 Introduction to International Relations (511) (C- and above)			Sociology	Economics	3 year UG SEng Civil Engineering, SHSS, SST	
327	SOC 399	Special Topics in Sociology	3	6				Anthropology, Sociology	3 year UG SHSS, 4 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
328	SOC 400	Research Assistance in Sociology	1	2				Through Add form only			
Sociology and Anthropology, Sociology and Anthropology											
329	ANT 216/SOC 216	Marriage and Kinship	3	6				1 year UG SHSS, 2 year UG SHSS, Anthropology	SHSS	3 year UG SEng Civil Engineering, SST	
330	SOC 212/ANT 285	Food and Society	3	6				Anthropology, Sociology	1 year UG SHSS, 2 year UG SHSS	3 year UG SEng Civil Engineering, SHSS, SST	
SEDS											
Chemical Engineering											
331	MCHE 613	Physical Chemistry of Oil & Gas	1.5	3							

332	MCHE 614	Applied Chemical Engineering Thermodynamics	1.5	3							
333	MCHE 615	Advanced Unit Operations	1.5	3							
334	MCHE 616	Advanced Chemical Reactor Engineering	1.5	3	ECHE 481 Chemical Reaction Engineering (1985) (D and above)						
335	MCHE 618	Plant Economics and Planning	1.5	3							
336	MCHE 619	Safety Engineering and Loss Prevention	1.5	3							
Chemical and Materials Engineering											
337	ECHE 126	Introduction to Chemical Engineering	3	6							
338	ECHE 222	Chemistry I	3	6							
339	ECHE 319	Chemical Engineering Thermodynamics	3	6							
340	ECHE 321	Chemistry II	3	6							
341	ECHE 331	Process Control and Optimization	3	6							
342	ECHE 333	Separation Processes-I	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above)						
343	ECHE 369	Transport Phenomena-II	3	6							
344	ECHE 418	Capstone project 1	3	6	ECHE 323 Computational methods in Chemical Engineering-I (1272) (D and above)						
345	ECHE 419	Advanced Process Simulation	3	6	ECHE 323 Computational methods in Chemical Engineering-I (1272) (D and above)						
346	ECHE 482	Computational Methods in Chemical Engineering-II	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above) AND ECHE 333 Separation Processes-I (1271) (D and above) AND ECHE 383 Separation Processes II (1982) (D and above) AND ECHE 481 Chemical Reaction Engineering (1985) (D and above) AND ECHE 323 Computational methods in Chemical Engineering-I (1272) (D and above)						

347	ECHE 484	Multiphase Systems	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above) AND ECHE 270 Transport Phenomena-I (735) (D and above)						
Civil Engineering											
348	MCE 601	Sustainable Development	3	6							
349	MCE 604	Advanced Project Management	3	6							
350	MCE 606	Environmental Impacts and Assessments	3	6							
351	MSC 615	Advanced Statistics and Probability	3	6							
352	MSC 616	Research Methods	3	6							
Civil and Environmental Engineering											
353	ECE 215	Surveying	3	6							
354	ECE 216	Civil Engineering CAD	3	6							
355	ECE 217	Structural Analysis I	3	6	BENG 117 Engineering Mechanics (740) (D and above)						
356	ECE 300	Hydraulic Systems	3	6							
357	ECE 303	Construction Management and Practice	3	6	BENG 148 Engineering Practice (1073) (D and above)						
358	ECE 307	Engineering Geology and Rock Mechanics	3	6							
359	ECE 314	Structural Engineering Applications I	3	6	ECE 213 Structural Engineering Analysis (863) (D and above) OR ECE 217 Structural Analysis I (3156) (D and above)						
360	ECE 401	Capstone Project 1	3	6							
361	ECE 404	Construction Technologies and Processes	3	6	BENG 148 Engineering Practice (1073) (D and above) AND ECE 302 Civil Engineering Materials (1040) (D and above)						
362	ECE 416	Highway Engineering	3	6	ECE 302 Civil Engineering Materials (1040) (D and above)						
363	ECE 473	Environmental Systems	3	6							
364	EMEM 502	Decision Models	1.5	3							
365	EMEM 505	Operations Management	1.5	3							

366	EMEM 507	Project Management	3	6							
367	EMEM 509	Systems Engineering	3	6							
368	EMEM 513	Entrepreneurship	2	4							
369	EMEM 519	Product Development	1.5	3							
370	EMEM 522	Quality Management	1.5	3							
371	EMEM 523	Supply Chain Management	3	6							
372	EMEM 528	Information Systems Mananagement	1.5	3							
373	EMEM 530	Technology Assessment	1.5	3							
374	EMEM 533	Engineering Management and Engineering Economy	3	6							
Computer Science											
375	CSCI 151	Programming for Scientists and Engineers	4	8			CSCI 111 Web Programming and Problem Solving (110) (D and above) OR CSCI 115 Programming Fundamentals (5257) (D and above) OR ENG 101 Programming for Engineers (4517) (B- and above)	1 year UG SST	SST	SHSS	
376	CSCI 231	Computer Systems and Organization	3	6		CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR ENG 100 Introduction to Engineering (4518) (B- and above)	Computer Science	SST	SHSS		
377	CSCI 262	Software Project Management	3	6		CSCI 152 Performance and Data Structures (489) (C- and above)	Computer Science	SST	SHSS		
378	CSCI 281	Human-Computer Interaction	3	6		CSCI 152 Performance and Data Structures (489) (C- and above)	Computer Science	SST	SHSS		
379	CSCI 325	Introduction to Parallel Systems and Graphics Processing Unit Programming	3	6		CSCI 332 Operating Systems (490) (C- and above)	Computer Science	SST	SHSS		

380	CSCI 330	Mobile Computing	3	6	CSCI 332 Operating Systems (490) (C- and above)			Computer Science	SST	SHSS	
381	CSCI 341	Database Systems	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science	SST	SHSS	
382	CSCI 361	Software Engineering	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science	SST	SHSS	
383	CSCI 390	Artificial Intelligence	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science	SST	SHSS	
384	CSCI 398	Directed Study	3	6							
385	CSCI 408	Senior Project I	3	6				CS major only			
386	CSCI 434	Information Security	3	6		CSCI 333 Computer Networks (1145) (D and above)		Computer Science	SST	SHSS	
387	CSCI 471	Complexity and Computability	3	6	MATH 251 Discrete Mathematics (85) (C- and above)			Computer Science	SST	SHSS	
388	CSCI 501	Software Principles and Practice	3	6							
389	CSCI 525	Quantum Computing	3	6							
390	CSCI 531	Distributed Systems	3	6							
391	CSCI 545	Big Data Analytics	3	6							
392	CSCI 693	Thesis Proposal	3	6	SEDS 591 Research Methods (3184) (C- and above)						
393	SEDS 503	Laboratory Practicum	3	6	SEDS 502 Teaching Practicum (2824) (P)						
394	SEDS 591	Research Methods	3	6							
Electrical and Computer Engineering											
395	EEE 238	Digital Signal and Image Processing	3	6							
396	EEE 250	Microelectronic Devices and Circuits	3	6	BENG 114 Introduction to Electrical Systems (1076) (D and above)						
397	EEE 251	Electronic Engineering Design Principles	3	6	BENG 114 Introduction to Electrical Systems (1076) (D and above)						
398	EEE 341	Digital Electronic System Design	3	6							

399	EEE 342	Electromagnetics	3	6						
400	EEE 343	Embedded Microcontrollers	3	6						
401	EEE 345	Power Electronics	3	6						
402	EEE 382	Antennas and Propagation	3	6						
403	EEE 435	Digital Communications	3	6						
404	EEE 437	Capstone Project 1	3	6						
405	EEE 448	Power Transmission and Distribution plants	3	6						
406	EEE 450	RF and Microwave Circuit Design	3	6						
407	EEE 451	High Voltage Engineering	3	6						
408	EEE 452	Power Systems Protection	3	6						
Electrical and Electronic Engineering										
409	MEE 600	MSc Thesis in Electrical and Electronics Engineering	15	30						
410	MEE 607	Statistical Signal Processing	3	6						
411	MEE 608	Special Topics in Circuits Theory	3	6						
Information and Communication Technologies										
412	EICT 754	Information Theory for Communications	3	6						
Mechanical Engineering										
413	MME 600	Master Thesis in Mechanical Engineering	15	30						
414	MME 604	Engineering Mathematics	3	6						
415	MME 605	Numerical Techniques for Engineers	3	6						
416	MME 606	Advanced Control Systems	3	6						
Mechanical and Aerospace Engineering										
417	EME 253	Computer Aided Engineering	3	6						
418	EME 254	Mechanics of Materials	3	6						
419	EME 352	Computational Fluid Dynamics	3	6						
420	EME 357	Fluid Mechanics II	3	6						
421	EME 358	Heat Transfer	3	6	BENG 226 Engineering Thermodynamics (1553) (D and above) AND EME 275 Fluid Mechanics I (1988) (D and above)					

422	EME 361	Machine Design	3	6						
423	EME 451	Capstone Project 1	3	6						
424	EME 464	Materials and Manufacturing I	3	6						
425	EME 467	Vehicle Propulsion Systems	3	6						
426	EME 485	Applied Statistics and Probability	3	6	EME 485 Applied Statistics and Probability (2236) (D and above)					
427	EME 486	Oscillation of Mechanical Systems	3	6						
Robotics and Mechatronics										
428	ROBT 201	Mechanics: Statics and Dynamics	3	6	MATH 162 Calculus II (170) (C- and above) AND (PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C- and above) OR PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above))			Robotics and Mechatronics	SST	SHSS
429	ROBT 203	Electrical and Electronic Circuits I with Lab	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above) OR (PHYS 141 Physics I for non-majors with Lab (1437) (C- and above) AND PHYS 142 Physics II for non-majors with Lab (1438) (C- and above)))			Robotics and Mechatronics	SST	SHSS
430	ROBT 205	Signals and Sensing with Lab	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			Robotics and Mechatronics	SST	SHSS
431	ROBT 301	Mechanical Design I with CAD Laboratory	4	8	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above)			Robotics and Mechatronics	SST	SHSS

432	ROBT 303	Linear Control Theory with Lab	4	8	ROBT 202 System Dynamics and Modeling (68) (C- and above) AND MATH 274 Introduction to Differential Equations (484) (C- and above)			Robotics and Mechatronics	SST	SHSS	
433	ROBT 305	Embedded Systems	3	6	ROBT 206 Microcontrollers with Lab (476) (C- and above)			Robotics and Mechatronics	SST	SHSS	
434	ROBT 307	Power Electronics	3	6	ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above)			Robotics and Mechatronics	SST	SHSS	
435	ROBT 401	Robot Dynamics and Control	3	6	ROBT 303 Linear Control Theory with Lab (623) (C- and above)			Robotics and Mechatronics	SST	SHSS	
436	ROBT 407	Statistical Methods and Machine Learning	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 321 Probability (482) (C and above) AND CSCI 152 Performance and Data Structures (489) (C and above)			Robotics and Mechatronics	SST	SHSS	
437	ROBT 501	Robot Manipulation and Mobility	3	6							
438	ROBT 503	Dynamic Systems and Control	3	6							
439	ROBT 605	Robotic Motion Planning	3	6	ROBT 501 Robot Manipulation and Mobility (2263) (C- and above) AND CSCI 501 Software Principles and Practice (2408) (C- and above)						
440	ROBT 611	Industrial Robotics	3	6	ROBT 501 Robot Manipulation and Mobility (2263) (C- and above) AND CSCI 501 Software Principles and Practice (2408) (C- and above)						
School of Engineering											
441	BENG 117	Engineering Mechanics	3	6							
442	BENG 124	Engineering Mathematics I	3	6							
443	BENG 145	Occupal and Environment Health and Safety	3	6							
444	BENG 146	Programming for Engineers	3	6							
445	BENG 201	Engineering Economy	3	6							

446	BENG 215	Sensors and Actuators	3	6							
447	BENG 221	Engineering Materials	3	6							
448	BENG 228	Engineering Mathematics III	3	6	BENG 124 Engineering Mathematics I (101) (D and above) AND BENG 225 Engineering Mathematics II (48) (D and above)						
449	BENG 405	Project Management	3	6							
450	DENG 782	Research Methods and Ethics	3	6							
451	DENG 784	Doctoral Proposal I	0	6							
452	DENG 785	PhD Proposal Oral Defence	0	0							
453	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)						