

Course Requirements and Registration Priorities Fall 2018

#	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 441	Design of Experiments	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND (MATH 310 Applied Statistical Methods (82) (C and above) OR MATH 322 Mathematical Statistics (1165) (C and above))			Mathematics	SHSS, SST		
SHSS											
Kazakh Language and Turkic Studies											
3	KAZ 358	Technique of Translation	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST	
CPS											
NUFYYP											
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 010	Foundation English for Academic Purposes 1	0	0							
8	FGEO 011	Introduction to Geography	0	0							
9	FHUM 011	Introduction to Humanities and Social Science	0	0							
10	FMAT 010	Foundation Mathematics 1	0	0							
11	FPHY 011	Introduction to Physics	0	0							
NUZYP											
12	ZCOM 040	Academic Communications for Graduate Studies I	0	0							
13	ZRDG 030	Academic Reading for Graduate Studies I	0	0							
14	ZWRT 020	Academic Writing for Graduate Studies I	0	0							

GSB**GSB**

15	GSBF 501	Team Building and Business Communications	1	2							
16	GSBF 511	Applied Data Analytics I	2.5	5							
17	GSBF 512	Principles of Finance	2.5	5							
18	GSBF 516	Financial Markets and Institutions	2	4							
19	GSBF 535	Insurance and Actuarial Science	2	4							
20	GSBF 550	Master's Thesis	9	18							
21	MBA 01	Consequential Leadership	1	2							
22	MBA 02	Business Mathematics and Business Computer Application	1	2							
23	MBA 03	Financial Accounting	2	4							
24	MBA 04	Probability and Statistics	2	4							
25	MBA 05	Business Communication	2	4							
26	MBA 07	Managerial Effectiveness	2	4							
27	MBA 09	Marketing Management	2	4							
28	MBA 16	Entrepreneurship	2	4							
29	MBA 19	Distinguished Speaker Series	0	1							
30	MBA 20	Practicum Project	2.5	5							
31	MBAE 5	Competitive Analysis	2	4							
32	MBAE 6	International Finance	2	4							
33	MBAE 7	Supply Chain Management	2	4							
34	MBAE 9	Marketing Strategy	2	4							
35	MSF 01	Financial Modeling	2.5	5							
36	MSF 03	Advanced Econometrics	2	4							
37	MSF 04	Private Equity	2	4							

GSPP**Master in Public Administration**

38	MPA 602	Public Administration in Theory and Practice	4	8							
39	MPA 603	Economic Applications for Public Managers	4	8							
40	MPA 605	Research Methods for Public Managers	4	8							
41	MPA 622	Public Policy and Economics of Health Systems	4	8				2 year GSPP Public Administration	GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM	

42	MPA 699	Master's Project with Overseas Component	0	0							
43	MPE 617	Institutions and development policies	4	8				2 year GSPP Public Policy	GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM	
44	MPE 623	Law and Development	4	8				2 year GSPP Public Administration	GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM	
45	MPE 625	Ethical Challenges in Governance	4	8				2 year GSPP Public Administration	GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM	
46	MPE 637	Comparative Policy-Making and Public Policy	4	8				2 year GSPP Public Administration	GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM	
47	MPE 639	International Financial Policy	4	8				2 year GSPP Public Administration	GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM	
48	MPE 670	Behavioural Insights and Public Policy	4	8				2 year GSPP Public Policy	GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM	
49	MPE 685	Water Resources Policy and Management	4	8				2 year GSPP Public Administration	GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM	
Master in Public Policy											
50	MPP 601	Microeconomics and Public Policy	4	8							
51	MPP 611	Statistics for Public Policy	4	8							
52	MPP 612	Public Policy Research and Evaluation	4	8							
53	MPP 621	Public Policy and Analysis	4	8							
54	MPP 625	Central Asian politics: Comparative Analysis	4	8				2 year GSPP Public Policy	GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM	
55	MPP 631	Politics and Public Policy	4	8							
56	MPP 687	Science, Technology, and Public Policy	4	8				2 year GSPP Public Policy	GSPP	GSB, GSE, SEng, SHSS, SMG, SST, SoM	
PhD in Public Policy											

57	DPE 625	Ethical Challenges in Governance	4	8				Public Policy			
58	DPE 639	International Financial Policy	4	8				Public Policy			
59	DPP 601	Microeconomics in the Public Sector	4	8							
60	DPP 603	Public Administration and Management	4	8							
61	DPP 611	Statistics in Public Policy	4	8							
62	DPP 614	Advanced Quantitative Methods	4	8							
63	DPP 616	Advanced Qualitative Methods	4	8							
64	DPP 621	Public Policy and Analysis	4	8							
65	DPP 637	Comparative Policy-Making and Public Policy	4	8				Public Policy			
66	DPP 670	Behavioral Economics and Public Policy	4	8				Public Policy			
GSE											
MA in Multilingual Education											
67	EDML 601	Introduction to Linguistics	3	6				1 year GSE MA in Multil.Education			
68	EDML 610	Foundations of Multilingual Education	3	6				1 year GSE MA in Multil.Education			
69	EDML 613	The Multilingual School	3	6				2 year GSE MA in Multil.Education			
70	EDML 620	Language and Literacy Development	3	6				2 year GSE MA in Multil.Education			
71	EDML 690	Thesis Research I	3	6				2 year GSE MA in Multil.Education			
MSc Educational Leadership HE											
72	EDHE 609	Introduction to Educational Leadership: Higher Education	3	6				1 year GSE Educ.Leadership			
73	EDHE 610	Applying Educational Leadership in Kazakhstan	3	6				1 year GSE Educ.Leadership			
74	EDHE 691	Thesis Seminar II	3	6				2 year GSE Educ.Leadership			
75	EDUC 505	Academic English 1	1.5	3				1 year GSE Educ.Leadership			
76	EDUC 507	Academic English III	1.5	3				2 year GSE Educ.Leadership			
77	EDUC 510	Advanced English for Education Professionals I	3	6				1 year GSE MA in Multil.Education			
78	EDUC 512	English for Thesis Writing I	3	6				2 year GSE MA in Multil.Education			

79	EDUC 571	Basic Kazakh	3	6				1 year GSE Educ.Leadership			
80	EDUC 572	Kazakh for Professional Purposes	3	6				2 year GSE Educ.Leadership			
81	EDUC 590	Academic English Writing for Doctoral Students I	3	6				1 year GSE PhD Education			
82	EDUC 591	Academic English Writing for Doctoral Students II	3	6				2 year GSE PhD Education			
83	EDUC 602	Educational Context and Reform in Kazakhstan	3	6				1 year GSE Educ.Leadership, 1 year GSE MA in Multil.Education			
84	EDUC 607	Research Methods 1	3	6				1 year GSE Educ.Leadership, 1 year GSE MA in Multil.Education			
85	EDUC 701	Education Research Methods	3	6				1 year GSE PhD Education			
86	EDUC 709	Introduction to Scholarship in Education	3	6				1 year GSE PhD Education			
87	EDUC 712	Educational Policy and Reform	3	6				1 year GSE PhD Education			
88	EDUC 720	Philosophy of Education	3	6				1 year GSE PhD Education			
89	EDUC 740	Doctoral Seminar	3	6				For PhD in Education, Year 3. Registration by School Admin			
90	EDUC 750	Dissertation Research	9	18				For PhD in Education, Year 3. Registration by School Admin			
91	EDUC 800	International Study	12	24				2 year GSE PhD Education			
MSc Educational Leadership IE											
92	EDIE 609	Introduction to Educational Leadership: Inclusive Education	3	6				1 year GSE Educ.Leadership			
93	EDIE 651	Inclusive Education: Policy Perspectives	3	6				1 year GSE Educ.Leadership			
94	EDIE 652	Curriculum Design: perspectives on Addressing Barriers to Teaching and Learning (Including SEN)	3	6				1 year GSE Educ.Leadership			
95	EDIE 691	Thesis Seminar II	3	6				2 year GSE Educ.Leadership			
MSc Educational Leadership SE											

96	EDSE 609	Introduction to Educational Leadership: School Education	3	6				1 year GSE Educ.Leadership			
97	EDSE 636	Preparing Children for the Future: Skills and Employability	3	6				1 year GSE Educ.Leadership			
98	EDSE 637	Student Discourse and Argumentation: Theories, Practices and Policies	3	6				1 year GSE Educ.Leadership			
99	EDSE 691	Thesis Seminar II	3	6				2 year GSE Educ.Leadership			
Other											
Other											
100	T - 18299	Organizations Sociology	3	6							
101	T- 16673	Economic History of the World	3	6							
102	T- 17289	Literature and Culture of English Speaking	3	6							
103	T- 17312	Literature and Gender in English	3	6							
104	T- 17328	European Literatures	3	6							
105	T- 18271	Econometrics I	3	6							
106	T- 18620	World System: Colonialism and Post-Colonialism	3	6							
107	T- 18620	Intercultural Communication	3	6							
108	T-1C 90011	Japanese Culture	1	2							
109	T-1C 90031	Career Design I	1.5	3							
110	T-BC 51541	English Discussion Seminar (D)	2	4							
111	T-CMD 17	Computer and Data Processing	1.5	3							
112	T-DECISION 618	Data Analytics for Business	3	6							
113	T-E&E 17	Energetics and Environment	3	6							
114	T-EG 11442	English Communication for Biology I	1	2							
115	T-EG 32131	Chemical Ecology	2	4							
116	T-EG 34221	Metabolic and Physiological Chemistry II	1.5	3							
117	T-EG 35031	Molecular Developmental Genetics	1.5	3							
118	T-EG 35131	Molecular Biology III	2	4							
119	T-EG 38131	Vertebrate Evolution	1.5	3							

120	T-ENL 17	Culture and Business Environment (English)	1.5	3							
121	T-FRL 17	French Language	1.5	3							
122	T-HE 40131	Clinical Hematology	3	6							
123	T-ITR 17	Introduction to Research/Embedded System	1.5	3							
124	T-MARKETNG 797	Consumer Behavior	3	6							
125	T-MAS 17	Material Science	3	6							
126	T-MAT 17	Mathematics	2	4							
127	T-MEC 17	Mechanics	1.5	3							
128	T-MP 30GB	Managing Global Business Projects	3	6							
129	T-MP 31	Information Supply Chain	1.5	3							
130	T-PP 5144	Decision and Game Theory for Public Managers	4	8							
131	T-PP 5168	Public Service Leadership	4	8							
132	T-PP 5178	Leadership and Decision-Making Skills	4	8							
133	T-PP 5191	Public Administration, Technology and Innovation	4	8							
134	T-PP 5196	Education Economics and Policy	4	8							
135	T-PP 5203	Behavioral Economics and Public Policy	4	8							
136	T-PP 5216	Economic Growth in Developing Asia	4	8							
137	T-PP 5267	Urban Transport Policy: A Global View	4	8							
138	T-PP 5298	Singapore's Development Experience	4	8							
139	T-PP 5511	Systemic and Integrated Policy Design and Analysis	4	8							
140	T-ROB 17	Robotics	1.5	3							
141	T-SCE 17	Civil and Environmental Engineering	1	2							
142	T-SPI 17	Basics of Signal Processing and Imaging Methods	1.5	3							
143	T-STR 17	Control Systems	2	4							
SoM											
MMM											
144	MMMM 501	Molecular Basis of Infection	3	6							
145	MMMM 502	Molecular Basis of Cancer	3	6							

146	MMMM 504	Molecular Basis of Genetic Disease	3	6							
147	MMMM 505	Inferential Biostatistics	2	4							
148	MMMM 506	Biocomputing	1	2							
149	MMMM 513	Molecular Basis of Neurological Disorders	3	6							
150	MMMM 603	Recombinant Drugs	3	6							
151	MMMM 604	Nutrigenomics	1.5	3							
152	MMMM 605	Developmental Biology	3	6							
Nursing											
153	NUR 401	Education: Principles and Practice for Teaching in Nursing	4	8							
154	NUR 403	Data Analytics for Quality Improvement in Healthcare	3	6							
155	NUR 404	Community and Home Health Nursing	4	8							
156	NUR 406.1	Medical-Surgical Nursing: Complex Surgical Management	4	8							
Public Health											
157	PUBH 501	Principles of Public Health Problem Solving	3	6							
158	PUBH 510	Inferential Biostatistics	1.5	3	MMMM 505 Inferential Biostatistics (3839) (C and above)						
159	PUBH 511	Inferential Biostatistics	3	6							
160	PUBH 521	Principles of Analytical Epidemiology	3	6							
161	PUBH 528	Qualitative Research Methods	3	6							
162	PUBH 531	Emerging Infectious Diseases	3	6							
163	PUBH 551	Health Services Management, Health Economic and Health Policy	3	6							
164	PUBH 601	Health Education and Promotion	3	6							
165	PUBH 641	Problem Investigations in Environmental Health	3	6							
166	PUBH 662	Graduate Research Seminar II	3	6							
167	PUBH 681	Master's Project Planning	3	6							
SMG											
Mining Engineering											

168	MINE 501	Foundations of Mining	3	6						
169	MINE 502	Geology for Mining Engineers	3	6						
170	MINE 503	Applied Geostatistics	3	6						
171	MINE 504	Mine Geomechanics	3	6						
172	MINE 505	Advanced Mine Ventilation	3	6						
173	MINE 524	Advanced Tunnelling	3	6				2 year Gr SMG		
174	MINE 602	Mine Maintenance and Services	3	6	MINE 502 Geology for Mining Engineers (3691) (C- and above)					
175	MINE 603	Multivariate Geostatistics	3	6	MINE 503 Applied Geostatistics (3692) (C- and above)			2 year Gr SMG		
176	MINE 604	Geology of Ore Deposits	3	6				2 year Gr SMG		
177	MINE 606	Underground Hard Rock Geotechnical Engineering	3	6				2 year Gr SMG		
178	MINE 690	Thesis I	6	12						
Petroleum Engineering										
179	PETE 501	Foundations of Petroleum Engineering	3	6						
180	PETE 502	Petroleum Geology	3	6						
181	PETE 503	Fluid Flow Through Porous Media	3	6						
182	PETE 504	Advanced Formation Evaluation	3	6						
183	PETE 505	Advanced Drilling Engineering	3	6						
School of Mining and Geosciences										
184	SMG 710	Research Methods and Statistics	3	6				Science, Engineering and Technology		
SSH										
Area Studies										
185	EAS 500	Introduction to Eurasia	4	8				Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST	
186	EAS 501	General Methodology	4	8				Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST	
187	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)			2 year Gr SHSS Eurasian Studies		

188	EAS 511	Independent Study in Eurasian Studies	4	8							
Area Studies, Political Science and International Relations, Sociology and Anthropology											
189	SOC 514/PLS 514/EAS 506	Qualitative Research Methods	4	8				Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
Biological Science											
190	BIOL 101	Biology for non-Science majors	3	6			BIOL 110 Modern Biology I (1070) (C- and above)	SEng, SHSS, SMG			
191	BIOL 110	Modern Biology I	3	6				Biological Sciences, Chemistry	SST	SHSS	
192	BIOL 230	Human Anatomy and Physiology I	4	8			BIOL 110 Modern Biology I (107) (C and above) OR BIOL 110 Modern Biology I (1070) (C and above)	Biological Sciences	SST	SEng, SHSS, SMG	
193	BIOL 305	Introduction to Microbiology with Lab	4	8			BIOL 110 Modern Biology I (1070) (C and above) AND BIOL 120 Modern Biology II (1195) (C and above)	Biological Sciences	SST	SEng, SHSS, SMG	
194	BIOL 310	Immunology	3	6			BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) OR BIOL 305 Introduction to Microbiology with Lab (1642) (C and above) OR BIOL 301 Molecular Cell Biology (5809) (C and above) OR BIOL 305 Introduction to Microbiology (5789) (C and above)	Biological Sciences	SST	SEng, SHSS, SMG	
195	BIOL 320	Developmental Biology	3	6			BIOL 230 Human Anatomy and Physiology I (72) (C and above) OR BIOL 230 Human Anatomy and Physiology I (6217) (C and above)	Biological Sciences	SST	SEng, SHSS, SMG	

196	BIOL 340	Introduction to Applied Bioinformatics	4	8	(BIOL 120 Modern Biology II (1195) (C and above) OR (BIOL 120 Modern Biology II (1195) (C and above) AND BIOL 120L Modern Biology II Laboratory (5443) (C and above))) AND MATH 310 Applied Statistical Methods (82) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG
197	BIOL 355	Critical Research Reasoning	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG
198	BIOL 385	Cell signaling: principles and mechanisms	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG
199	BIOL 392	Directed Study in Biology	3	6				Through Add form only		
200	BIOL 452	Biology of Cancer	3	6	BIOL 231 Human Anatomy and Physiology II (479) (C and above) OR BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) OR BIOL 331 Human Anatomy and Physiology II (6218) (C and above) OR BIOL 301 Molecular Cell Biology (5809) (C and above)			Biological Sciences	SST	SEng, SHSS, SMG
201	BIOL 455	Biotechnology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C- and above) OR (BIOL 301 Molecular Cell Biology (5809) (C- and above) AND BIOL 301L Molecular Cell Biology Laboratory (5678) (C- and above))			Biological Sciences	SST	SEng, SHSS, SMG
202	BIOL 470	Advanced Cell Biology	3	6	BIOL 120 Modern Biology II (1195) (C and above) AND BIOL 110L Modern Biology I Laboratory (5448) (C and above) AND (BIOL 341 Biochemistry I (2002) (C and above) OR CHEM 341 Biochemistry I (1058) (C and above))			Biological Sciences	SST	SEng, SHSS, SMG

203	BIOL 490	Honors Thesis Research	0	0	BIOL 355 Critical Research Reasoning (1000) (B and above)			Through Add form only			
204	BIOL 520	Statistical Methods in Life Sciences	3	6							
205	BIOL 550	Structural and Molecular Biology in Health and Disease	3	6							
206	BIOL 560	Molecular Biology of Prokaryotic Cells	3	6							
207	BIOL 600	Graduate Seminar Series	3	6							
208	BIOL 623	Advanced Immunology	3	6				Biological Sciences	SST, Science, Engineering and Technology	SEng, SHSS	
209	BIOL 635	Hot Topics in Life Sciences	3	6							
210	BIOL 670	Gene Therapy	3	6				Biological Sciences	SST, Science, Engineering and Technology	SEng, SHSS	
211	BIOL 690	Research Thesis I	6	12							
Chemistry											
212	CHEM 090	Chemistry for Non-Science majors	3	6				SHSS			
213	CHEM 091	Survey of Physical Science	3	6				SHSS			
214	CHEM 101	General Chemistry I	3	6				Biological Sciences, Chemistry, SMG	SST	SEng, SHSS	
215	CHEM 101L	General Chemistry I lab	1	2		CHEM 101 General Chemistry I (113) (C and above)		Biological Sciences, Chemistry, SMG	SST	SEng, SHSS	
216	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)			Chemistry	Biological Sciences	SST	
217	CHEM 211L	Organic Chemistry I Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 211 Organic Chemistry I (154) (C and above)		Chemistry	Biological Sciences	SST	
218	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	
219	CHEM 220	Quantitative Chemical Analysis	3	6	CHEM 102 General Chemistry II (232) (C and above)			Chemistry	Biological Sciences	SST	

220	CHEM 250	Descriptive Inorganic Chemistry	3	6	CHEM 101 General Chemistry I (113) (C and above)			Chemistry	Biological Sciences	SST	
221	CHEM 331	Physical Chemistry I	3	6	CHEM 220 Quantitative Chemical Analysis (555) (C and above) AND PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C and above)			Chemistry	Biological Sciences	SST	
222	CHEM 331L	Physical Chemistry Lab	1	2		CHEM 331 Physical Chemistry I (634) (C and above)		Chemistry	Biological Sciences	SST	
223	CHEM 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			Chemistry	Biological Sciences	SST	
224	CHEM 341L	Biochemistry I Lab	1	2	CHEM 212L Organic Chemistry II Lab (444) (C and above)	CHEM 341 Biochemistry I (1058) (C and above)		Chemistry	Biological Sciences	SST	
225	CHEM 350	Advanced Inorganic Chemistry	3	6	CHEM 212 Organic Chemistry II (443) (C and above) AND CHEM 212L Organic Chemistry II Lab (444) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)			Chemistry	Biological Sciences	SST	
226	CHEM 400	Chemistry Seminar	3	6	CHEM 380 Research Methods (636) (C and above)			Chemistry	Biological Sciences	SST	
227	CHEM 410	Structural Spectroscopy	4	8	CHEM 212 Organic Chemistry II (443) (C and above)			Chemistry	Biological Sciences	SST	
228	CHEM 471	Environmental Chemistry	3	6	CHEM 102 General Chemistry II (232) (C and above)			Chemistry	Biological Sciences	SST	
Communication and Composition											
229	WCS 150	Rhetoric and Composition	3	6				1 year UG SENG, 1 year UG SMG, 1 year UG SST	1 year UG SHSS, 2 year UG SENG, 2 year UG SHSS, 2 year UG SST	SEng, SHSS, SMG, SST	
230	WCS 240	Writing for Digital Media	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			SHSS	SEng, SMG, SST		

231	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											
232	ECON 101	Introduction to Microeconomics	3	6				1 year UG SHSS	2 year UG SHSS	SEng, SHSS, SMG, SST	
233	ECON 102	Introduction to Macroeconomics	3	6				1 year UG SHSS	2 year UG SHSS	SEng, SHSS, SMG, SST	
234	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	
235	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	
236	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	

237	ECON 301	Econometrics I	3	6	ECON 211 Economic Statistics (2280) (C- and above) OR (MATH 321 Probability (482) (C- and above) AND (MATH 322 Mathematical Statistics (1165) (C- and above) OR MATH 310 Applied Statistical Methods (82) (C- and above)))			Economics	SHSS	SEng, SMG, SST	
238	ECON 302	Game Theory and Economic Analysis	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)		PLS 315 Political Game Theory (704) (C- and above)	Economics	SHSS	SEng, SMG, SST	
239	ECON 321	Economic Growth	3	6	ECON 202 Intermediate Macroeconomics (207) (C- and above)			Economics	SHSS	SEng, SMG, SST	
240	ECON 325	International Trade	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics	SHSS	SEng, SMG, SST	
241	ECON 326	The Economics of Financial Markets	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics	SHSS	SEng, SMG, SST	
242	ECON 328	Labor Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics	SHSS	SEng, SMG, SST	
243	ECON 341	Economic Simulation Modeling	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics	SHSS	SEng, SMG, SST	
244	ECON 399	Independent Study in Economics	3	6							
245	ECON 405	Behavioral and Experimental Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics	SHSS	SEng, SMG, SST	
246	ECON 413	Econometrics II Time Series	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics	SHSS	SEng, SMG, SST	
247	ECON 416	Empirical Industrial Organization	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics	SHSS	SEng, SMG, SST	
248	ECON 501	Microeconomics I	4	8				1 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
249	ECON 502	Macroeconomics I	4	8				1 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		

250	ECON 505	Behavioral and Experimental Economics	4	8				2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
251	ECON 511	Statistics	4	8				1 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
252	ECON 512	Mathematical Economics	4	8				1 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
253	ECON 516	Empirical Industrial Organization	4	8	ECON 501 Microeconomics I (2187) (C- and above) AND ECON 531 Econometrics (2505) (C- and above)			2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
254	ECON 532	Applied Econometrics	4	8				2 year Gr SHSS Economics	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
255	ECON 589	Thesis I	4	8				2 year Gr SHSS Economics			
History, Philosophy and Religious Studies											
256	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	
257	HST 105	Introduction to World Environmental History	3	6				1 year UG SHSS, 2 year UG SHSS, History	SEng, SHSS, SMG, SST		
258	HST 123	Introduction to the History of Science and Technology	3	6				1 year UG SHSS, 2 year UG SHSS, History	SEng, SHSS, SMG, SST		
259	HST 124	Introduction to the History of Medicine	3	6				1 year UG SHSS, 2 year UG SHSS, History	SEng, SHSS, SMG, SST		
260	HST 238	Clash of Civilizations: Communities, Confessions and Empires in Central Europe, 1000-1890	3	6				History	SEng, SHSS, SMG, SST		
261	HST 240	Representations of Nature in the Early Modern World	3	6	HST 100 History of Kazakhstan (172) (C- and above)			History	SEng, SHSS, SMG, SST		
262	HST 336	The Totalitarian Phenomenon	3	6	HST 100 History of Kazakhstan (172) (C- and above)			History	SEng, SHSS, SMG, SST		
263	HST 498	Directed Reading	3	6				4 year UG SHSS History and Culture			
264	PHIL 101	Introduction to Philosophy	3	6				SEng, SHSS, SMG, SST			
265	PHIL 141	Critical Thinking	3	6				SEng, SHSS, SMG, SST			

266	PHIL 210	Ethics	3	6				SEng, SHSS, SMG, SST		
267	PHIL 232	Philosophy of Law	3	6				SEng, SHSS, SMG, SST		
268	PHIL 240	Formal Logic	3	6				SEng, SHSS, SMG, SST		
269	PHIL 241	Beyond Common Sense: An Introduction to Paradox	3	6				SEng, SHSS, SMG, SST		
270	PHIL 362	Philosophy of Mind	3	6				SEng, SHSS, SMG, SST		
271	PHIL 399	Special Topics in Philosophy	3	6	PHIL 101 Introduction to Philosophy (242) (C- and above) OR PHIL 210 Ethics (459) (C- and above) OR PHIL 320 Truth, Knowledge and Belief (470) (C- and above) OR PHIL 230/PLS 230 Religion and Democracy (671) (C- and above)					
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies										
272	HST 262/REL 264	Islamic History of Central Eurasia	3	6	HST 100 History of Kazakhstan (172) (C- and above)			History	SEng, SHSS, SMG, SST	
273	PHIL 265/REL 265	Becoming a Sage: Introduction to Daoism	3	6				SEng, SHSS, SMG, SST		
274	REL 110/HST 110	Introduction to World Religions	3	6				GSE, GSB, GSPP, SEng, SHSS, SMG, SST		
History, Philosophy and Religious Studies, Political Science and International Relations										
275	HST 213/PLS 241	Public Health, Society, and the State	3	6				History, Political Science and International Relations	SEng, SHSS, SMG, SST	
History, Philosophy and Religious Studies, Sociology and Anthropology										
276	ANT 313/REL 332	Islam and Politics in Eurasia	3	6				Anthropology, Political Science and International Relations, Sociology	3 year UG SHSS, 4 year UG SHSS	SEng, SHSS, SMG, SST
Kazakh Language and Turkic Studies										
277	KAZ 201	Academic Kazakh I	3	6	KAZ 150 Basic Kazakh (1215) (C- and above) OR KLL "[B1.2] Intermediate"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST

278	KAZ 202	Academic Kazakh II	3	6	KAZ 201 Academic Kazakh I (4561) (C- and above) OR KLL "[B2.2] Upper-Interm."				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
279	KAZ 211	Academic Speaking in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"		KAZ 212 Academic Writing in Kazakh (703) (C- and above)		1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
280	KAZ 212	Academic Writing in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"		KAZ 211 Academic Speaking in Kazakh (702) (C- and above)		1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
281	KAZ 226	Kazakh for Medical School	3	6	KLL "[B1.2] Intermediate"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
282	KAZ 313	Kazakh for Business	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
283	KAZ 351	Kazakh Short Stories	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
284	KAZ 354	Kazakh Drama	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
285	KAZ 356	Kazakh Music History	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST

286	KAZ 357	Literature of Alash	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
287	KAZ 362	Creative Writing in Kazakh Language	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
288	KAZ 363	Language and Globalization	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
289	KAZ 364	Kazakh for Civil Service	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
290	KAZ 368	Onomastics: History and Function of Names	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
291	KAZ 371	Contemporary Kazakh Literature	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
292	KAZ 372	Language and ethnicity	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST
293	KAZ 373	Kazakh Terminology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, SEng, SMG, SST

294	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, 4 year UG SHSS, SENG, SMG, SST	
295	KAZ 375	Cultural Studies and Kazakh Culture	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"				1 year UG SENG, 1 year UG SMG, 1 year UG SST, 4 year UG SENG, 4 year UG SHSS, 4 year UG SST	1 year UG SHSS, 2 year UG SHSS, 3 year UG SHSS, 4 year UG SHSS, SENG, SMG, SST	
Languages, Literature and Linguistics											
296	FRE 101	Beginning French I	4	8				World Languages, Literature and Culture	1 year UG SHSS, 2 year UG SHSS	SEng, SHSS, SMG, SST	
297	FRE 311	French for Oral Proficiency	3	6	FRE 201 Intermediate French I (667) (C- and above)			SEng, SHSS, SMG, SST			
298	GER 101	Beginning German	4	8				World Languages, Literature and Culture	1 year UG SHSS, 2 year UG SHSS	SEng, SHSS, SMG, SST	
299	GER 202	Intermediate German II	4	8	GER 201 Intermediate German I (3722) (C- and above)			SEng, SHSS, SMG, SST			
300	KOR 101	Beginning Korean I	4	8							
301	LING 130	Introduction to Language and Communication	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
302	LING 131	Introduction to Linguistics	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
303	LING 272	Language and the Mind	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
304	LING 273	Survey of Research Methods in Linguistics	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
305	LING 275	Second Language Acquisition Theory and Research I	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
306	LING 277	Language Diversity and Language Universals	3	6	LING 131 Introduction to Linguistics (1394) (C and above)			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
307	LING 278	Sounds of the World's Languages	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	

308	LING 374	Language Contact in Central Asia	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
309	PER 101	Beginning Persian I	4	8				World Languages, Literature and Culture	1 year UG SHSS, 2 year UG SHSS	SEng, SHSS, SMG, SST	
310	SPA 101	Beginning Spanish I	4	8				World Languages, Literature and Culture	1 year UG SHSS, 2 year UG SHSS	SEng, SHSS, SMG, SST	
311	SPA 201	Intermediate Spanish I	4	8	SPA 102 Beginning Spanish II (1128) (C- and above)			SEng, SHSS, SMG, SST			
312	SPA 314	Advanced Spanish Grammar and Composition	3	6	SPA 202 Intermediate Spanish II (1842) (C- and above)			SEng, SHSS, SMG, SST			
313	WLL 110	Introduction to Literary Studies	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
314	WLL 201	World Literature I	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
315	WLL 209	Introduction to Translation Studies	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
316	WLL 257	Fan Culture in the Age of Convergence	3	6				World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
317	WLL 314	Petersburg Text in Russian Literature	3	6	Subject "WLL" BETWEEN 100 and 499 OR Subject "HST" BETWEEN 100 and 499			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
318	WLL 440	Oral Epic in Central Asia	3	6	Subject "WLL" BETWEEN 100 and 499			World Languages, Literature and Culture	SHSS	SEng, SMG, SST	
319	WLL 498	Languages, Linguistics, and Literatures Capstone I	3	6				Through Add form only			
320	WLL 540	Oral Epic in Central Asia	4	8				Eurasian Studies	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		

Languages, Literature and Linguistics, Sociology and Anthropology

321	ANT 376/WLL 376	Language, Gender, and Sexuality	3	6	WLL 171/ANT 175 Introduction to Linguistic Anthropology (4417) (C- and above) OR ANT 277/WLL 271 Language and Society (1027) (C- and above) OR LING 131 Introduction to Linguistics (1394) (C- and above) OR LING 130 Introduction to Language and Communication (4014) (C- and above)			4 year UG SHSS Anthropology, 4 year UG SHSS World Language and Literature	SHSS	SEng, SMG, SST
322	ANT 385/WLL 385	Postcolonial Theory and its Applications in Eurasia	3	6	ANT 110 Introduction to Sociocultural Anthropology (501) (C- and above) OR SOC 101 Introduction to Sociology (508) (C- and above) OR WLL 121 Introduction to Cultural Studies (243) (C- and above) OR WLL 102 /PHIL 102 Language, Experience, Culture (2481) (C- and above)			Anthropology, Sociology, World Languages, Literature and Culture	3 year UG SHSS, 4 year UG SHSS	SEng, SHSS, SMG, SST
323	WLL 171/ANT 175	Introduction to Linguistic Anthropology	3	6			ANT 277/WLL 271 Language and Society (1027) (C- and above)	1 year UG SHSS, Anthropology, World Languages, Literature and Culture	SHSS	SEng, SMG, SST
Mathematics										
324	MATH 109	Mathematical Discovery	3	6			MATH 161 Calculus I (118) (C- and above)	SHSS	SST	
325	MATH 161	Calculus I	4	8				1 year UG SENG, 1 year UG SMG, 1 year UG SST	SST	SEng, SHSS
326	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			3 year UG SHSS, 4 year UG SHSS, SST	SHSS	
327	MATH 251	Discrete Mathematics	3	6	MATH 161 Calculus I (118) (C and above)			Computer Science, Mathematics	Physics, Robotics and Mechatronics, SHSS	
328	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			4 year UG SHSS, SST	SHSS	
329	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	
330	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			4 year UG SHSS, SST	SHSS	

331	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		
332	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		
333	MATH 323	Actuarial Mathematics I	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above) OR (MATH 162 Calculus II (170) (C and above) AND MATH 310 Applied Statistical Methods (82) (C and above))			Mathematics	SHSS		
334	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		
335	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		
336	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		
337	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		

338	MATH 480	Complex Analysis	3	6	MATH 263 Calculus III (81) (C and above)			Mathematics	SHSS, SST		
339	MATH 481	Partial Differential Equations	3	6	MATH 274 Introduction to Differential Equations (484) (C and above)	MATH 480 Complex Analysis (618) (C and above)		Mathematics	SHSS, SST		
340	MATH 517	Scientific Modeling and Simulation with Mathematics	3	6							
341	MATH 518	Applied Finite Element Analysis	3	6							
342	MATH 540	Statistical Learning	3	6							
343	MATH 576	Numerical Methods for Partial Differential Equations	3	6							
344	MATH 676	Advanced Partial Differential Equations with Applications	3	6							
Physics											
345	PHYS 161	Physics I for Scientists and Engineers with Laboratory	4	8		MATH 161 Calculus I (118) (C and above)	PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above)	1 year UG SENG, 1 year UG SMG, 1 year UG SST	SST	SEng, SHSS, SMG	
346	PHYS 201	Introductory Astronomy I	3	6				Physics	SEng, SHSS, SMG, SST		
347	PHYS 221	Classical Mechanics I	3	6	(PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above)) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			Physics	SST	SEng, SHSS, SMG	
348	PHYS 261	Modern Physics with laboratory	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 152 Introductory Physics II with Lab (1176) (C- and above) OR PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			Physics	SST	SEng, SHSS, SMG	

349	PHYS 315	Mathematical Methods of Physics	3	6	(PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above) OR PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)) AND MATH 274 Introduction to Differential Equations (484) (C- and above)		Physics	SST	SEng, SHSS, SMG	
350	PHYS 361	Classical Electrodynamics I	3	6		PHYS 315 Mathematical Methods of Physics (653) (D and above) OR PHYS 411 Advanced Mathematical Physics (3142) (D and above)	Physics	SST	SEng, SHSS, SMG	
351	PHYS 452	Quantum Mechanics II	3	6	PHYS 451 Quantum Mechanics I (1415) (C- and above)		Physics	SST	SEng, SHSS, SMG	
352	PHYS 465	Advanced Experimental Physics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)		Physics	SST	SEng, SHSS, SMG	
353	PHYS 474	Lasers and Photonics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)		Physics	SST	SEng, SHSS, SMG	
354	PHYS 505	Classical Mechanics	3	6						
355	PHYS 511	Computational Modeling and Simulation	3	6			Physics	SST, Science, Engineering and Technology	SEng, SHSS	
356	PHYS 515	Classical Electrodynamics	3	6						
357	PHYS 550	Advanced Mathematical Physics	3	6			Physics	SST, Science, Engineering and Technology	SEng, SHSS	
358	PHYS 574	Lasers and Photonics	3	6			Physics	SST, Science, Engineering and Technology	SEng, SHSS	
359	SST 501	Teaching and Learning	3	6						
Political Science and International Relations										
360	PLS 101	Introduction to Political Science	3	6				SEng, SMG, SST	SHSS	
361	PLS 120	Introduction to Political Theory	3	6				Political Science and International Relations	SHSS	SEng, SMG, SST

362	PLS 140	Introduction to Comparative Politics	3	6				1 year UG SHSS, Political Science and International Relations	SHSS	SEng, SMG, SST	
363	PLS 150	Introduction to International Relations	3	6				1 year UG SHSS, Political Science and International Relations	SHSS	SEng, SMG, SST	
364	PLS 210	Political Science Research Methods	3	6				Political Science and International Relations	SHSS	SEng, SMG, SST	
365	PLS 211	Quantitative Methods	3	6			ECON 211 Economic Statistics (2280) (C- and above)	Political Science and International Relations	SHSS	SEng, SMG, SST	
366	PLS 312	Public Opinion and Elections	3	6	PLS 211 Quantitative Methods (221) (C- and above) OR ECON 211 Economic Statistics (2280) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
367	PLS 315	Political Game Theory	3	6	PLS 211 Quantitative Methods (221) (C- and above) OR ECON 101 Introduction to Microeconomics (379) (C and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
368	PLS 340	Politics of East Asia	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
369	PLS 342	Political Corruption	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
370	PLS 359	United Nations	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
371	PLS 361	Memory Politics in East Asia	3	6				SEng, SHSS, SMG, SST			
372	PLS 370	Law, Politics and Society	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
373	PLS 395	Independent Study	3	6	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			Through Add form only			

374	PLS 416	Experimental Political Science	3	6	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
375	PLS 431	Politics and Governance of the Russian Federation	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
376	PLS 432	Comparative Democratization	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
377	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	
378	PLS 458	International Organization	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
379	PLS 465	Politics of International Finance	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SHSS	SEng, SMG, SST	
380	PLS 511	Advanced Research I	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
381	PLS 516	Experimental Political Science	4	8	PLS 511 Advanced Research I (1631) (C- and above)			Political Science and International Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
382	PLS 532	Comparative Democratization	4	8	PLS 540 Core Seminar in Comparative Politics (1374) (C- and above)			Political Science and International Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
383	PLS 540	Core Seminar in Comparative Politics	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
384	PLS 541	Advanced Topics in Comparative Politics	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
385	PLS 550	Core Seminar in IR	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		

386	PLS 565	Politics of International Finance	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
387	PLS 581	Independent Study in Political Science	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
388	PLS 597	Research for Thesis	6	12				Political Science and International Relations	GSB, GSE, GSPP, SEng, SHSS, SMG, SST		
SSH											
389	SSH 300	School of Sciences and Humanities Internship	3	6				Through Add form only			
390	SSH 301	School of Sciences and Humanities Internship: Second Experience	3	6				Through Add form only			
Sociology and Anthropology											
391	ANT 110	Introduction to Sociocultural Anthropology	3	6				1 year UG SHSS, 2 year UG SHSS Sociology, Anthropology	2 year UG SHSS	SEng, SHSS, SMG, SST	
392	ANT 140	World Prehistory	3	6				1 year UG SHSS, 2 year UG SHSS Sociology, Anthropology	2 year UG SHSS	SEng, SHSS, SMG, SST	
393	ANT 262	Monkey business: Primate Society and Behavior	3	6				2 year UG SHSS, Anthropology, Biological Sciences	SHSS	SEng, SMG, SST	
394	ANT 280	Introduction to Medical Anthropology	3	6				1 year UG SHSS, 2 year UG SHSS Sociology, Anthropology, Biological Sciences	2 year UG SHSS	SEng, SHSS, SMG, SST	
395	ANT 312	The Anthropology of Conflict	3	6				Anthropology, Sociology	3 year UG SHSS, 4 year UG SHSS	SEng, SHSS, SMG, SST	
396	ANT 400	Research Assistance in Anthropology	1	2							
397	ANT 404	Research Assistance in Anthropology	3	6							
398	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	
399	SOC 201	Social Science Research Methods	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
400	SOC 210	Gender and Society	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	

401	SOC 215	Sociology of Race and Ethnicity	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
402	SOC 223	Social Movements: How People Make Change	3	6				Anthropology, Sociology	SHSS	SEng, SMG, SST	
403	SOC 318	Sexuality and Gender in a Transnational World	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above) OR SOC 210 Gender and Society (226) (C- and above)			Anthropology, Sociology	SHSS	SEng, SMG, SST	
404	SOC 320	Organized Crime and Corruption	3	6	SOC 101 Introduction to Sociology (508) (C- and above)			Anthropology, Sociology	SHSS	SEng, SMG, SST	
405	SOC 322	Digital Media Research Methods	3	6	SOC 201 Social Science Research Methods (1341) (C- and above) OR SOC 203 Quantitative Methods in Sociology (1377) (C- and above) OR ECON 211 Economic Statistics (2280) (C- and above) OR PLS 210 Political Science Research Methods (129) (C- and above)			Anthropology, Sociology	SHSS	SEng, SMG, SST	
406	SOC 498	Capstone Seminar Part I	3	6				4 year UG SHSS Sociology			
Sociology and Anthropology, Sociology and Anthropology											
407	ANT 281/SOC 281	Health, Illness and Society	3	6				Anthropology, Biological Sciences, Sociology	SHSS	SEng, SMG, SST	
408	SOC 212/ANT 285	Food and Society	3	6							
SEDS											
Chemical Engineering											
409	MCHE 600	MSc Thesis in Chemical Engineering	15	30							
Chemical and Materials Engineering											
410	CHME 350	Soft Matter, Foods and Colloids	3	6				4 year UG SEng Chemical Engineering			
411	ECHE 126	Introduction to Chemical Engineering	3	6							
412	ECHE 222	Chemistry I	3	6							
413	ECHE 319	Chemical Engineering Thermodynamics	3	6							

414	ECHE 333	Separation Processes-I	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above)						
415	ECHE 369	Transport Phenomena-II	3	6							
416	ECHE 385	Research Practice	3	6							
417	ECHE 418	Capstone project 1	3	6	ECHE 323 Computational methods in Chemical Engineering-I (1272) (D and above)						
418	ECHE 478	Electrochemical Engineering and Corrosion Protection	3	6	ECHE 222 Chemistry I (731) (D and above)			4 year UG SEng Chemical Engineering			
419	ECHE 481	Chemical Reaction Engineering	3	6	ECHE 126 Introduction to Chemical Engineering (33) (D and above) AND BENG 124 Engineering Mathematics I (101) (D and above) AND BENG 225 Engineering Mathematics II (48) (D and above)						
420	ECHE 484	Multiphase Systems	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above) AND ECHE 270 Transport Phenomena-1 (735) (D and above)			4 year UG SEng Chemical Engineering			
421	ECHE 486	Chemical Process Safety	3	6							
422	ECHE 488	Atmospheric Chemistry and Physics	3	6				4 year UG SEng Chemical Engineering			
423	MCHME 603	Advanced Materials Processing	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
424	MCHME 604	Advanced Materials Characterization Methods	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
425	MCHME 605	Advanced Chemical Reaction Engineering	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
Civil Engineering											
426	MCE 600	MSc Thesis in Civil Engineering	15	30							
427	MSC 601	Technical Communication	3	6							

428	MSC 602	Advanced Applied Mathematics	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
429	MSC 615	Advanced Statistics and Probability	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
430	MSC 616	Research Methods	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
Civil and Environmental Engineering											
431	ECE 215	Surveying	3	6							
432	ECE 216	Civil Engineering CAD	3	6							
433	ECE 217	Structural Analysis I	3	6	BENG 117 Engineering Mechanics (740) (D and above)						
434	ECE 302	Civil Engineering Materials	3	6	BENG 221 Engineering Materials (47) (D and above)						
435	ECE 303	Construction Management and Practice	3	6	BENG 148 Engineering Practice (1073) (D and above)						
436	ECE 307	Engineering Geology and Rock Mechanics	3	6							
437	ECE 318	Structural Design - Concrete	3	6	ECE 479 Structural Analysis II (2460) (C- and above)						
438	ECE 401	Capstone Project 1	3	6							
439	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)						
440	ECE 405	Environmental Engineering	3	6	ECE 473 Environmental Systems (1953) (D and above) OR ECE 218 Environmental Chemistry (3296) (D and above)						
441	ECE 416	Highway Engineering	3	6	ECE 302 Civil Engineering Materials (1040) (D and above)						

442	ECE 421	Behaviour and Design of Structural System	3	6	(ECE 318 Structural Design - Concrete (3709) (D and above) OR ECE 314 Structural Engineering Applications I (1042) (D and above)) AND (ECE 319 Structural Design - Steel (4038) (D and above) OR ECE 315 Structural Engineering Applications II (1041) (D and above))			4 year UG SEng Civil Engineering			
443	ECE 481	Individual Research Projects in Civil Engineering	3	6							
444	ECE 482	Solid and Hazardous Waste Management	3	6	ECE 405 Environmental Engineering (1265) (C- and above)			4 year UG SEng Civil Engineering			
445	EMEM 507	Project Management	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
446	EMEM 509	Systems Engineering	3	6							
447	EMEM 523	Supply Chain Management	3	6							
448	EMEM 533	Engineering Management and Engineering Economy	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
449	EMEM 537	Engineering Decision Tools	3	6							
450	EMEM 539	Big Data and Information Management	3	6							
451	EMEM 542	Production and Service Operations Management	3	6							
452	EMEM 543	Quality and Lean Management	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
453	MCEE 603	Finite Element Methods	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
454	MCEE 604	Advanced Soil Mechanics	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
455	MCEE 605	Advanced Environmental Chemistry	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	

Computer Science

456	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	
457	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			
458	CSCI 235	Programming Languages	4	8	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
459	CSCI 262	Software Project Management	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science	SST	SHSS	
460	CSCI 281	Human-Computer Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science	SST	SHSS	
461	CSCI 299	Internship I	3	6				Through Add form only			
462	CSCI 344	Data Mining and Decision Support	3	6	CSCI 341 Database Systems (195) (C- and above) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			Computer Science			
463	CSCI 361	Software Engineering	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
464	CSCI 390	Artificial Intelligence	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
465	CSCI 398	Directed Study	3	6				Through Add form only			
466	CSCI 408	Senior Project I	3	6				Computer Science			

467	CSCI 434	Information Security	3	6		CSCI 333 Computer Networks (1145) (D and above)		Computer Science			
468	CSCI 471	Complexity and Computability	3	6	MATH 251 Discrete Mathematics (85) (C- and above)			Computer Science			
469	CSCI 494	Deep Learning	3	6	CSCI 390 Artificial Intelligence (643) (C and above) AND MATH 273 Linear Algebra with Applications (84) (C and above)			Computer Science			
470	CSCI 501	Software Principles and Practice	3	6							
471	CSCI 511	Theory of Computation	3	6							
472	CSCI 525	Quantum Computing	3	6				Computer Science, Physics	SST, Science, Engineering and Technology	SEng, SHSS	
473	CSCI 545	Big Data Analytics	3	6							
474	CSCI 575	Formal Methods and Applications	3	6							
475	CSCI 693	Thesis Proposal	3	6	SEDS 591 Research Methods (3184) (C- and above)						
476	SEDS 503	Laboratory Practicum	3	6	SEDS 502 Teaching Practicum (2824) (P)						
477	SEDS 591	Research Methods	3	6							
Electrical and Computer Engineering											
478	EEE 212	Signals and Systems	3	6	BENG 225 Engineering Mathematics II (48) (D and above)						
479	EEE 238	Digital Signal and Image Processing	3	6							
480	EEE 250	Microelectronic Devices and Circuits	3	6	BENG 114 Introduction to Electrical Systems (1076) (D and above)						
481	EEE 251	Electronic Engineering Design Principles	3	6	BENG 114 Introduction to Electrical Systems (1076) (D and above)						
482	EEE 342	Electromagnetics	3	6							
483	EEE 345	Power Electronics	3	6							
484	EEE 382	Antennas and Propagation	3	6							
485	EEE 384	Digital Integrated Circuits Design	3	6	EEE 250 Microelectronic Devices and Circuits (3152) (C- and above)						

486	EEE 437	Capstone Project 1	3	6							
487	EEE 448	Power Transmission and Distribution plants	3	6							
488	EEE 450	RF and Microwave Circuit Design	3	6							
489	EEE 451	High Voltage Engineering	3	6							
490	EEE 452	Power Systems Protection	3	6							
491	EEE 482	Mobile Communications	3	6	EEE 239 Communication systems (534) (C- and above)						
492	EEE 490	Introduction to Big Data	3	6							
493	EEE 491	Internet of Things	3	6	BENG 146 Programming for Engineers (2234) (C- and above) AND EEE 343 Embedded Microcontrollers (1532) (C- and above)						
494	EEE 492	Deep Learning Machines	3	6							
495	EEE 493	Industry 4.0	3	6							
496	MECE 603	Advanced Data Structures and Algorithms	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
497	MECE 605	Statistics and Probability for Electrical and Computer Engineers	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
498	MECE 606	Embedded Systems and Applications	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
Electrical and Electronic Engineering											
499	MEE 600	MSc Thesis in Electrical and Electronics Engineering	15	30							
Mechanical Engineering											
500	MME 600	Master Thesis in Mechanical Engineering	15	30							
Mechanical and Aerospace Engineering											
501	EME 253	Computer Aided Engineering	3	6							
502	EME 254	Mechanics of Materials	3	6							
503	EME 262	Machine Dynamics I	3	6							
504	EME 354	Advanced Control Systems	3	6	BENG 219 Control Systems (728) (D and above)						

505	EME 358	Heat Transfer	3	6	BENG 226 Engineering Thermodynamics (1553) (D and above) AND EME 275 Fluid Mechanics I (1988) (D and above)						
506	EME 361	Machine Design	3	6							
507	EME 410	Aerodynamics	3	6	EME 357 Fluid Mechanics II (1280) (D and above)						
508	EME 412	Heating, Ventilating and Air Conditioning	3	6							
509	EME 413	Computer Aided Geometric Design	3	6	EME 253 Computer Aided Engineering (1050) (C- and above)						
510	EME 451	Capstone Project 1	3	6							
511	EME 463	Machine Dynamics II	3	6							
512	EME 467	Vehicle Propulsion Systems	3	6							
513	EME 487	Mechatronics Systems Design	3	6	BENG 219 Control Systems (728) (C- and above)						
514	ENG 100	Introduction to Engineering	3	6				1 year UG SENG	1 year UG SMG, 1 year UG SST	1 year UG SHSS	
515	ENG 101	Programming for Engineers	3	6				1 year UG SENG	1 year UG SMG, 1 year UG SST	1 year UG SHSS	
516	MAE 457	Feasibility Analysis of Clean Energy Technologies	3	6							

517	MMAE 603	Modern Control Engineering	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
518	MMAE 605	Advanced Manufacturing Processes and Strategies	3	6				1 year Gr SENG, 2 year Gr SENG	Science, Engineering and Technology	GSB, GSE, GSPP, SHSS, SMG, SST, SoM	
Robotics and Mechatronics											
519	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	
520	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	
521	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	
522	ROBT 301	Mechanical Design I with CAD Laboratory	4	8	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above)				Robotics and Mechatronics	SST	
523	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	

524	ROBT 305	Embedded Systems	3	6	ROBT 206 Microcontrollers with Lab (476) (C- and above)			Robotics and Mechatronics	SST		
525	ROBT 307	Power Electronics	3	6	ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above)			Robotics and Mechatronics	SST		
526	ROBT 308	Industrial Automation	3	6				Robotics and Mechatronics	SST		
527	ROBT 401	Robot Dynamics and Control	3	6	ROBT 303 Linear Control Theory with Lab (623) (C- and above)			Robotics and Mechatronics	SST		
528	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		
529	ROBT 414	Human-Robot Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Robotics and Mechatronics	SST		
530	ROBT 501	Robot Manipulation and Mobility	3	6							
531	ROBT 503	Dynamic Systems and Control	3	6							
532	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)			Robotics	SST, Science, Engineering and Technology	SEng, SHSS	
533	ROBT 613	Brain-Machine Interfaces	3	6				Robotics	SST, Science, Engineering and Technology	SEng, SHSS	
534	ROBT 615	Optimal Control and Planning	3	6	ROBT 501 Robot Manipulation and Mobility (2263) (C- and above) AND ROBT 503 Dynamic Systems and Control (2264) (C- and above)			Robotics	SST, Science, Engineering and Technology	SEng, SHSS	
School of Engineering											
535	BENG 215	Sensors and Actuators	3	6							

536	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)						
537	BENG 405	Project Management	3	6							
538	DENG 782	Research Methods and Ethics	3	6				Science, Engineering and Technology			
539	DENG 784	Doctoral Proposal I	0	6				Science, Engineering and Technology			
540	DENG 785	PhD Proposal Oral Defence	0	0				Science, Engineering and Technology			
541	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			
542	DENG 789	Doctoral Seminar I	3	6	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology		4 year Gr SENG (pending graduation)	
543	DENG 790	Doctoral Seminar II	3	6	DENG 789 Doctoral Seminar I (4598) (P)			Science, Engineering and Technology			
544	DENG 791	Doctoral Seminar III	3	6	DENG 790 Doctoral Seminar II (4599) (P)			Science, Engineering and Technology			
545	DENG 792	Doctoral Seminar IV	3	6	DENG 791 Doctoral Seminar III (4600) (P)			Science, Engineering and Technology			
546	DENG 793	Doctoral Seminar V	3	6	DENG 792 Doctoral Seminar IV (4601) (P)			Science, Engineering and Technology			
547	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology		4 year Gr SENG (pending graduation)	
548	DENG 795	Research at Host University	6	12	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology			
549	DENG 796	Thesis Completion	0	0				Science, Engineering and Technology			
550	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			
551	DENG 798	Doctoral Seminar VI	3	6	DENG 793 Doctoral Seminar V (4602) (P)			Science, Engineering and Technology			
552	DENG 799	Doctoral Seminar VII	3	6	DENG 798 Doctoral Seminar VI (4607) (P)			Science, Engineering and Technology			