Course Requirements and Registration Priorities
Spring 2019

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
SHSS											
Kazakh Language and Turkic Studies											
1	KAZ 358	Technique of Translation	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"						
CPS											
GSPP											
2	ZEST 061	Basic Economics and Statistics	0	0							
Mathematics											
3	MATH 500Z	Linear Algebra with Applications	0	0							
NUFYP											
4	FBIO 011	Introduction to Biology	0	0							
5	FBUS 011	Introduction to Business	0	0							
6	FCHM 011	Introduction to Chemistry	0	0							
7	FEAP 020	Foundation English for Academic Purposes 2	0	0							
8	FGEO 011	Introduction to Geography	0	0							
9	FHUM 011	Introduction to Humanities and Social Science	0	0							
10	FMAT 020	Foundation 'Statistics'	0	0							
11	FMAT 030	Mathematics for Life Sciences (Biology And Chemistry)	0	0							
12	FMAT 040	Mathematics for Physical Sciences	0	0							
13	FPHY 011	Introduction to Physics	0	0							
NUZYP											
14	ZCOM 041	Academic Communications for Graduate Studies II	0	0							
15	ZRDG 031	Academic Reading for Graduate Studies II	0	0							
16	ZWRT 021	Academic Writing for Graduate Studies II	0	0							
Sociology and Anthropology											
17	SOC 201Z	Social Science Research Methods	0	0							
GSB											
Economics											
18	ECON 101	Introduction to Microeconomics	3	6				1 year UG SHSS	2 year UG SHSS	SEng, SHSS, SMG, SST	
19	ECON 102	Introduction to Macroeconomics	3	6				1 year UG SHSS	2 year UG SHSS	SEng, SHSS, SMG, SST	
20	ECON 201	Intermediate Microeconomics	3	6	ECON 101 Introduction to Microeconomics (379) (B- and above) AND (MATH 161 Calculus I (118) (B- and above) OR MATH 162 Calculus II (170) (B- and above))			Economics	SHSS	SEng, SMG, SST	

21	ECON 202	Intermediate Macroeconomics	3	6	ECON 102 Introduction to Macroeconomics (503) (B- and above) AND (MATH 161 Calculus I (118) (B- and above) OR MATH 162 Calculus II (170) (B- and above))			Economics	SHSS	SEng, SMG, SST	
22	ECON 211	Economic Statistics	3	6	ECON 101 Introduction to Microeconomics (379) (C and above) OR ECON 102 Introduction to Macroeconomics (503) (C and above)			Economics	SHSS	SEng, SMG, SST	
23	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) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR CSCI 235 Programming Languages (638) (C- and above) OR CSCI 390 Artificial Intelligence (643) (C- and above) OR MATH 321 Probability (482) (C- and above) OR MATH 322 Mathematical Statistics (1165) (C- and above)			Through Add Form Only			
24	ECON 321	Economic Growth	3	6	ECON 202 Intermediate Macroeconomics (207) (C- and above)			Economics	SHSS	SEng, SMG, SST	
25	ECON 332	Urban Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics	SHSS	SEng, SMG, SST	
26	ECON 345	The Economics of Family	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics	SHSS	SEng, SMG, SST	
27	ECON 413	Econometrics II	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics	SHSS	SEng, SMG, SST	
28	ECON 415	Industrial Organization	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics	SHSS	SEng, SMG, SST	
29	ECON 428	Wages and the Labor Market	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics	SHSS	SEng, SMG, SST	
30	ECON 515	Industrial Organization	4	8	ECON 531 Econometrics (2505) (C- and above)			1 year Gr SHSS Economics, 2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
31	ECON 521	Microeconomic Theory II	4	8	ECON 501 Microeconomics (2187) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)			1 year Gr SHSS Economics, 2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
32	ECON 522	Macroeconomics II	4	8	() (and above)			1 year Gr SHSS Economics, 2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
33	ECON 524	Research Methodology	4	8	ECON 501 Microeconomics (2187) (C- and above) AND ECON 502 Macroeconomics (2186) (C- and above) AND ECON 511 Mathematics and Statistics (2188) (C- and above)	ECON 531 Econometrics (2505) (D and above)		1 year Gr SHSS Economics, 2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
34	ECON 531	Econometrics	4	8	ECON 511 Mathematics and Statistics (2188) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)			1 year Gr SHSS Economics, 2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
35	ECON 590	Thesis II	8	16	ECON 589 Thesis I (3714) (P)			1 year Gr SHSS Economics, 2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
GSB											
36	GSBF 512	Principles of Finance	2	4							
37	GSBF 513	Financial Econometrics	2	4							
38	GSBF 514	Corporate Finance	2	4							
39	GSBF 515a	Investments I	2	4							
40	GSBF 515b	Investments II	2	4	GSBF 515a Investments I (4106) (C- and above)						
41	GSBF 517	Financial Economics	2	4							
42	GSBF 520	Empirical Asset Pricing	2	4							
43	GSBF 541	Global Finance Experience Residency (I)	2	4							
44	MBA 08	Managerial Economics	2	4							
45	MBA 10	Foundations of Strategy	2	4							

46	MBA 11	Managerial Accounting	2	4								
47	MBA 12	Operations Management	2	4								
48	MBA 13	Macroeconomics	2	4								
49	MBA 15	Corporate Finance	2	4								
50	MBA 16	Entrepreneurship	2	4								
51	MBA 17	Negotiations	2	4								
52	MBAE 13	Raising Capital	2	4								
53	MSF 06	Credit Risk Modeling	2	4								
GSPP												
Master in Public Administration												
54	MPA 608	Strategic Management and Leadership	4	8				Public Administration				
55	MPA 610	National Identity and Public Policy	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
56	MPA 611	Benefit Cost Analysis	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
57	MPA 699	Master's Project with Overseas Component	0	0				Public Administration				
58	MPP 627	Environmental Economics and Public Policy	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
59	MPP 638	Terrorism and Counterterrorism Policy	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
60	MPP 643	Marketing Public Policy	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
61	MPP 663	Applied Public Economics and Finance	4	8	MPP 601 Microeconomics and Public Policy (1449) (B- and above) OR MPA 603 Economic Applications for Public Managers (2074) (B- and above)			GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM			
62	MPP 671	Game Theory and Public Policy	4	8				GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM			
63	MPP 681	Natural Resource Management and Policy	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
64	MPP 682	Sustainable Development and Environmental Governance	4	8				GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM			
Master in Public Policy												
65	MPP 602	Macroeconomics and Public Policy	4	8				Public Policy				
66	MPP 613	Public Policy Research Design and Analysis	4	8				Public Policy				
67	MPP 641	Public Management and Leadership	4	8				Public Policy				
68	MPP 685	Urban Planning and Public Policy	4	8				Public Administration	Public Policy	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
69	MPP 699	Policy Analysis Exercise with Singapore Component	4	8	MPP 601 Microeconomics and Public Policy (1449) (C- and above) AND MPP 611 Statistics for Public Policy (1450) (C- and above) AND MPP 613 Policy Research Design and Methods (1301) (C- and above) AND MPP 621 Public Policy and Analysis (1451) (C- and above)			Public Policy				
PhD in Public Policy												
70	DPP 602	Macroeconomics in Public Sector	4	8				Public Policy				
71	DPP 613	Research Design (qualitative and quantitative)	4	8				Public Policy				
72	DPP 615	Governance and Public Policy	4	8				Public Policy				
73	DPP 631	Politics of Public Policy	4	8				Public Policy				

74	DPP 689-0	PhD Qualifying Examination: Core Exam	6	12				Public Policy			
75	DPP 699	Thesis Design and Written Proposal	6	12				Public Policy			
GSE												
MA in Multilingual Education												
76	EDML 611	Plurilingual Individual	3	6				1 year GSE MA in Multil.Education			
77	EDML 612	Multilingual Society	3	6				1 year GSE MA in Multil.Education			
78	EDML 614	Multilingual curriculum development and assessment	3	6				2 year GSE MA in Multil.Education			
79	EDML 620	Language and Literacy Development	3	6				Multilingual Education			
80	EDML 691	Thesis Research II	6	12				2 year GSE MA in Multil.Education			
MSc Educational Leadership HE												
81	EDHE 665	Comparative Higher Education	3	6				Retake Course			
82	EDHE 692	Thesis Seminar III	4.5	9				2 year GSE Educ.Leadership			
83	EDUC 506	Academic English II	1.5	3				1 year GSE Educ.Leadership			
84	EDUC 508	Academic English IV	1.5	3				2 year GSE Educ.Leadership			
85	EDUC 511	Advanced English for Education Professionals II	3	6				1 year GSE MA in Multil.Education			
86	EDUC 513	English for Thesis Writing II	3	6				2 year GSE MA in Multil.Education			
87	EDUC 571	Basic Kazakh	3	6				1 year GSE MA in Multil.Education, 1 year GSE PhD Education			
88	EDUC 572	Kazakh for Professional Purposes	3	6				GSE			
89	EDUC 573	Academic Writing in Kazakh	3	6				Education, Multilingual Education			
90	EDUC 600	Research Methods II	3	6				1 year GSE Educ.Leadership, 1 year GSE MA in Multil.Education			
91	EDUC 670	Internship Project	6	12				1 year GSE Educ.Leadership			
92	EDUC 671	Work-based project	6	12				1 year GSE Educ.Leadership			
93	EDUC 675	Learning to Work	4.5	9				2 year GSE Educ.Leadership			
94	EDUC 704	Advanced Methods of Education Research	3	6				1 year GSE PhD Education			
95	EDUC 705	Advanced Methods of Education Research: Qualitative Methods	3	6				1 year GSE PhD Education			
96	EDUC 711	Globalisation and Education	3	6				1 year GSE PhD Education			
97	EDUC 730	Preparation for Proposal Defence I	6	12				1 year GSE PhD Education			
98	EDUC 731	Proposal Defence	3	6				2 Year PhD in Education only. Registration by School Office			
99	EDUC 740	Doctoral Seminar	3	6				2 Yr PhD in Education only. Registration by School Office			
100	EDUC 750	Dissertation Research	9	18				Yr 2, 3 PhD in Education only. Registration by School Office			
MSc Educational Leadership IE												
101	EDIE 692	Thesis Seminar III	4.5	9				2 year GSE Educ.Leadership			

MSc Educational Leadership SE											
102	EDSE 620	Perspectives on Inclusive Education	3	6				2 year GSE MA in Multil.Education			
103	EDSE 692	Thesis Seminar III	4.5	9				2 year GSE Educ.Leadership			
Other											
Other											
104	T - 19020	History of America	3	6							
105	T - 19185	Human Rights: Contemporary issues	3	6							
106	T - 19186	Seminar in Geopolitics	3	6							
107	T - 19405	Language Teaching (English)	3	6							
108	T - 009AM 16	Managerial Decision Making	3	6							
109	T - 032AM 16	Project Management: Managerial Approach	3	6							
110	T - UES 15	Political Analysis	3	6							
111	T-EE 4220	Problstc Sig and Sys	3	6							
112	T-EE 4360	VLSI Design	3	6							
113	T-EE 4390	Microprocessors	3	6							
114	T-EE 4621	Auto Control Systems	3	6							
115	T-PO 323	Urban & Metropolitan Politics	3	6							
116	T-PO 407	Contemporary Political Thought	3	6							
117	T-SO 101	Introduction to Sociology	3	6							
118	T-SO 202	Social Problems	3	6							
SoM											
Biological Science											
119	BIOL 101	Biology for non-Science majors	3	6			BIOL 110 Modern Biology I (1070) (C- and above)	SHSS			
120	BIOL 120	Modern Biology II with Lab	4	8	BIOL 110 Modern Biology I (1070) (C and above)			Biological Sciences, Chemistry	SST	SHSS	
121	BIOL 231	Human Anatomy and Physiology II	4	8	BIOL 230 Human Anatomy and Physiology I (72) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
122	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 Lab (1445) (C and above) OR BIOL 120L Modern Biology II Laboratory (5443) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
123	BIOL 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
124	BIOL 341L	Biochemistry I Lab	1	2		BIOL 341 Biochemistry I (2002) (C and above)		Biological Sciences	SST	SEng, SHSS, SMG	
125	BIOL 370	Genetics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
126	BIOL 420	Bioethics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			3 year UG SST Biological Sciences, 3 year UG SST Chemistry, 4 year UG SST Biological Sciences, 4 year UG SST Chemistry			

127	BIOL 430	Histology with laboratory	4	8	BIOL 230 Human Anatomy and Physiology I (72) (C and above) OR BIOL 230 Human Anatomy and Physiology I (6217) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
128	BIOL 440	Neuroscience	3	6	BIOL 230 Human Anatomy and Physiology I (72) (C and above) OR BIOL 230 Human Anatomy and Physiology I (6217) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
129	BIOL 450	Food Microbiology	3	6	BIOL 305 Introduction to Microbiology with Lab (1642) (C and above) OR BIOL 305 Introduction to Microbiology (5789) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
130	BIOL 450L	Food Microbiology Lab	1	2	BIOL 305 Introduction to Microbiology with Lab (1642) (C and above) OR BIOL 305 Introduction to Microbiology (5789) (C and above)	BIOL 450 Food Microbiology (4609) (C and above)		Biological Sciences	SST	SEng, SHSS, SMG	
131	BIOL 456	Biology Research Design	3	6		BIOL 355 Critical Research Reasoning (1000) (C and above)		Biological Sciences	SST	SEng, SHSS, SMG	
132	BIOL 471	Light and Electron microscopy concepts and techniques	3	6	BIOL 110 Modern Biology I (1070) (C and above) AND BIOL 120 Modern Biology II (1195) (C and above) AND CHEM 101 General Chemistry I (113) (C and above) AND PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
133	BIOL 471L	Light and Electron Microscopy Concepts and Techniques-Lab	1	2		BIOL 471 Light and Electron microscopy concepts and techniques (4686) (C and above)		Biological Sciences	SST	SEng, SHSS, SMG	
134	BIOL 480	Molecular Immunology	3	6	BIOL 341 Biochemistry I (2002) (C and above) AND BIOL 310 Immunology (628) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG	
135	BIOL 491	Graduation Project 2	4	8	BIOL 490 Honors Thesis Research (1581) (C and above)			Through Add Course form only			
136	BIOL 492	Directed study in Biology	3	6				Biological Sciences	SST	SEng, SHSS, SMG	
137	BIOL 570	Advanced Biotechnology	3	6				Biological Sciences	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
138	BIOL 580	Applied Bioinformatics	3	6	BIOL 520 Statistical Methods in Life Sciences (1203) (C and above)			Biological Sciences	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
139	BIOL 591	Cellular Biophysics	3	6				Biological Sciences	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
140	BIOL 600	Graduate Seminar Series	3	6				Biological Sciences			
141	BIOL 699	Research Thesis II	6	12				Instructor's permission required. Registration by Add Course form only			
MMM											
142	MMMM 508	Molecular Immunology	2	4							
143	MMMM 509	From the Bench to the Bedside: Drug Development and Clinical Trials	3	6							
144	MMMM 510	Natural Medicine	3	6							
145	MMMM 511	Research Methods in Molecular Biomedicine	3	6							

146	MMMM 512	Molecular Basis of Chronic Inflammation	1	2							
147	MMMM 690	Master Research Project	15	30							
Master of Sciences in Biomedicine											
148	MMMM 507	Critical Analysis of the Contemporary Concepts in Molecular Medicine	3	6							
Medicine											
149	MHPW 200	Health, Physical Fitness and Well Being	3	6							
Nursing											
150	NUR 402	Principles of Healthcare Administration	4	8							
151	NUR 405	Issues and Trends in Nursing	4	8							
152	NUR 406.2	Medical-Surgical Nursing: Complex Management	4	8							
153	NUR 407	Capstone: Clinical and EBP Quality Improvement Research	4	8							
Public Health											
154	PUBH 512	Biostatistical Modeling and Sampling	3	6							
155	PUBH 522	Advanced Analytical Epidemiology	3	6							
156	PUBH 551	Health Services Management, Health Economic and Health Policy	3	6							
157	PUBH 552	Principles of Heath Economics and Policy	3	6	PUBH 551 Health Services Management, Health Economic and Health Policy (3696) (C and above)						
158	PUBH 561	Graduate Research Seminar I	3	6							
159	PUBH 631	Social and Behavioral Sciences in Public Health	3	6							
160	PUBH 682	Master's Project Implementation	12	24							
SSH											
Academic Success Centre, Communication and Composition											
161	SHSS 150	Rhetoric and Composition	3	6				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST			
Area Studies											
162	EAS 502	Disciplinary Methodology	4	8				1 year Gr SHSS Eurasian Studies, 2 year Gr SHSS Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
163	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)			1 year Gr SHSS Eurasian Studies, 2 year Gr SHSS Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
164	EAS 511	Independent Study in Eurasian Studies	4	8				1 year Gr SHSS Eurasian Studies, 2 year Gr SHSS Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
Chemistry											
165	CHEM 090	Chemistry for Non-Science majors	3	6				SHSS			
166	CHEM 092	Survey of Environmental Sciences for Non-Science Majors	3	6				SHSS			
167	CHEM 101	General Chemistry I	3	6				Biological Sciences, Chemistry	SST	SHSS	
168	CHEM 102	General Chemistry II	3	6	CHEM 101 General Chemistry I (113) (C and above)			Biological Sciences, Chemistry, SMG	SST	SHSS	

169	CHEM 102L	General Chemistry II lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 102 General Chemistry II (232) (C and above)		Biological Sciences, Chemistry, SMG	SST	SHSS	
170	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)			Chemistry	Biological Sciences	SST	
171	CHEM 211L	Organic Chemistry I Lab	2	4	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 211 Organic Chemistry I (154) (C and above)		Chemistry	Biological Sciences	SST	
172	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	
173	CHEM 212L	Organic Chemistry II Lab	2	4	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	
174	CHEM 320	Instrumental Analysis with Labs	4	8	CHEM 220 Quantitative Chemical Analysis (555) (C and above)			Chemistry	Biological Sciences	SST	
175	CHEM 332	Physical Chemistry II	3	6	CHEM 331 Physical Chemistry I (634) (C and above)	MATH 274 Introduction to Differential Equations (484) (C and above)		Chemistry	Biological Sciences	SST	
176	CHEM 332L	Physical Chemistry II Lab	1	2		CHEM 332 Physical Chemistry II (1056) (C and above) AND CHEM 331L Physical Chemistry Lab (1060) (C and above)		Chemistry	Biological Sciences	SST	
177	CHEM 380	Research Methods	3	6				Chemistry	Biological Sciences	SST	
178	CHEM 411	Advanced Organic Chemistry I	3	6	CHEM 212 Organic Chemistry II (443) (C and above) AND MATH 161 Calculus I (118) (C and above)			Chemistry			
179	CHEM 442	Biochemistry II with Lab-Metabolic Biochemistry	3	6	CHEM 341 Biochemistry I (1058) (C and above) AND CHEM 212 Organic Chemistry II (443) (C and above)			Chemistry	Biological Sciences	SST	
180	CHEM 451	Applied Homogenous Catalysis	3	6	CHEM 350 Advanced Inorganic Chemistry (1905) (C and above)			Chemistry	Biological Sciences	SST	
181	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			
Communication and Composition											
182	COMM 202	Introduction to Public Speaking	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			SEng, SHSS, SMG, SST			
183	SHSS 240	Writing for Digital Media	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			SHSS	SEng, SMG, SST		

184	SHSS 390	Writing Fellows I – Composition and Collaboration in Theory and Practice	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (B and above) AND (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 250 Advanced Rhetoric and Composition (3027) (B+ and above))			Through Add Course form only			
185	SHSS 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 Course form only			
Communication and Composition, Languages, Literature and Linguistics											
186	WLL 235/SHSS 260	Creative Writing: Introduction to Fiction Writing I	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			SHSS	SEng, SMG, SST		
History, Philosophy and Religious Studies											
187	HST 100	History of Kazakhstan	3	6				4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SENG, 1 year UG SMG, 1 year UG SST	SEng, SHSS, SMG, SST	
188	HST 151	US History I (to 1877)	3	6				1 year UG SHSS, 2 year UG SHSS, History	SEng, SHSS, SMG, SST		
189	HST 214	An Introduction to Comparative History: The Eurasian Steppes and Great Plains of North America	3	6				SHSS	SEng, SMG, SST		
190	HST 233	The Russian Empire from Catherine the Great to the Bolshevik Revolution	3	6	Subject "HST" BETWEEN 100 and 199			SHSS	SEng, SMG, SST		
191	HST 235	Peter the Great (1682-1725): First Emperor of Russia and “Father of the Fatherland”	3	6				SHSS	SEng, SMG, SST		
192	HST 236	Eurasian revolutions, 1905-1949	3	6				SHSS	SEng, SMG, SST		
193	HST 239	Modernizing the Periphery: Crime, Community and Culture in Central Europe, 1790 - 1990	3	6	Subject "HST" BETWEEN 100 and 199			SHSS	SEng, SMG, SST		
194	HST 331	The Eurasian Enlightenment	3	6	HST 100 History of Kazakhstan (172) (C- and above) OR Subject "HST" BETWEEN 100 and 199			SHSS	SEng, SMG, SST		
195	HST 411	Exploring Eurasian Environmental History	3	6	HST 100 History of Kazakhstan (172) (D and above)			SHSS	SEng, SMG, SST		
196	HST 499	History Capstone: Undergraduate Dissertation	4	8	HST 498 Directed Reading (1365) (C- and above)			4 year UG SHSS			
197	HST 511	Exploring Eurasian Environmental History	4	8				1 year Gr SHSS Eurasian Studies, 2 year Gr SHSS Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
198	PHIL 124	Knowledge and Reality	3	6				SEng, SHSS, SMG, SST			
199	PHIL 141	Critical Thinking	3	6				SEng, SHSS, SMG, SST			
200	PHIL 215	Bioethics	3	6				SEng, SHSS, SMG, SST			
201	PHIL 223	Philosophy of Science	3	6				SEng, SHSS, SMG, SST			
202	PHIL 320	Truth, Knowledge and Belief	3	6				SEng, SHSS, SMG, SST			
203	PHIL 361	Philosophy of Language	3	6				SEng, SHSS, SMG, SST			
204	REL 212	Buddhist Religious Traditions	3	6				SEng, SHSS, SMG, SST			
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies											
205	HST 266/PHIL 266	Sunzi’s Art of War and Unorthodox Military Strategy in Ancient China	3	6				SEng, SHSS, SMG, SST			
206	HST 273/REL 273	History of Sufism in the Middle East and Central Asia	3	6	Subject "HST" BETWEEN 100 and 199			SHSS	SEng, SMG, SST		
207	HST 329/REL 329	Women in Islamic History	3	6				SHSS	SEng, SMG, SST		
208	PHIL 267/REL 267	Chinese Roots of Martial Arts	3	6				SEng, SHSS, SMG, SST			

History, Philosophy and Religious Studies, Sociology and Anthropology											
209	ANT 287/HST 223	Cannibalism and Civilization	3	6				SHSS	SEng, SMG, SST		
210	HST 381/SOC 319	AIDS and Society	3	6	Subject "HST" BETWEEN 101 and 199 OR HST 100 History of Kazakhstan (172) (B- and above)			3 year UG SST, 4 year UG SST, SHSS	SEng, SMG, SST		
Kazakh Language and Turkic Studies											
211	KAZ 201	Academic Kazakh I	3	6	KAZ 150 Basic Kazakh (1215) (C- and above) OR KLL "[B1.2] Intermediate"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
212	KAZ 202	Academic Kazakh II	3	6	KAZ 201 Academic Kazakh I (4561) (C- and above) OR KLL "[B2.2] Upper-Interm."				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
213	KAZ 211	Academic Speaking in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"		KAZ 303 Academic Speaking in Kazakh (702) (C- and above) OR KAZ 304 Academic Writing in Kazakh (703) (C- and above)		1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
214	KAZ 212	Academic Writing in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"		KAZ 304 Academic Writing in Kazakh (703) (C- and above) OR KAZ 303 Academic Speaking in Kazakh (702) (C- and above)		1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
215	KAZ 226	Kazakh for Medical School	3	6	KLL "[B1.2] Intermediate"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
216	KAZ 313	Kazakh for Business	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
217	KAZ 349	Kazakh Mythology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
218	KAZ 351	Kazakh Short Stories	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
219	KAZ 354	Kazakh Drama	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
220	KAZ 356	Kazakh Music History	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
221	KAZ 357	Literature of Alash	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
222	KAZ 362	Creative Writing in Kazakh Language	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	

223	KAZ 363	Language and Globalization	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
224	KAZ 364	Kazakh for Civil Service	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
225	KAZ 366	Kazakh Language for Engineers	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
226	KAZ 368	Onomastics: History and Function of Names	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
227	KAZ 371	Contemporary Kazakh Literature	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
228	KAZ 372	Language and ethnicity	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
229	KAZ 373	Kazakh Terminology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
230	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
231	KAZ 375	Cultural Studies and Kazakh Culture	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	SEng, SHSS, SMG, SST	
232	TUR 230	Literatures of Central Asia	3	6				SHSS	SEng, SMG, SST		
Kazakh Language and Turkic Studies, Languages, Literature and Linguistics											
233	TUR 280/LING 280	Introduction to Turkic Historical and Comparative Linguistics	3	6				SHSS	SEng, SMG, SST		
Languages, Literature and Linguistics											
234	CHN 101	Beginning Mandarin I	4	8				World Languages, Literature and Culture	1 year UG SHSS, 2 year UG SHSS	SEng, SHSS, SMG, SST	
235	CHN 201	Intermediate Mandarin I	4	8	CHN 102 Beginning Mandarin II (1844) (C and above)			SEng, SHSS, SMG, SST			
236	FRE 102	Beginning French II	4	8	FRE 101 Beginning French I (246) (C- and above)			SEng, SHSS, SMG, SST			
237	FRE 314	Advanced French Grammar and Composition	3	6	FRE 202 Intermediate French II (1122) (C- and above)			SEng, SHSS, SMG, SST			
238	GER 101	Beginning German	4	8				World Languages, Literature and Culture	1 year UG SHSS, 2 year UG SHSS	SEng, SHSS, SMG, SST	
239	GER 102	Beginning German II	4	8	GER 101 Beginning German (3173) (C- and above)			SEng, SHSS, SMG, SST			
240	KOR 102	Beginning Korean II	4	8	KOR 101 Beginning Korean I (4672) (C- and above)			SEng, SHSS, SMG, SST			
241	LING 130	Introduction to Language and Communication	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
242	LING 131	Introduction to Linguistics	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
243	LING 270	Languages of Eurasia	3	6				SHSS	SEng, SMG, SST		
244	LING 277	Language Diversity and Language Universals	3	6	LING 131 Introduction to Linguistics (1394) (C and above)			SHSS	SEng, SMG, SST		

245	LING 278	Sounds of the World’s Languages	3	6				SHSS	SEng, SMG, SST		
246	LING 370	Methods of Teaching Foreign Languages	3	6				SHSS	SEng, SMG, SST		
247	LING 372	Discourse Analysis	3	6	Subject "LLL" BETWEEN 100 and 199 OR Subject "WLL" BETWEEN 100 and 199 OR WLL 171/ANT 175 Introduction to Linguistic Anthropology (4417) (C- and above) OR Subject "LING" BETWEEN 100 and 199 OR Subject "LING" BETWEEN 100 and 199			SHSS	SEng, SMG, SST		
248	PER 102	Beginning Persian II	4	8	PER 101 Beginning Persian I (4474) (C- and above)			SEng, SHSS, SMG, SST			
249	SPA 102	Beginning Spanish II	4	8	SPA 101 Beginning Spanish I (685) (C- and above)			SEng, SHSS, SMG, SST			
250	SPA 202	Intermediate Spanish II	4	8	SPA 201 Intermediate Spanish I (1475) (C- and above)			SEng, SHSS, SMG, SST			
251	SPA 320	The Hispanic Short Story	3	6	Subject "WLL" BETWEEN 100 and 199 AND SPA 202 Intermediate Spanish II (1842) (C- and above)			SEng, SHSS, SMG, SST			
252	WLL 110	Introduction to Literary Studies	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
253	WLL 121	Introduction to Cultural Studies	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
254	WLL 211	World Literature II: from the 18th to the 20th century	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
255	WLL 212	Introduction to Poetry	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
256	WLL 241	Survey of Folk Tales	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	

257	WLL 245	Terrible Perfection: Heroines of Classical Russian Literature	3	6	WLL 101 Introduction to Critical Issues in the Humanities and Social Sciences (234) (C and above) OR WLL 102 /PHIL 102 Language, Experience, Culture (2481) (C and above) OR WLL 110 Introduction to Literary Studies (244) (C and above) OR WLL 111 Introduction to Theatre (2160) (C and above) OR WLL 121 Introduction to Cultural Studies (243) (C and above) OR WLL 155 Introduction to the Comic Book (3046) (C and above) OR WLL 171/ANT 175 Introduction to Linguistic Anthropology (4417) (C and above) OR WLL 201 World Literature I (686) (C and above) OR WLL 209 Introduction to Translation Studies (2178) (C and above) OR WLL 210 Migrants, Nomads and Exiles (217) (C and above) OR WLL 211 World Literature II: from the 18th to the 20th century (492) (C and above) OR WLL 212 Introduction to Poetry (2167) (C and above) OR WLL 213/SPA 211 Introduction to the Hispanic World (1030) (C and above) OR WLL 218 Renaissance in Italy and Beyond (6573) (C and above) OR WLL 219 Myth and Adaptation (2489) (C and above) OR WLL 220 Ancient World Literature (to 1650) (218) (C and above) OR WLL 221 Creative Writing/Theatre (245) (C and above) OR WLL 222 Acting: Praxis, Theory and History (3336) (C and above) OR WLL 231 Beginning and Intermediate Playwriting (1625) (C and above) OR WLL 240 Introduction to the Novel (687) (C and above) OR WLL 241 Survey of Folk Tales (466) (C and above) OR WLL 243 Western Theatre, Literature and History From Ancient Creece to 1800 (1082) (C and above) OR WLL 244 Survey of Nineteenth-Century Russian Literature (1395) (C and above) OR WLL 246 Survey of Contemporary Russian Literature and Culture (3604) (C and above) OR WLL 247 Survey of East Asian Literature (1382) (C and above) OR WLL 248 Survey of Soviet Literature and Culture (3842) (C and above) OR WLL 250 From Page to Screen (472) (C and above) OR WLL 251 Hong Kong Cinema (3337) (C and above) OR WLL 253 Western Theatre Literature and History: 1800-Present (1396) (C and above) OR WLL 254/SPA 254 Superstition, Magical Realism, and Horror in Hispanic Culture (1851) (C and above) OR WLL 255 The Comic Book in Japan and America (1849) (C and above) OR WLL 257 Fan Culture in the Age of Convergence (2487) (C and above) OR WLL 291 Theatre Practicum (2168) (C and above)			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
258	WLL 246	Survey of Contemporary Russian Literature and Culture	3	6	Subject "WLL" BETWEEN 100 and 199 OR WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SHSS	SHSS	SEng, SMG, SST	
259	WLL 442	Contemporary Russian and Russophone Literature	3	6	Subject "WLL" BETWEEN 100 and 199			World Languages, Literature and Culture	4 year UG SHSS	SEng, SMG, SST	
260	WLL 499	Languages, Linguistics, and Literatures Capstone II	3	6	WLL 498 Languages, Linguistics, and Literatures Capstone I (3048) (C- and above)			4 year UG SHSS World Language and Literature			
261	WLL 542	Contemporary Russian and Russophone Literature	4	8				1 year Gr SHSS Eurasian Studies, 2 year Gr SHSS Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
Languages, Literature and Linguistics, Languages, Literature and Linguistics											
262	SPA 254/WLL 254	Superstition, Magical Realism, and Horror in Hispanic Culture	3	6	Subject "WLL" BETWEEN 100 and 499 OR Subject "HST" BETWEEN 100 and 499			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
Physics											

263	PHYS 161	Physics I for Scientists and Engineers with Laboratory	4	8		MATH 161 Calculus I (118) (C and above)	PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above)	1 year UG SENG, 1 year UG SMG, 1 year UG SST	SST	SHSS	
264	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 SENG, 1 year UG SMG, 1 year UG SST	SST	SHSS	
265	PHYS 202	Introductory Astrophysics	3	6	PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			SST	SHSS		
266	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		
267	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) OR CSCI 115 Programming Fundamentals (5257) (C- and above)) AND MATH 162 Calculus II (170) (C- and above)	MATH 273 Linear Algebra with Applications (84) (D and above)		Physics	SST		
268	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		
269	PHYS 362	Classical Electrodynamics II	3	6	PHYS 361 Classical Electrodynamics I (651) (C- and above)			Physics	SST		
270	PHYS 370	Optics with Laboratory	4	8	PHYS 361 Classical Electrodynamics I (651) (C- and above)			Physics	SST		
271	PHYS 451	Quantum Mechanics I	3	6	PHYS 221 Classical Mechanics I (652) (C- and above) AND PHYS 361 Classical Electrodynamics I (651) (C- and above)			Physics	SST		
272	PHYS 463	Astrophysics and General Relativity	3	6	MATH 162 Calculus II (170) (C- and above) AND PHYS 221 Classical Mechanics I (652) (C- and above) AND MATH 274 Introduction to Differential Equations (484) (C- and above)			Physics	SST		
273	PHYS 473	Introduction to Solid State Physics	3	6	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	SST		
274	PHYS 483	Statistical Mechanics	3	6	PHYS 280 Thermodynamics and Statistical Physics (1179) (C- and above)			Physics	SST		
275	PHYS 491	Directed Study of Advanced Physics Topics	3	6				Physics			
276	PHYS 495	Physics Colloquium	0	0				Physics			
277	PHYS 499	Graduation Project	3	6				Physics			
278	PHYS 510	Quantum Mechanics	3	6				Physics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
279	PHYS 520	Statistical Physics	3	6				Physics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
Political Science and International Relations											
280	PLS 101	Introduction to Political Science	3	6				SEng, SMG, SST	SHSS		

281	PLS 140	Introduction to Comparative Politics	3	6				1 year UG SHSS, Political Science and International Relations	SHSS	SEng, SMG, SST	
282	PLS 150	Introduction to International Relations	3	6				1 year UG SHSS, Political Science and International Relations	SHSS	SEng, SMG, SST	
283	PLS 210	Political Science Research Methods	3	6				Political Science and International Relations	SHSS	SEng, SMG, SST	
284	PLS 211	Quantitative Methods	3	6			ECON 211 Economic Statistics (2280) (C- and above)	Political Science and International Relations	SHSS	SEng, SMG, SST	
285	PLS 341	Politics of Development	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
286	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	SHSS	SEng, SMG, SST	
287	PLS 354	Introduction to International Law	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 140 Introduction to Comparative Politics (223) (C- and above) AND PLS 120 Introduction to Political Theory (512) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
288	PLS 355	European Union: Institutions and Policies	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
289	PLS 356	International Politics of the Korean Peninsula	3	6	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 150 Introduction to International Relations (511) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
290	PLS 360	Foreign Policy Analysis	3	6	PLS 150 Introduction to International Relations (511) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
291	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)			Political Science and International Relations	SHSS	SEng, SMG, SST	
292	PLS 391	Intermediate Special Topics in Comparative Politics	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
293	PLS 392	Politics of China	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
294	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 Course form only			
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)			Political Science and International Relations	SHSS	SEng, SMG, SST	
296	PLS 445	Political Violence	3	6	(PLS 140 Introduction to Comparative Politics (223) (C- and above) OR PLS 150 Introduction to International Relations (511) (C- and above)) AND PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
297	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)			Political Science and International Relations	SHSS	SEng, SMG, SST	
298	PLS 457	International Security and Conflict	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)						
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)			Through Add Course form only			

300	PLS 510	Advanced Research II	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
301	PLS 522	Just War Theory	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
302	PLS 541	Advanced Topics in Comparative Politics	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
303	PLS 545	Political Violence	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
304	PLS 547	Comparative Political Parties	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
305	PLS 551	Advanced Topics in International Relations	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
306	PLS 557	International Security and Conflict	4	8				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
307	PLS 598	MA Thesis for Political Science and International Relations	10	20				1 year Gr SHSS Political Sciences and Int. Relations, 2 year Gr SHSS Political Sciences and Int. Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
SSH											
308	SHSS 300	School of Humanities and Social Sciences Internship	3	6				Through Add Course form only			
309	SHSS 301	School of Humanities and Social Sciences Internship: Second Experience	3	6				Through Add Course form only			
Sociology and Anthropology											
310	ANT 110	Introduction to Sociocultural Anthropology	3	6				1 year UG SHSS, 2 year UG SHSS, Anthropology, Sociology	SHSS	SEng, SMG, SST	
311	ANT 140	World Prehistory	3	6				1 year UG SHSS, 2 year UG SHSS, Anthropology, Sociology	SHSS	SEng, SMG, SST	
312	ANT 160	Introduction to Biological Anthropology	3	6			ANT 361 Human Evolution: Bones, Stones and Genomes (160) (C- and above)	1 year UG SHSS, 2 year UG SHSS, Anthropology, Sociology	Biological Sciences, SHSS	SEng, SMG, SST	
313	ANT 181	Introduction to Medical Anthropology	3	6				1 year UG SHSS, 2 year UG SHSS, Anthropology, Sociology	Biological Sciences, SHSS	SEng, SMG, SST	
314	ANT 232	Life, Death and Economy: Archaeology of Central Asia	3	6				1 year UG SHSS, 2 year UG SHSS, Anthropology	SHSS	SEng, SMG, SST	
315	ANT 286	Nomads: Around the world and through time	3	6				1 year UG SHSS, 2 year UG SHSS, Anthropology	SHSS	SEng, SMG, SST	
316	ANT 306	Anthropology of Performance	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
317	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 OR Subject "SOC" BETWEEN 100 and 499 OR Subject "ANT" BETWEEN 100 and 499			Anthropology, Political Science and International Relations, Sociology	SHSS	SEng, SMG, SST	
318	ANT 333	Anthropology of Space	3	6				3 year UG SHSS, 4 year UG SHSS, Anthropology, Sociology	SHSS	SEng, SMG, SST	
319	ANT 400	Research Assistance in Anthropology	1	2				Through Add Course form only			

320	ANT 475	Digital Ethnographies	3	6	ANT 110 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)			Anthropology, Sociology	SHSS	SEng, SMG, SST	
321	SOC 101	Introduction to Sociology	3	6				Anthropology, Sociology	1 year UG SHSS, 2 year UG SHSS, 3 year UG SST Biological Sciences	SEng, SHSS, SMG, SST	
322	SOC 201	Social Science Research Methods	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
323	SOC 203	Quantitative Methods in Sociology	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
324	SOC 215	Sociology of Race and Ethnicity	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
325	SOC 221	International Migration	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
326	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	SHSS	SEng, SMG, SST	
327	SOC 320	Organized Crime and Corruption	3	6	SOC 101 Introduction to Sociology (508) (C- and above)						
328	SOC 400	Research Assistance in Sociology	1	2				Through add form only			
329	SOC 499	Capstone Seminar II	3	6	SOC 498 Capstone Seminar Part I (3043) (C- and above)			4 year UG SHSS Sociology			
330	SOC 521	Informal Practices and Social Order in Eurasia	4	8				1 year Gr SHSS Eurasian Studies, 2 year Gr SHSS Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
Sociology and Anthropology, Sociology and Anthropology											
331	ANT 214/SOC 214	Qualitative Methods	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
332	ANT 222/SOC 222	Approaches to Global Development	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
333	ANT 281/SOC 281	Health, Illness and Society	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
SEDS											
Chemical Engineering											
334	MCHE 600	MSc Thesis in Chemical Engineering	15	30							
Computer Science											
335	SST 502	Teaching Practicum	3	6				Registration by SST School Office			
336	SST 504	Innovation & Entrepreneurship	3	6				Registration by SST School Office			
Mechanical Engineering											
337	MME 600	Master Thesis in Mechanical Engineering	15	30							
School of Engineering											
338	BENG 114	Introduction to Electrical Systems	3	6				Registration by School Office			
339	BENG 219	Control Systems	3	6				Registration by School Office			
340	BENG 226	Engineering Thermodynamics	3	6				Registration by School Office			
341	BENG 343	Interdisciplinary Design Project	3	6							
SoE											
Chemical and Materials Engineering											
342	ECHE 210	Foundations of Unit Operations	3	6				Registration by School Office			

343	ECHE 221	Engineering Fluid Mechanics	3	6				Registration by School Office			
344	ECHE 270	Transport Phenomena-I	3	6				Registration by School Office			
345	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)		Registration by School Office			
346	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)			Registration by School Office			
347	ECHE 386	Chemical Plant Design and Optimization	3	6				Registration by School Office			
348	ECHE 387	Chemical Reaction Engineering 2	3	6				Registration by School Office			
349	ECHE 388	Process Dynamics and Control	3	6				Registration by School Office			
350	ECHE 420	Polymer Processing and Rheology	3	6				4 year UG SEng Chemical Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
351	ECHE 421	Tissue Engineering	3	6				4 year UG SEng Chemical Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
352	ECHE 479	Capstone Project II	9	18	ECHE 418 Capstone project 1 (1278) (D and above)			Registration by School Office			
353	ECHE 483	Chemistry II	3	6	ECHE 222 Chemistry I (731) (D and above)			Registration by School Office			
354	ECHE 485	Introduction to Biochemical Engineering	3	6				4 year UG SEng Chemical Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
355	MCHME 600	Research Seminar	3	6				1 year Gr SEng Chemical and Materials Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
356	MCHME 606	Advanced Heat and Mass Transfer	3	6				1 year Gr SEng Chemical and Materials Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
357	MCHME 704	Advanced Safety, Reliability and Risk Engineering in Process Industries	3	6				1 year Gr SEng Chemical and Materials Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

358	MCHME 712	Advanced Tissue Engineering	3	6				1 year Gr SEng Chemical and Materials Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
Civil Engineering											
359	MSC 600	Research Methods and Ethics	3	6				1 year Gr SEng Chemical and Materials Engineering, 1 year Gr SEng Civil and Environmental Engineering, 1 year Gr SEng Electrical and Computer Engineering, 1 year Gr SEng Mechanical and Aerospace Engineering	Science, Engineering and Technology		
Civil and Environmental Engineering											
360	ECE 210	Soil Mechanics	3	6				Registration by School Office			
361	ECE 218	Environmental Chemistry	3	6				Registration by School Office			
362	ECE 219	Hydraulics	3	6				Registration by School Office			
363	ECE 306	Geotechnical Design	3	6	ECE 210 Soil Mechanics (862) (D and above)			Registration by School Office			
364	ECE 319	Structural Design – Steel	3	6				Registration by School Office			
365	ECE 320	Engineering Hydrology	3	6				Registration by School Office			
366	ECE 420	Modern Information Technology in Construction	3	6				4 year UG SEng Civil Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
367	ECE 422	Prestressed Concrete Design	3	6				3 year UG SEng Civil Engineering	3 year UG SENG, 4 year UG SENG	SEng, SHSS, SMG, SST	
368	ECE 423	Structure and Properties of Concrete Materials	3	6				3 year UG SEng Civil Engineering	3 year UG SENG, 4 year UG SENG	SEng, SHSS, SMG, SST	
369	ECE 427	Individual Research Projects in Civil Engineering (II)	3	6	CEE 463 Individual Research Project in Civil & Environmental Engineering 1 (6594) (C and above)			4 year UG SEng Civil Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
370	ECE 472	Water and Wastewater Treatment Processes	3	6	ECE 218 Environmental Chemistry (3296) (D and above)			Registration by School Office			
371	ECE 473	Environmental Systems	3	6				4 year UG SEng Civil Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
372	ECE 478	Capstone Project II	9	18	ECE 401 Capstone Project 1 (1270) (D and above)			Registration by School Office			
373	ECE 479	Structural Analysis II	3	6	ECE 217 Structural Analysis I (3156) (D and above)			Registration by School Office			
374	EMEM 510	Managerial Accounting	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
375	EMEM 511	Business Strategy	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

376	EMEM 512	Leading Change	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
377	EMEM 513	Entrepreneurship	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
378	EMEM 514	Finance	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
379	EMEM 516	Management of Organizations	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
380	EMEM 517	Marketing	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
381	EMEM 527	Globalization and Engineering	3	6				2 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

382	EMEM 529	Capstone Project	8	16				2 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
383	EMEM 535	Managing Product and Service Development	3	6				2 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
384	EMEM 543	Quality and Lean Management	3	6				2 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
385	EMEM 545	Business Communication	2	4				1 year Gr SENG Engineering Management	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
386	MCEE 600	Research Seminar	3	6				1 year Gr SEng Civil and Environmental Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
387	MCEE 606	Advanced Project Management	3	6				1 year Gr SEng Civil and Environmental Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

388	MCEE 700	Structural Dynamics and Earthquake Engineering	3	6				1 year Gr SEng Civil and Environmental Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
389	MCEE 701	Advanced Concrete Technology	3	6				1 year Gr SEng Civil and Environmental Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
390	MCEE 703	Theory of Physico-Chemical Treatment Processes	3	6				1 year Gr SEng Civil and Environmental Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
391	MCEE 704	Contaminated Site Management and Soil Treatment Technologies	3	6				1 year Gr SEng Civil and Environmental Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
Electrical and Computer Engineering											
392	EEE 210	Software Engineering	3	6	BENG 146 Programming for Engineers (2234) (D and above)			Registration by School Office			
393	EEE 211	Computer Systems Architecture	3	6	ECHE 126 Introduction to Chemical Engineering (33) (D and above)			Registration by School Office			
394	EEE 239	Communication systems	3	6				Registration by School Office			
395	EEE 340	Data Communications	3	6				Registration by School Office			
396	EEE 341	Digital Electronic System Design	3	6				Registration by School Office			
397	EEE 343	Embedded Microcontrollers	3	6				Registration by School Office			
398	EEE 379	Power Systems Analysis	3	6				Registration by School Office			
399	EEE 381	Electrical Machines and Drives	3	6				Registration by School Office			
400	EEE 411	Special Topics in Signal Processing	3	6				4 year UG SEng Electrical and Electronic Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
401	EEE 480	Capstone Project II	9	18				Registration by School Office			
402	EEE 484	Electric Power Generation	3	6				4 year UG SEng Electrical and Electronic Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
403	EEE 485	Power System Operation and Control	3	6	EEE 379 Power Systems Analysis (1956) (D and above) OR ELCE 355 Power Systems Protection (2652) (D and above)			4 year UG SEng Electrical and Electronic Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
404	EEE 486	Photonics for Engineering	3	6	EEE 342 Electromagnetics (533) (D and above)			4 year UG SEng Electrical and Electronic Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
405	EEE 489	Analog Circuit Design	3	6				Registration by School Office			
406	EEE 494	Modern Characterizations for Semiconductor Industry	3	6				4 year UG SEng Electrical and Electronic Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	

407	EEE 495	Fundamentals of Biomedical Engineering and Biophysics	3	6				4 year UG SEng Electrical and Electronic Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
408	MECE 600	Research Seminar	3	6				1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
409	MECE 700	Industrial and Commercial Power System	3	6				1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
410	MECE 703	Advanced Photonics	3	6				1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
411	MECE 705	Advanced Mixed Signal Circuit Design	3	6				1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
412	MECE 717	Pattern Recognition and Machine Learning	3	6				1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
413	MECE 718	Deep Learning for Internet of Things	3	6				1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

414	MECE 724	Modeling and Simulation	3	6				1 year Gr SEng Electrical and Computer Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
Geosciences											
415	GEOL 101	Principles of Geology	3	6				1 year UG SMG	SEng, SST	SHSS	
416	GEOL 102	Fundamentals of Geology	3	6				1 year UG SMG	SEng, SST	SHSS	
Mechanical and Aerospace Engineering											
417	EME 275	Fluid Mechanics I	3	6				Registration by School Office			
418	EME 300	Research Project	3	6				Registration by School Office			
419	EME 352	Computational Fluid Dynamics	3	6				Registration by School Office			
420	EME 357	Fluid Mechanics II	3	6				Registration by School Office			
421	EME 377	Mechanical Systems Design	3	6	EME 361 Machine Design (1051) (D and above)			Registration by School Office			
422	EME 414	Fire Engineering	3	6	BENG 226 Engineering Thermodynamics (1553) (D and above)			4 year UG SEng Mechanical Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
423	EME 415	Flight Mechanics	3	6				4 year UG SEng Mechanical Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
424	EME 464	Materials and Manufacturing I	3	6				Registration by School Office			
425	EME 476	Materials and Manufacturing II	3	6				Registration by School Office			
426	EME 477	Capstone Project II	9	18				Registration by School Office			
427	EME 480	Industrial Automation	3	6				Registration by School Office			
428	EME 489	Advanced Engineering Mathematics	3	6	BENG 228 Engineering Mathematics III (3154) (D and above)			4 year UG SEng Mechanical Engineering	4 year UG SENG	SEng, SHSS, SMG, SST	
429	ENG 102	Engineering Materials I	3	6				1 year UG SEng Civil and Environmental Engineering, 1 year UG SEng Mechanical and Aerospace Engineering, 1 year UG SMG	1 year UG SHSS, 1 year UG SST, 2 year UG SENG, 3 year UG SENG, 4 year UG SENG	SEng, SHSS, SMG, SST	
430	ENG 103	Engineering Materials II	3	6				1 year UG SEng Chemical and Materials Engineering, 1 year UG SEng Electrical and Computer Engineering, 1 year UG SMG	1 year UG SHSS, 1 year UG SST, 2 year UG SENG, 3 year UG SENG, 4 year UG SENG	SEng, SHSS, SMG, SST	
431	MMAE 600	Research Seminar	3	6				1 year Gr SEng Mechanical and Aerospace Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
432	MMAE 604	Advanced Computational Fluid Dynamics and Heat Transfer in Mechanical Engineering	3	6				1 year Gr SEng Mechanical and Aerospace Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		

433	MMAE 700	Advanced Statistics and Probability	3	6				1 year Gr SEng Mechanical and Aerospace Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
434	MMAE 701	Numerical Techniques for Engineers	3	6				1 year Gr SEng Mechanical and Aerospace Engineering	1 year PhD SENG Science, Engineering and Technology, 2 year PhD SENG Science, Engineering and Technology, 3 year PhD SENG Science, Engineering and Technology, 4 year PhD SENG Science, Engineering and Technology, 5 year PhD SENG Science, Engineering and Technology		
Mining Engineering											
435	MINE 513	Rock Excavation Methods	3	6				1 year Gr SMG Mining Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
436	MINE 514	Advanced Surface Mine Design	3	6				1 year Gr SMG Mining Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
437	MINE 515	Advanced Underground Mine Design	3	6				1 year Gr SMG Mining Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
438	MINE 518	Advanced Rock Mechanics	3	6				1 year Gr SMG Mining Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
439	MINE 527	Master's Thesis	15	30	MINE 690 Thesis I (4531) (P)			2 year Gr SMG Mining Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
Petroleum Engineering											
440	PETE 500	Research Methods	3	6				1 year Gr SMG Petroleum Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
441	PETE 506	Advanced Reservoir Simulation	3	6				1 year Gr SMG Petroleum Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
442	PETE 507	Advanced Reservoir Engineering	3	6				1 year Gr SMG Petroleum Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
443	PETE 508	Advanced Production Engineering	3	6				1 year Gr SMG Petroleum Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
444	PETE 509	Advanced Enhanced Oil Recovery	3	6				1 year Gr SMG Petroleum Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
SMG											
445	MSC 616	Research Methods	3	6				1 year Gr SMG Mining Engineering	GSB, GSE, GSPP, SEng, SHSS, SMG, SST, SoM		
446	SMG 100	Introduction to Natural Resources Extraction	3	6				1 year UG SMG	SEng, SST	SHSS	
School of Engineering											
447	DENG 784	Doctoral Proposal I	0	6				Science, Engineering and Technology			
448	DENG 785	PhD Proposal Oral Defence	0	0				Science, Engineering and Technology			
449	DENG 787	Doctoral Proposal II	3	6	DENG 784 Doctoral Proposal I (1774) (P)	DENG 785 PhD Proposal Oral Defence (2604) (P)		Science, Engineering and Technology			
450	DENG 789	Doctoral Seminar I	3	6	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology			
451	DENG 790	Doctoral Seminar II	3	6	DENG 789 Doctoral Seminar I (4598) (P)			Science, Engineering and Technology			
452	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology			

453	DENG 795	Research at Host University	6	12	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology			
454	DENG 796	Thesis Completion	0	0				Science, Engineering and Technology			
455	DENG 797	Oral Defence of PhD Dissertation	0	0	DENG 785 PhD Proposal Oral Defence (2604) (P) AND DENG 789 Doctoral Seminar I (4598) (P) AND DENG 790 Doctoral Seminar II (4599) (P)			Science, Engineering and Technology			
SCAI											
Computer Science											
456	CSCI 101	Introduction to Computational Sciences	3	6				1 year UG SHSS	SHSS		
457	CSCI 111	Web Programming and Problem Solving	3	6			CSCI 101 Introduction to Computational Sciences (147) (D and above) OR CSCI 115 Programming Fundamentals (5257) (D and above) OR CSCI 151 Programming for Scientists and Engineers (192) (D and above) OR ENG 101 Programming for Engineers (4517) (D and above)	1 year UG SHSS	SHSS		
458	CSCI 151	Programming for Scientists and Engineers	4	8			CSCI 111 Web Programming and Problem Solving (110) (D and above) OR CSCI 115 Programming Fundamentals (5257) (D and above) OR ENG 101 Programming for Engineers (4517) (B- and above)	1 year UG SST, SMG	SST	SHSS	
459	CSCI 152	Performance and Data Structures	4	8	CSCI 151 Programming for Scientists and Engineers (192) (C- and above)			1 year UG SST	SST	SHSS	
460	CSCI 245	System Analysis and Design	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science	SST	SEng, SHSS, SMG	
461	CSCI 270	Algorithms	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)	MATH 251 Discrete Mathematics (85) (D and above)		2 year UG SST Computer Science	Computer Science	SEng, SHSS, SMG, SST	
462	CSCI 272	Formal Languages	3	6	CSCI 151 Programming for Scientists and Engineers (192) (C- and above)	MATH 251 Discrete Mathematics (85) (D and above)		2 year UG SST Computer Science	Computer Science	SEng, SHSS, SMG, SST	
463	CSCI 307	Research Methods	3	6				Computer Science			
464	CSCI 325	Introduction to Parallel Systems and Graphics Processing Unit Programming	3	6	CSCI 332 Operating Systems (490) (C- and above)		PHYS 421 Parallel Computing (8532) (D and above)	Computer Science	SST	SEng, SHSS, SMG	
465	CSCI 330	Mobile Computing	3	6	CSCI 332 Operating Systems (490) (C- and above)			Computer Science	SST	SEng, SHSS, SMG	
466	CSCI 332	Operating Systems	3	6	CSCI 231 Computer Systems and Organization (194) (D and above)			2 year UG SST Computer Science	Computer Science	SEng, SHSS, SMG, SST	

467	CSCI 399A	Internship II - A	1	2							
468	CSCI 409	Senior Project II	3	6	CSCI 408 Senior Project I (1481) (C- and above)			4 year UG SST Computer Science			
469	CSCI 447	Machine Learning: Theory and Practice	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 321 Probability (482) (C and above)			Computer Science	SST	SEng, SHSS, SMG	
470	CSCI 462	Open Source Software	3	6	CSCI 361 Software Engineering (640) (C- and above)			Computer Science	SST	SEng, SHSS, SMG	
471	CSCI 502	Hardware Software Co-Design	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above)			Computer Science, Robotics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
472	CSCI 515	Modeling and Simulation for Computer Science	3	6				Computer Science, Robotics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
473	CSCI 591	Advanced Artificial Intelligence	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above) OR DS 501 Fundamentals of Data Science (5218) (C- and above)			Computer Science	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
474	SST 592	Research Seminar	3	6				Registration by SST School Office			
475	SST 692	Thesis	15	30				Registration by SST School Office			
Mathematics											
476	MATH 161	Calculus I	4	8				Biological Sciences, Chemistry	1 year UG SENG, 1 year UG SHSS, 1 year UG SMG, 1 year UG SST	SEng, SHSS, SMG, SST	
477	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			1 year UG SENG, 1 year UG SMG, 1 year UG SST	SST	SHSS	
478	MATH 251	Discrete Mathematics	3	6	MATH 161 Calculus I (118) (C and above)			Computer Science, Mathematics	SST	SHSS	
479	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			Mathematics	SST	SHSS	
480	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	
481	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			Mathematics	SST	SHSS	
482	MATH 310	Applied Statistical Methods	3	6	MATH 161 Calculus I (118) (C and above)		MATH 321 Probability (482) (C and above)	Biological Sciences	SST	SHSS	
483	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)	Computer Science, Mathematics	SST	SHSS	
484	MATH 322	Mathematical Statistics	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			3 year UG SST Mathematics	SST	SHSS	
485	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	
486	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	
487	MATH 371	Introduction to Mathematical Biology	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above)			3 year UG SST Mathematics	Mathematics	SST	

488	MATH 402	Abstract Algebra I	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			3 year UG SST Mathematics	SST	SHSS	
489	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	
490	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	
491	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	
492	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	
493	MATH 449	Statistical Programming	3	6	MATH 322 Mathematical Statistics (1165) (C and above)			4 year UG SST Mathematics	Mathematics		
494	MATH 477	Applied Finite Element Methods	3	6	MATH 351 Numerical Methods with Applications (1166) (C and above)			Mathematics	SST	SHSS	
495	MATH 480	Complex Analysis	3	6	MATH 263 Calculus III (81) (C and above)			Mathematics	SST	SHSS	
496	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	
497	MATH 490	Special Topics in Mathematics	3	6				Mathematics	SST	SHSS	
498	MATH 499	Capstone Project	3	6				Through Add Course form only			
499	MATH 512	Optimization Methods and Techniques	3	6				Applied Mathematics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
500	MATH 519	Scientific Computing	3	6				Applied Mathematics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
501	MATH 541	Data Analysis and Statistical Learning	3	6	MATH 540 Statistical Learning (2340) (B- and above)			Applied Mathematics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
502	MATH 551	Advanced Numerical Methods	3	6				Applied Mathematics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	
Robotics and Mechatronics											
503	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		
504	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		
505	ROBT 206	Microcontrollers with Lab	4	8	CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR ENG 101 Programming for Engineers (4517) (C- and above)			Computer Science, Robotics and Mechatronics	SST		
506	ROBT 302	Mechanical Design II with Machining Laboratory	4	8	ROBT 301 Mechanical Design I with CAD Laboratory (622) (C- and above)			Robotics and Mechatronics	SST		
507	ROBT 304	Electromechanical Systems with lab	4	8	ROBT 203 Electrical and Electronic Circuits I with Lab (62) (C- and above)			Robotics and Mechatronics	SST		

508	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		
509	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)			Robotics and Mechatronics			
510	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)			Computer Science, Robotics and Mechatronics	SST		
511	ROBT 414	Human-Robot Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science, Robotics and Mechatronics	SST		
512	ROBT 491	Graduation Project	3	6	ROBT 391 Research methods (7418) (C- and above)			4 year UG SST Robotics and Mechatronics			
513	ROBT 502	Robot Perception & Vision	3	6	ROBT 501 Advanced Robot Kinematics (2263) (C- and above)			Robotics	SST	GSB, GSE, GSPP, SEng, SHSS, SMG, SoM	