Course Requirements and Registration Priorities
Fall 2024

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
CPS											
NUFYP											
1	FEAP 010	Foundation English for Academic Purposes 1	0	0							
2	FLDP 090	Leadership 1	0	0							
3	FMAT 010	Foundation Mathematics 1	0	0							
NUZYP											
4	ZCOM 040	Academic Communications for Graduate Studies I	0	0							
5	ZRDG 030	Academic Reading for Graduate Studies I	0	0							
6	ZSTA 060	Foundational Statistics	0	0							
7	ZWRT 020	Academic Writing for Graduate Studies I	0	0							
GSB											
Economics											
8	ECON 101	Introduction to Microeconomics	3	6				(ND-CC) Undeclared SSH, 5 year UG SSH, 5 year UG SSH (pending graduation), Business Administration (UG), Undeclared SSH	SSH	SEDS, SMG, SoM	
9	ECON 102	Introduction to Macroeconomics	3	6				(ND-CC) Undeclared SSH, 5 year UG SSH, 5 year UG SSH (pending graduation), Undeclared SSH	Business Administration (UG), SSH	SEDS, SMG, SoM	
10	ECON 120	Managerial Economics	3	6				SEDS	SMG, SSH, SoM		
11	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	2 year UG SSH Undeclared	SSH	
12	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	2 year UG SSH Undeclared	SSH	
13	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	2 year UG SSH Undeclared	SSH	
14	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)			Instructor's Permission Required. Registration through Add Course form only!			
15	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	SSH		
16	ECON 325	International Trade	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics, 5 year UG SSH, 5 year UG SSH (pending graduation), 6 year UG SSH, 6 year UG SSH (pending graduation)	4 year UG SSH Economics	SSH	
17	ECON 326	The Economics of Financial Markets	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics, 5 year UG SSH, 5 year UG SSH (pending graduation), 6 year UG SSH, 6 year UG SSH (pending graduation)	4 year UG SSH Economics	SSH	

18	ECON 333	Political Economy	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics, 5 year UG SSH, 5 year UG SSH (pending graduation), 6 year UG SSH, 6 year UG SSH (pending graduation)	4 year UG SSH Economics	SSH	
19	ECON 337	Empirical Finance	3	6	ECON 211 Economic Statistics (2280) (C- and above) OR MATH 322 Mathematical Statistics (1165) (C- and above)			3 year UG SSH Economics, 5 year UG SSH, 5 year UG SSH (pending graduation), 6 year UG SSH, 6 year UG SSH (pending graduation)	4 year UG SSH Economics	SSH	
20	ECON 400	Research Assistance in Economics 2	1	2	ECON 300 Research Assistance in Economics (3080) (P)			Instructor's Permission Required. Registration through Add Course form only!			
21	ECON 413	Econometrics II Time Series	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
22	ECON 414	Advanced Monetary Policy	3	6	(ECON 202 Intermediate Macroeconomics (207) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)) OR (ECON 202 Intermediate Macroeconomics (207) (C- and above) AND MATH 322 Mathematical Statistics (1165) (C- and above))			Economics		SSH	
23	ECON 418	Corporate Finance and Governance	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND (ECON 301 Econometrics I (664) (C- and above) OR MATH 322 Mathematical Statistics (1165) (C- and above))			Economics		SSH	
24	ECON 433	Econometrics II Panel Data	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
25	ECON 434	Introduction to Big Data Analytics	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
26	ECON 501	Microeconomics I	4	8				Economics		GSB	
27	ECON 502	Macroeconomics I	4	8				Economics			
28	ECON 511	Statistics	4	8				Economics			
29	ECON 512	Mathematical Economics	4	8				Economics		GSB	
30	ECON 514	Advanced Monetary Policy	4	8	ECON 502 Macroeconomics (2186) (C- and above)			Economics			
31	ECON 532	Applied Econometrics	4	8				Economics			
32	ECON 534	Introduction to Big Data Analytics	4	8	ECON 531 Econometrics (2505) (C- and above)			Economics			
33	ECON 547	Advanced Game Theory: Mechanism Design	4	8	ECON 501 Microeconomics (2187) (B and above) AND ECON 512 Mathematical Economics (2154) (B and above) AND ECON 521 Microeconomic Theory II (2506) (B and above)			Economics			
34	ECON 548	Structural Methods in Market Design	4	8	ECON 501 Microeconomics (2187) (B and above) AND ECON 512 Mathematical Economics (2154) (B and above) AND ECON 531 Econometrics (2505) (B and above)			Economics			
35	ECON 589	Thesis I	4	8				Economics			
GSB											
36	BUS 101	Core Course in Business	3	6				2 year UG SOM Medical Sciences, 2 year UG SOM Nursing, 3 year UG SOM, 4 year UG SEDS, 4 year UG SEDS (pending graduation), 4 year UG SMG, 4 year UG SMG (pending graduation), 4 year UG SOM, 4 year UG SSH, 4 year UG SSH (pending graduation), 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SMG, 5 year UG SMG (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Business Administration (UG)	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH	1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SSH	
37	GSBF 501	Team Building and Business Communications	.5	1							
38	GSBF 511	Financial Data Analytics I	2.5	5							

39	GSBF 512	Principles of Finance	2.5	5							
40	GSBF 515a	Investments I	2.5	5							
41	GSBF 517	Macroeconomics for Finance	2.5	5							
42	GSBF 520	Empirical Asset Pricing	2.5	5							
43	GSBF 523	Special Topics in Corporate Finance	2.5	5							
44	GSBF 550A	Master's Thesis	5	10							
45	GSBPHD 01	Foundations of Social Science Research	4	8							
46	GSBPHD 05	Subject Specific Course I	4	8				GSB			
47	GSBPHD 06	Subject Specific Course II	4	8				GSB			
48	GSBPHD 07	Subject Specific Course III	4	8				GSB			
49	GSBPHD 14	Thesis Research Progress	0	0				Business Administration (PhD)			
50	GSBPHD 17	Mathematical Economics	4	8				Business Administration (PhD)			
51	GSBPHD 18	Microeconomics I	4	8				Business Administration (PhD)			
52	MBA 01	Introduction to General Management Principles	2	4							
53	MBA 02	Foundations of Financial and Managerial Accounting	3	6							
54	MBA 03	Leadership & Communication	3	6							
55	MBA 04	Data Analytics for Managers	3	6							
56	MBA 05	Business Communication	2	4							
57	MBA 07	Management and Organizations	3	6							
58	MBA 17	Negotiations	2	4							
59	MBA 19	Distinguished Speaker Series	0	1							
60	MBA 20	Practicum Project	2.5	5							
61	MBAE 13	Raising Capital	2	4							
62	MBAE 16	Project Management	2	4							
63	MBAE 17	China Business Environment	2	4							
64	MBAE 18	Consumer Behavior	2	4							
65	MBAE 22	Business Law	2	4							
66	MBAE 8	Leadership	2	4							
67	MSF 07	Economic Policy in Global Markets	2.5	5							
68	MSF 08	Microeconomics for Finance	2.5	5							
69	MSF 10	Independent Research	2.5	5							
70	MSF 12	Financial Accounting	2.5	5							
GSPP											
Master in Public Administration											
71	MPA 602	Public Administration in Theory and Practice	4	8				1 year GSPP Public Administration			
72	MPA 603	Economic Applications for Public Managers	4	8				1 year GSPP Public Administration			
73	MPA 605	Research Methods for Public Managers	4	8				1 year GSPP Public Administration			
74	MPA 609	Human Resource Policy and Management	4	8				2 year GSPP Public Administration			
75	MPA 699	Master's Project with Overseas Component	6	12				2 year GSPP Public Administration			
76	MPE 609	Organizational Behavior in the Public Sector	4	8				2 year GSPP Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
77	MPE 628	Good Governance and Corruption	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM	

78	MPE 646	Communications for Public Leadership	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM	
79	MPE 651	Global Food and Agricultural Policy Analysis	4	8				2 year GSPP Public Administration, 2 year GSPP Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
80	MPE 660	Healthcare System Design and Reform Strategies	4	8				2 year GSPP Public Administration, 2 year GSPP Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
81	MPE 665	Governance Through Networks: Theory and Practice	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM	
82	MPE 671	Game Theory and Public Policy	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM	
83	MPE 683	Energy Systems and Climate Policy	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM	
84	MPE 684	Global Energy Policy	4	8				2 year GSPP Public Administration, 2 year GSPP Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
Master in Public Policy											
85	MPP 601	Microeconomics and Public Policy	4	8				1 year GSPP Public Policy			
86	MPP 611	Statistics for Public Policy	4	8				1 year GSPP Public Policy			
87	MPP 613	Policy Research Design and Methods	4	8				1 year GSPP Public Policy			
88	MPP 621	Public Policy and Analysis	4	8				1 year GSPP Public Policy			
89	MPP 631	Politics and Public Policy	4	8				2 year GSPP Public Policy			
90	MPP 699-0	Policy Analysis Exercise with Overseas Component	0	0	MPP 613 Policy Research Design and Methods (1301) (C- and above)			2 year GSPP Public Policy			
PhD in Public Policy											
91	DPE 609	Organizational Behavior in the Public Sector	4	8				2 year GSPP PhD Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
92	DPE 628	Good Governance and Corruption	4	8				2 year GSPP PhD Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
93	DPE 646	Communications for Public Leadership	4	8				2 year GSPP PhD Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
94	DPE 651	Global Food and Agricultural Policy Analysis	4	8				2 year GSPP PhD Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
95	DPE 660	Healthcare System Design and Reform Strategies	4	8				2 year GSPP PhD Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
96	DPE 665	Governance Through Networks: Theory and Practice	4	8				2 year GSPP PhD Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
97	DPE 671	Game Theory and Public Policy	4	8				2 year GSPP PhD Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
98	DPE 683	Energy Systems and Climate Policy	4	8				2 year GSPP PhD Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
99	DPE 684	Global Energy Policy	4	8				2 year GSPP PhD Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
100	DPP 600	Developing Dissertation Research	0	0				GSPP			
101	DPP 601	Microeconomics in the Public Sector	4	8				1 year GSPP PhD Public Policy			
102	DPP 603	Public Administration and Management	4	8				1 year GSPP PhD Public Policy			
103	DPP 611	Statistics in Public Policy	4	8				1 year GSPP PhD Public Policy			
104	DPP 614	Advanced Quantitative Methods	4	8				2 year GSPP PhD Public Policy			
105	DPP 615	Law, Governance and Public Policy	4	8				1 year GSPP PhD Public Policy			
106	DPP 616	Advanced Qualitative Methods	4	8				2 year GSPP PhD Public Policy			
107	DPP 690-0	Thesis Preparation and Writing	0	0				3 year GSPP PhD Public Policy, 4 year GSPP (pending graduation), 4 year GSPP PhD Public Policy			
GSE											
MA in Multilingual Education											
108	EDML 601	Introduction to Linguistics	3	6				1 year GSE MA in Multil.Education			
109	EDML 610	Foundations of Multilingual Education	3	6				1 year GSE MA in Multil.Education			
110	EDML 613	The Multilingual School	3	6				2 year GSE MA in Multil.Education			
111	EDML 614	Multilingual curriculum development and assessment	3	6				2 year GSE MA in Multil.Education			

112	EDML 690	Thesis Research I	3	6				2 year GSE MA in Multil.Education				
MSc Educational Leadership HE												
113	EDHE 603	Thesis Seminar 3	3	6				2 year GSE Educ.Leadership				
114	EDHE 625	Fundamentals of Higher Education	3	6				1 year GSE Educ.Leadership				
115	EDHE 627	Student Experience, Learning and Success in Higher Education	3	6				2 year GSE Educ.Leadership				
116	EDHE 631	Sociology of Higher Education	3	6								
117	EDUC 510	Advanced English for Education Professionals I	3	6				1 year GSE MA in Multil.Education				
118	EDUC 512	English for Thesis Writing I	3	6				2 year GSE MA in Multil.Education				
119	EDUC 535	Academic English I	2	4				1 year GSE Educ.Leadership				
120	EDUC 571	Basic Kazakh	3	6				1 year GSE MA in Multil.Education, 1 year GSE PhD Education, 2 year GSE MA in Multil.Education, 2 year GSE PhD Education, 3 year GSE PhD Education, 4 year GSE PhD Education				
121	EDUC 572	Kazakh for Professional Purposes	3	6				1 year GSE MA in Multil.Education, 1 year GSE PhD Education, 2 year GSE MA in Multil.Education, 2 year GSE PhD Education, 3 year GSE PhD Education, 4 year GSE PhD Education				
122	EDUC 581	Basic Kazakh (MSc)	2	4				1 year GSE Educ.Leadership, 2 year GSE Educ.Leadership				
123	EDUC 582	Kazakh for Professional Purposes (MSc)	2	4				1 year GSE Educ.Leadership, 2 year GSE Educ.Leadership				
124	EDUC 590	Academic English Writing for Doctoral Students I	3	6				1 year GSE PhD Education				
125	EDUC 602	Educational Context and Reform in Kazakhstan	3	6				1 year GSE MA in Multil.Education				
126	EDUC 606	Introduction to Education Research	2	4				1 year GSE Educ.Leadership				
127	EDUC 607	Research Methods 1	3	6				1 year GSE Educ.Leadership, 1 year GSE MA in Multil.Education				
128	EDUC 617	Contextualizing Education Reform in Kazakhstan and Beyond	3	6				1 year GSE Educ.Leadership				
129	EDUC 627	Psychology of Learning	3	6				2 year GSE Educ.Leadership				
130	EDUC 700	Developing PhD Student Strategies for Progressing the Thesis	9	18				Instructor's Permission Required. Registration through Add Course form only!				
131	EDUC 701	Education Research Methods	3	6				1 year GSE PhD Education				
132	EDUC 709	Introduction to Scholarship in Education	3	6				1 year GSE PhD Education				
133	EDUC 712	Educational Policy and Reform	3	6				1 year GSE PhD Education				
134	EDUC 727	Exploring the Research Topic 1	0	0				1 year GSE PhD Education				
135	EDUC 730	Preparation for Proposal Defence	0	0				2 year GSE PhD Education				
136	EDUC 733	Thesis Proposal Defense	12.5	25				3 year GSE PhD Education, 4 year GSE PhD Education				
137	EDUC 751	Dissertation Research	0	0				3 year GSE PhD Education, 4 year GSE PhD Education, 4 year GSE PhD Education (pending graduation)				
138	EDUC 753	Thesis Defense	55	110				4 year GSE (pending graduation)				
139	EDUC 800	International Study	12	24				2 year GSE PhD Education				
MSc Educational Leadership IE												

140	EDIE 603	Thesis Seminar 3	3	6				2 year GSE Educ.Leadership				
141	EDIE 625	Fundamentals of Inclusive Education	3	6				1 year GSE Educ.Leadership				
142	EDUC 664	Gifted and Talented Learners	3	6								
MSc Educational Leadership SE												
143	EDSE 603	Thesis Seminar 3	3	6				2 year GSE Educ.Leadership				
144	EDSE 621	Education Policy Analysis and Development	3	6				2 year GSE Educ.Leadership				
145	EDSE 625	Fundamentals of School Education	3	6				1 year GSE Educ.Leadership				
Other												
Other												
146	STUMOB 001	Student Mobility Course	0	0								
147	T - 80050213	Environmental Management and Policy	4	8								
148	T - 80590683	Politics and Government in China	4	8								
149	T - 80591203	Sociology and social policy	4	8								
150	T - BIOL 101	General Biology I	3	6								
151	T - CHEM 101	General Chemistry I	3	6								
152	T - CIVL 2102	Engineering geology and rock mechanics	3	6								
153	T - CIVL 2103	Fluid Mechanics	3	6								
154	T - CIVL 2111	Transportation engineering	3	6								
155	T - CIVL 3103	Construction Project Management	3	6								
156	T - COM 1003	Public Speaking	3	6								
157	T - COSC 382	Penetration Testing	3	6								
158	T - CSCI 2303	Intro to Computer Networks	3	6								
159	T - CSCI 3509	Intro to Software Engineering	3	6								
160	T - CSCI 3613	Artificial Intelligence	3	6								
161	T - CSCI 3615	Database Systems	3	6								
162	T - CSCI 4734	Machine Learning	3	6								
163	T - ECON 1101	Principles of Microeconomics	3	6								
164	T - ELEC 2245	Control Systems I	3	6								
165	T - GRAD - E1316	Nonprofit Organisations: Management & Policy	4	8								
166	T - GRAD - E1354	Data Science & Decision Making	4	8								
167	T - GRAD - E1369	Global Environmental Politics	4	8								
168	T - GRAD - E1400	Treasure or Trouble: Managing Mineral Wealth	4	8								
169	T - GRAD - E1460	Empirical Environmental Economics	4	8								
170	T - HIS 1123	United States History I	3	6								

171	T - MCA 009	Introduction to Development Policy	4	8							
172	T - MECH 3416	Fundamentals of aeronautical engineering	3	6							
173	T - MECH 4411	Heat Transfer	3	6							
174	T - MECH 4412	Product design and development	3	6							
175	T - MSD 023	Advanced Development Economics	4	8							
176	T - MSD 026	Advanced Impact Evaluation Methods	4	8							
177	T - MSG 029	Geopolitics of Energy Security in the Indo-Pacific Region	4	8							
178	T - MSR 052	Environmental Economics and Policy	4	8							
179	T - MSZ 013	Geospatial Data in R	4	8							
180	T - PHIL 1113	Ethics, Religions, Cultures	3	6							
181	T - PLS 1033	International relations	3	6							
182	T - POSC 218	State and Local Government	3	6							
183	T - PP 5203	Behavioral Economics and Public Policy	4	8							
184	T - PP 5531	Introduction to Coding for Public Policy	4	8							
185	T - PP 5537	Century 21: (In)security and Global Challenges	4	8							
186	T - PP 5543	Prediction and Forecasting for Public Managers	4	8							
187	T - SOC 1013	Introduction to Sociology	3	6							
188	T-PP 5269	Environmental Economics and Public Policy	4	8							
SoM											
Biological Science											
189	BIOL 101	Introductory Biology	3	6			BIOL 110 Modern Biology I (1070) (C- and above)	(ND-CC) Undeclared SSH, 5 year UG SSH, 5 year UG SSH (pending graduation), Anthropology, Chemistry, Economics, History, Mathematics, Nursing, Physics, Political Science and International Relations, SEDS, SMG, Sociology, Undeclared SSH, World Languages, Literature and Culture			
190	BIOL 105	General Biology	3	6				Biological Sciences	(ND-CC) Undeclared SSH, Undeclared SSH		
191	BIOL 110	Modern Biology I	3	6				(ND-CC) Undeclared SSH, 1 year UG SOM Medical Sciences, 2 year UG SSH Biological Sciences, Undeclared SSH			
192	BIOL 110L	Modern Biology I Laboratory	1	2		BIOL 110 Modern Biology I (1070) (C and above)		(ND-CC) Undeclared SSH, 1 year UG SOM Medical Sciences, 2 year UG SSH Biological Sciences, Undeclared SSH			
193	BIOL 120	Modern Biology II	3	6	BIOL 110 Modern Biology I (1070) (C and above)			(ND-CC) Undeclared SSH, 2 year UG SOM Medical Sciences, Biological Sciences, Undeclared SSH			
194	BIOL 120L	Modern Biology II Laboratory	1	2	BIOL 110 Modern Biology I (1070) (C and above) OR BIOL 110L Modern Biology I Laboratory (5448) (C and above)	BIOL 120 Modern Biology II (1195) (C and above)		(ND-CC) Undeclared SSH, 2 year UG SOM Medical Sciences, Biological Sciences, Undeclared SSH			
195	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)			2 year UG SOM Medical Sciences, Biological Sciences			

196	BIOL 301	Molecular Cell Biology	3	6	BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	3 year UG SOM Medical Sciences, Biological Sciences		
197	BIOL 301L	Molecular Cell Biology Laboratory	1	2	BIOL 120 Modern Biology II (1195) (C and above) OR BIOL 120L Modern Biology II Laboratory (5443) (C and above)	BIOL 301 Molecular Cell Biology (5809) (C and above)		2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	3 year UG SOM Medical Sciences, Biological Sciences		
198	BIOL 305	Introduction to Microbiology	3	6	(BIOL 120 Modern Biology II (1195) (C and above) AND BIOL 120L Modern Biology II Laboratory (5443) (C and above)) OR BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	Biological Sciences		
199	BIOL 305L	Introduction to Microbiology Laboratory	1	2	BIOL 120 Modern Biology II (1195) (C and above) OR BIOL 120L Modern Biology II Laboratory (5443) (C and above)	BIOL 305 Introduction to Microbiology (5789) (C and above)		2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	Biological Sciences		
200	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)			2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	Biological Sciences		
201	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)			2 year UG SOM Medical Sciences, 4 year UG SSH Biological Sciences	3 year UG SSH Biological Sciences		
202	BIOL 321	Bioethics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	Biological Sciences		
203	BIOL 340	Introduction to Bioinformatics with Lab	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)			2 year UG SOM Medical Sciences, Biological Sciences			
204	BIOL 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			2 year UG SOM Medical Sciences, Biological Sciences			
205	BIOL 355	Critical Research Reasoning	3	6	BIOL 120 Modern Biology II (1195) (C and above)			3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	3 year UG SOM Medical Sciences, Biological Sciences		
206	BIOL 370	Genetics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	Biological Sciences		
207	BIOL 380	Biology of Behavior	3	6	BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	Biological Sciences		
208	BIOL 385	Cell signaling: principles and mechanisms	3	6	BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, Biological Sciences			
209	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)			3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	Biological Sciences		
210	BIOL 456	Biology Research Design	3	6		BIOL 355 Critical Research Reasoning (1000) (C and above)		4 year UG SSH Biological Sciences	Biological Sciences		
211	BIOL 460	Human Parasitology	3	6	BIOL 305 Introduction to Microbiology with Lab (1642) (C and above) OR BIOL 305 Introduction to Microbiology (5789) (C and above)			2 year UG SOM Medical Sciences, Biological Sciences			
212	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))			4 year UG SSH Biological Sciences	Biological Sciences, Medical Sciences		

213	BIOL 490	Honors Thesis Research	0	0	BIOL 355 Critical Research Reasoning (1000) (B and above)			Instructor's Permission Required. Registration through Add Course form only!			
214	BIOL 520	Statistical Methods in Life Sciences	3	6				Life Sciences			
215	BIOL 550	Structural and Molecular Biology in Health and Disease	3	6				Instructor's Permission Required. Registration through Add Course form only!			
216	BIOL 560	Molecular Biology of Prokaryotic Cells	3	6				Life Sciences			
217	BIOL 570	Advanced Biotechnology	3	6				Biological Sciences and Technologies, Life Sciences			
218	BIOL 592	Research Seminar	3	6				Life Sciences			
219	BIOL 599	Master's Thesis Research	0	0				Instructor's Permission Required. Registration through Add Course form only!			
220	BIOL 605	Radiation Biology	3	6	BIOL 520 Statistical Methods in Life Sciences (1203) (C and above)			Biological Sciences and Technologies, Life Sciences, Physics, SEDS			
221	BIOL 631	Synthetic Biology	3	6				Biological Sciences and Technologies, Life Sciences	SoM	SEDS	
222	BIOL 632	Drug Discovery and Design	3	6				Biological Sciences and Technologies, Life Sciences	SoM	SEDS	
223	BIOL 634	Advanced Cancer Biology	3	6				Biological Sciences and Technologies, Life Sciences	SoM		
224	BIOL 691	Master's Thesis Research Proposal	3	6				2 year Gr SSH Biological Sciences and Technologies, 2 year Gr SSH Life Sciences			
225	BIOL 800-0	Thesis Research	0	0				Instructor's Permission Required. Registration through Add Course form only!			
226	BIOL 820	Statistical Methods in Life Sciences	3	6				Life Sciences	SoM		
227	BIOL 831	Synthetic Biology	4	8				Life Sciences	SoM		
228	BIOL 832	Drug Discovery and Design	4	8				Life Sciences	SoM		
229	BIOL 834	Advanced Cancer Biology	4	8				Life Sciences	SoM		
230	BIOL 850	Structural and Molecular Biology in Health and Disease	4	8				Life Sciences			
231	BIOL 860	Molecular Biology of Prokaryotic Cells	4	8				Life Sciences	SoM		
232	BIOL 870	Advanced Biotechnology	4	8				Life Sciences			
MMM											
233	MMMM 501	Molecular Basis of Infection	3	6				1 year Gr SOM Molecular Medicine			
234	MMMM 503	Bioethics in Research: Principles and Practice	1.5	3				1 year Gr SOM Molecular Medicine			
235	MMMM 608	Molecular Epigenetics in Health and Disease	3	6				2 year Gr SOM Molecular Medicine			
236	MMMM 610	Natural Drugs	3	6				1 year Gr SOM Molecular Medicine, 1 year Gr SOM Pharmacology and Toxicology	2 year Gr SOM Molecular Medicine		
MPTOX											
237	MPTX 501	Organ system and common diseases	3	6				1 year Gr SOM Pharmacology and Toxicology			
238	MPTX 502	Cellular Communications	3	6				1 year Gr SOM Pharmacology and Toxicology			
239	MPTX 503	Principles of Pharmacology and Toxicology	3	6		MPTX 501 Organ system and common diseases (5841) (C and above)		1 year Gr SOM Molecular Medicine, 1 year Gr SOM Pharmacology and Toxicology			
240	MPTX 505	Drug Discovery I	3	6		MPTX 503 Principles of Pharmacology and Toxicology (5843) (C and above)		1 year Gr SOM Pharmacology and Toxicology			
241	MPTX 506	Systemic Pharmacology II	3	6	MPTX 503 Principles of Pharmacology and Toxicology (5843) (C- and above) AND MSBM 604 Systemic Pharmacology (5844) (C- and above)			2 year Gr SOM Pharmacology and Toxicology			
242	MPTX 601	Biostatistics and Critical Appraisal	3	6	MPTX 503 Principles of Pharmacology and Toxicology (5843) (C- and above) AND MPTX 505 Drug Discovery I (5845) (C- and above)			1 year Gr SOM Molecular Medicine, 2 year Gr SOM Pharmacology and Toxicology	2 year Gr SOM Molecular Medicine		

243	MPTX 602	Current Topics in Pharmacology and Toxicology	3	6	MPTX 503 Principles of Pharmacology and Toxicology (5843) (C- and above) AND MPTX 505 Drug Discovery I (5845) (C- and above)	MSBM 504 Biostatistics and Critical Appraisal (8517) (C- and above)		2 year Gr SOM Pharmacology and Toxicology			
244	MPTX 604E	Scientific Writing	3	6				1 year Gr SOM Pharmacology and Toxicology, 2 year Gr SOM Molecular Medicine	1 year Gr SOM Molecular Medicine, 1 year Gr SOM Public Health, 1 year Gr SOM Sports Medicine and Rehabilitation		
245	MPTX 606	Molecular Toxicology	3	6				1 year Gr SOM Molecular Medicine, 2 year Gr SOM Molecular Medicine, 2 year Gr SOM Pharmacology and Toxicology			
MSMR											
246	MSMR 501	Musculoskeletal System	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
247	MSMR 503	Exercise Genetics, Physiology and Endocrinology	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
248	MSMR 505	Exercise and Biomechanics	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
249	MSMR 507	Management and Rehabilitation of Injury	4	8				2 year Gr SOM Sports Medicine and Rehabilitation			
250	MSMR 510	Biostatistics and Epidemiology	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
251	MSMR 603	Master Research Project	8	16				2 year Gr SOM Sports Medicine and Rehabilitation			
252	MSMR 701	Ethics and Professionalism	3	6				1 year Gr SOM Sports Medicine and Rehabilitation	2 year Gr SOM Sports Medicine and Rehabilitation		
Master of Sciences in Biomedicine											
253	MMMM 502	Molecular Basis of Cancer	3	6				1 year Gr SOM Molecular Medicine			
254	MMMM 504	Molecular Basis of Genetic Disease	3	6				1 year Gr SOM Molecular Medicine			
255	MMMM 603	Recombinant Drugs	1.5	3				1 year Gr SOM Molecular Medicine			
256	MMMM 605	Developmental Biology	3	6				2 year Gr SOM Molecular Medicine			
257	MPTX 603	Introduction to Research Project	6	12				2 year Gr SOM Pharmacology and Toxicology			
Medical Sciences											
258	NUSM 101	Introduction to Medicine	2	4				1 year UG SOM Medical Sciences			
259	NUSM 301	Introduction to Immunology, Microbiology and Genetics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			3 year UG SOM Medical Sciences			
260	NUSM 302	Introduction to Statistics for Evidence-Based Practice	3	6	MATH 161 Calculus I (118) (C- and above)			3 year UG SOM Medical Sciences			
261	NUSM 303	Introduction to Anatomy and Histology	3	6	BIOL 120 Modern Biology II (1195) (C and above)			3 year UG SOM Medical Sciences			
262	NUSM 401	Introduction to Being a Physician	2	4	NUSM 310 Capstone Project (7138) (C and above)			4 year UG SOM Medical Sciences			
263	NUSM 402	Medical Anatomy	8	16	NUSM 310 Capstone Project (7138) (C and above)			4 year UG SOM Medical Sciences			
264	NUSM 403	Human Genetics	3	6	NUSM 310 Capstone Project (7138) (C and above)			4 year UG SOM Medical Sciences			
265	NUSM 405	Fuel Metabolism	3	6	NUSM 310 Capstone Project (7138) (C and above)			4 year UG SOM Medical Sciences			
266	NUSM 408	Pharmacology	2	4	NUSM 310 Capstone Project (7138) (C and above)			4 year UG SOM Medical Sciences			
267	NUSM 410	Basics of Medical Interviewing	0	0	NUSM 310 Capstone Project (7138) (C- and above)			4 year UG SOM Medical Sciences			
268	NUSM 411a	Basics of Physical Examination	0	0	NUSM 310 Capstone Project (7138) (C- and above)			4 year UG SOM Medical Sciences			
269	NUSM 412	Evidence-based Medicine I and Biostatistics	0	0	NUSM 310 Capstone Project (7138) (C- and above)			4 year UG SOM Medical Sciences			

270	NUSM 413	English-Russian-Kazakh Medical Terminology	0	0	NUSM 310 Capstone Project (7138) (C- and above)			4 year UG SOM Medical Sciences			
271	NUSM 414	Medical Ethics and Professionalism	0	0	NUSM 310 Capstone Project (7138) (C- and above)			4 year UG SOM Medical Sciences			
Nursing												
272	NUR 103L	Microbiology for Nurses with Lab	4	8				1 year UG SOM Nursing			
273	NUR 112	Introduction to Professional Nursing	2	4				1 year UG SOM Nursing, 2 year UG SOM Nursing			
274	NUR 201	Pathophysiologic Foundations of Nursing Care	3	6				2 year UG SOM Nursing			
275	NUR 203	Pharmacology and Therapeutics	3	6				2 year UG SOM Nursing			
276	NUR 204	Nutrition Essentials for Nursing Clinical Practice	2	4				2 year UG SOM Nursing			
277	NUR 205	Psychology for the Health Practitioner	3	6				3 year UG SOM Nursing			
278	NUR 211	Foundations of Nursing Practice I	3	6				2 year UG SOM Nursing			
279	NUR 221	Nursing Research: Introduction to Critical Appraisal and Evidence-Based Practice	3	6				3 year UG SOM Nursing			
280	NUR 301	Nutrition for Clinical Practice	3	6				1 year UG SOM Nursing			
281	NUR 302	Physical Assessment Across the Lifespan	4	8				1 year UG SOM Nursing			
282	NUR 303	Nursing Care of Older Adults	4	8				1 year UG SOM Nursing			
283	NUR 304	Introduction to Basic Statistics for Evidence Based Practice	3	6				1 year UG SOM Nursing			
284	NUR 311C	Obstetric Nursing + Clinical	5	10				3 year UG SOM Nursing			
285	NUR 312C	Pediatric Nursing + Clinical: Care of Children and Families	4	8				3 year UG SOM Nursing			
286	NUR 401	Education: Principles and Practice for Teaching in Nursing	4	8				2 year UG SOM Nursing			
287	NUR 403	Data Analytics for Quality Improvement in Healthcare	3	6				2 year UG SOM Nursing			
288	NUR 404	Community and Home Health Nursing	4	8				2 year UG SOM Nursing			
289	NUR 406.1	Medical-Surgical Nursing: Complex Surgical Management	4	8				2 year UG SOM Nursing			
290	NUR 411C	Community and Home Health Nursing and Clinical	4	8				4 year UG SOM Nursing			
291	NUR 412	Geriatric Nursing: Nursing Care of the Older Adult	3	6				4 year UG SOM Nursing			
292	NUR 413C	Medical Surgical Nursing 3 - Management of the Complex and Critically Ill Patient and Clinical	7	14				4 year UG SOM Nursing			
293	NUR 421	Capstone I: Developing a Project Proposal in Nursing	3	6				4 year UG SOM Nursing			
PHD												
294	PHDBS 701	Thesis Research	90	180				4 year PhD SOM BioMed Sciences			
295	PHDBS 701-0	Thesis Research	0	0				1 year PhD SOM BioMed Sciences, 2 year PhD SOM BioMed Sciences, 3 year PhD SOM BioMed Sciences, 4 year PhD SOM BioMed Sciences, 5 year PhD SOM BioMed Sciences (pending graduation)			
296	PHDBS 702	Molecular Basis of Health and Disease	0	0				1 year PhD SOM BioMed Sciences	1 year PhD SSH Life Sciences		
297	PHDBS 703	Biomedical Research Analysis and Design of Experimentation	0	0				1 year PhD SOM BioMed Sciences			
298	PHDBS 704-0	NUSOM seminar	0	0				1 year PhD SOM BioMed Sciences, 2 year PhD SOM BioMed Sciences, 3 year PhD SOM BioMed Sciences, 4 year PhD SOM BioMed Sciences			
299	PHDBS 705	Biosafety, Animal Welfare and Ethics	4	8				1 year PhD SOM BioMed Sciences	1 year PhD SSH Life Sciences		
300	PHDBS 706	Advanced Biomedical Research Analysis and Design of Experimentation	0	0				2 year PhD SOM BioMed Sciences			

301	PHDBS 707	Publication Analysis	0	0				2 year PhD SOM BioMed Sciences			
302	PHDBS 708	Writing for Biomedical Sciences	0	0				1 year PhD SOM BioMed Sciences, 2 year PhD SOM BioMed Sciences	1 year PhD SSH Life Sciences		
303	PHDBS 709	Molecular Basis of Infection	3	6				1 year PhD SOM BioMed Sciences	1 year PhD SSH Life Sciences		
304	PHDBS 710	Molecular Pathology of Cancer	3	6				1 year PhD SOM BioMed Sciences	1 year PhD SSH Life Sciences		
305	PHDBS 711	Molecular Basis of Genetic Disease	3	6				1 year PhD SOM BioMed Sciences	1 year PhD SSH Life Sciences		
306	PHDBS 717	Organ System and Common Diseases	3	6				1 year PhD SOM BioMed Sciences	1 year PhD SSH Life Sciences		
307	PHDGH 701-0	Thesis Research	0	0				1 year PhD SOM Global Health, 2 year PhD SOM Global Health, 3 year PhD SOM Global Health			
308	PHDGH 702	Foundations of Global Health	4	8				1 year PhD SOM Global Health			
309	PHDGH 703	Health Policy and Systems in Global Health	4	8				1 year PhD SOM Global Health			
310	PHDGH 704-0	NUSOM Seminar in Global Health	0	0				1 year PhD SOM Global Health, 2 year PhD SOM Global Health, 3 year PhD SOM Global Health			
311	PHDGH 708	Advanced Methods in Global Health Research	3	6				2 year PhD SOM Global Health			
312	PHDGH 710a	Writing for Health Sciences	0	0				2 year PhD SOM Global Health			
Public Health											
313	PUBH 501	Principles of Public Health Problem Solving	3	6				1 year Gr SOM Public Health	1 year Gr SOM Molecular Medicine, 1 year Gr SOM Pharmacology and Toxicology, 1 year Gr SOM Sports Medicine and Rehabilitation		
314	PUBH 511	Inferential Biostatistics	3	6				1 year Gr SOM Public Health	1 year Gr SOM Molecular Medicine, 1 year Gr SOM Pharmacology and Toxicology, 1 year Gr SOM Sports Medicine and Rehabilitation		
315	PUBH 521	Principles of Analytical Epidemiology	3	6				1 year Gr SOM Public Health, 2 year Gr SOM Molecular Medicine	1 year Gr SOM Molecular Medicine, 1 year Gr SOM Pharmacology and Toxicology, 1 year Gr SOM Sports Medicine and Rehabilitation		
316	PUBH 528	Qualitative Research Methods	3	6				1 year Gr SOM Public Health	1 year Gr SOM Molecular Medicine, 1 year Gr SOM Pharmacology and Toxicology, 1 year Gr SOM Sports Medicine and Rehabilitation		
317	PUBH 552	Principles of Heath Economics and Policy	3	6	PUBH 551 Health Services Management, Health Economic and Health Policy (3696) (C and above)			2 year Gr SOM Public Health			
318	PUBH 561	Graduate Research Seminar I	3	6				2 year Gr SOM Public Health			
319	PUBH 599	Global Nutrition and Sustainability	3	6				1 year Gr SOM Public Health, 2 year Gr SOM Molecular Medicine	1 year Gr SOM Molecular Medicine, 1 year Gr SOM Pharmacology and Toxicology, 1 year Gr SOM Sports Medicine and Rehabilitation		
320	PUBH 601	Health Education and Promotion	3	6				2 year Gr SOM Public Health			
321	PUBH 633	Methods in Public Health	3	6				2 year Gr SOM Public Health			
322	PUBH 681	Master's Project Planning	3	6				2 year Gr SOM Public Health			
SSH											

Academic Success Centre, Communication and Composition											
323	WCS 150	Rhetoric and Composition	3	6				Business Administration (UG), SEDS, SMG, SSH, SoM			
324	WCS 210	Technical and Professional Writing	3	6	ASC 100 Advanced English for Academic Purposes (9234) (C- and above) OR Test "IELTS" BETWEEN 6.5 and 9 OR WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)		WCS 200 Introduction to Public Speaking (175) (D and above) OR WCS 220 Science Writing (5686) (D and above) OR WCS 230 Say What you Mean: Clarity, Precision, and Style in Academic Writing (3026) (D and above) OR WCS 240 Writing for Digital Media (4421) (D and above) OR WCS 250 Advanced Rhetoric and Composition (3027) (D and above) OR WCS 260/WLL 235 Creative Writing: Introduction to Fiction Writing I (4000) (D and above) OR WCS 270 Academic and Professional Presentations (8409) (D and above)	Chemical and Materials Engineering, Chemistry, Civil and Environmental Engineering, Electrical and Computer Engineering, Geology, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics Engineering	SEDS	SSH, SoM	
Area Studies											
325	EAS 500	Introduction to Eurasia	4	8				Eurasian Studies			
326	EAS 501	General Methodology	4	8				Eurasian Studies			
327	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)			Eurasian Studies			
328	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)			Instructor's Permission Required. Registration through Add Course form only!			
329	EAS 511	Independent Study in Eurasian Studies	4	8				Eurasian Studies			
330	EAS 512	Topics in Eurasian Studies	4	8				Eurasian Studies			
331	EAS 513	Critical Issues in Eurasian Studies	4	8				Eurasian Studies			
332	EAS 514	Topics in Eurasian Social Sciences	4	8				Instructor's Permission Required. Registration through Add Course form only!			
333	EAS 700	Introduction to Eurasia	4	8				Eurasian Studies			
334	EAS 701	Critical Issues in Eurasian Studies	2	4				Eurasian Studies			
335	EAS 702	Elective in Eurasian Humanities	4	8				Eurasian Studies			
336	EAS 703	Elective in Eurasian Social Sciences	4	8				Eurasian Studies			
337	EAS 704	Elective 2 in Eurasian Humanities	4	8				Eurasian Studies			
338	EAS 705	Elective 2 in Social Sciences	4	8				Eurasian Studies			
339	EAS 708	Proseminar in Eurasian Humanities	4	8				Eurasian Studies			
340	EAS 709	Proseminar in Eurasian Social Sciences	4	8				Eurasian Studies			
341	EAS 710	Independent Study in Eurasian Studies	4	8				Instructor's Permission Required. Registration through Add Course form only!			
342	EAS 711	Doctoral Seminar in Eurasian Studies I	4	8				Eurasian Studies			
343	EAS 800	Doctoral Thesis in Eurasian Studies	70	140							

344	EAS 800-0	Dissertation Research in Eurasian Studies	0	0				Eurasian Studies			
Area Studies, Political Science and International Relations, Sociology and Anthropology											
345	PLS 514/EAS 506/SOC 514	Qualitative Research Methods	4	8				Eurasian Studies, Political Science and International Relations		GSB, GSE, GSPP, SEDS, SSH	
Chemistry											
346	CHEM 090	Chemistry for Non-Science majors	3	6				(ND-CC) Undeclared SSH, 5 year UG SSH, 5 year UG SSH (pending graduation), Anthropology, Economics, History, Nursing, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literature and Culture	SEDS, SMG, SoM	SSH	
347	CHEM 091	Survey of Physical Science	3	6				(ND-CC) Undeclared SSH, Anthropology, Economics, History, Nursing, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literature and Culture	SEDS, SMG, SoM	SSH	
348	CHEM 101	General Chemistry I	3	6				2 year UG SMG, 2 year UG SOM, 2 year UG SSH Biological Sciences, 2 year UG SSH Chemistry	1 year UG SMG, 1 year UG SOM, 1 year UG SSH Biological Sciences, 1 year UG SSH Chemistry	(ND-CC) Undeclared SSH, Undeclared SEDS, Undeclared SSH	
349	CHEM 101L	General Chemistry I lab	1	2		CHEM 101 General Chemistry I (113) (C and above)		2 year UG SMG, 2 year UG SOM, 2 year UG SSH Biological Sciences, 2 year UG SSH Chemistry	1 year UG SMG, 1 year UG SOM, 1 year UG SSH Biological Sciences, 1 year UG SSH Chemistry	(ND-CC) Undeclared SSH, Undeclared SEDS, Undeclared SSH	
350	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)			2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Biological Sciences, Chemistry	SEDS, SMG, SSH, SoM		
351	CHEM 211L	Organic Chemistry I Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 211 Organic Chemistry I (154) (C and above)		2 year UG SSH Biological Sciences, 3 year UG SSH, 4 year UG SSH, Chemistry	SEDS, SMG, SSH, SoM		
352	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)			2 year UG SSH, 3 year UG SSH, 4 year UG SSH, Chemistry	SEDS, SMG, SSH, SoM		
353	CHEM 212L	Organic Chemistry II Lab	1	2	CHEM 211L Organic Chemistry I Lab (156) (C and above)	CHEM 212 Organic Chemistry II (443) (C and above) OR CHEM 292 Organic Chemistry for Biologists II (1901) (C and above)		2 year UG SSH, 3 year UG SSH, 4 year UG SSH, Chemistry	SEDS, SMG, SSH, SoM		
354	CHEM 220	Quantitative Chemical Analysis	3	6	CHEM 102 General Chemistry II (232) (C and above)			5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
355	CHEM 220L	Quantitative Chemical Analysis Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 220 Quantitative Chemical Analysis (555) (C and above)		5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
356	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)			5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
357	CHEM 331L	Physical Chemistry Lab	1	2		CHEM 331 Physical Chemistry I (634) (C and above)		5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	

358	CHEM 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
359	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)		5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
360	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)			4 year UG SSH, Chemistry			
361	CHEM 350L	Advanced Inorganic Chemistry Laboratory	1	2	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)	CHEM 350 Advanced Inorganic Chemistry (1905) (C and above)		5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
362	CHEM 471	Environmental Chemistry	3	6	CHEM 102 General Chemistry II (232) (C and above)			5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
363	CHEM 488	Directed Research I	3	6	CHEM 380 Research Methods (636) (C and above)			Chemistry			
364	CHEM 510	Principles of Physical Chemistry	3	6				Chemistry	SSH	SEDS, SMG, SoM	
365	CHEM 518	Applied Polymer Science	4	8				Chemistry	SSH	SEDS, SMG, SoM	
366	CHEM 520	Applied Analytical Chemistry	3	6				Chemistry	SSH	SEDS, SMG, SoM	
367	CHEM 522	Analytical Environmental Chemistry	3	6	CHEM 520 Applied Analytical Chemistry (5267) (C and above)			Chemistry	SSH	SEDS, SMG, SoM	
368	CHEM 530	Inorganic Structures and Reaction Mechanisms	3	6				Chemistry	SSH	SEDS, SMG, SoM	
369	CHEM 531	Nanochemistry and Functional Nanomaterials	3	6				Chemistry	SSH	SEDS, SMG, SoM	
370	CHEM 543	Structural Identification of Organic Compounds	3	6				Chemistry			
371	CHEM 591	Scientific Methods in Chemistry	3	6				Chemistry	SSH	SEDS, SMG, SoM	
372	CHEM 691	Thesis Proposal	3	6				Chemistry			
373	CHEM 700	Hot Topics in Chemistry	4	8				Chemistry	SSH	SEDS, SMG, SoM	
374	CHEM 711	Polymer Chemistry	4	8				Chemistry	SSH	SEDS, SMG, SoM	
375	CHEM 720	Spectrochemical Methods of analysis	4	8				Chemistry	SSH	SEDS, SMG, SoM	
376	CHEM 722	Advanced Environmental Chemistry	4	8				Chemistry	SSH	SEDS, SMG, SoM	
377	CHEM 730	Chemical Thermodynamics and Kinetics	4	8				Chemistry	SSH	SEDS, SMG, SoM	
378	CHEM 750	Modern Inorganic Chemistry	4	8				Chemistry	SSH	SEDS, SMG, SoM	
379	CHEM 798-0	Thesis Research	0	0				Chemistry			
Communication and Composition											
380	WCS 101	Communication and Society	3	6				2 year UG SEDS, 2 year UG SMG, 2 year UG SSH, SoM			
381	WCS 200	Introduction to Public Speaking	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SSH, SoM	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH		
382	WCS 201	Introduction to Journalism	3	6	WCS 101 Communication and Society (199) (C- and above) OR WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SSH, SoM	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH		

383	WCS 220	Science Writing	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)		WCS 210/ASC 200 Academic Writing, Science Communication, and Media Literacy (4881) (C- and above)	SEDS, SSH, SoM			
384	WCS 230	Say What you Mean: Clarity, Precision, and Style in Academic Writing	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SSH, SoM	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH		
385	WCS 240	Writing for Digital Media	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SSH, SoM	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH		
386	WCS 250	Advanced Rhetoric and Composition	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			SEDS, SSH, SoM			
387	WCS 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))			3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH	SEDS, SMG, SSH, SoM		
388	WCS 391	Writing Fellows II – Practicum in Composition & Collaboration	3	6	WCS 390 Writing Fellows I – Composition and Collaboration in Theory and Practice (1969) (B and above)			SEDS, SMG, SSH, SoM			
389	WCS 392	Writing Fellows III - Research & Practice in Writing & Peer Mentorship	3	6	WCS 391 Writing Fellows II – Practicum in Composition & Collaboration (3425) (B and above)			SEDS, SMG, SSH, SoM			
390	WCS 393	Internship: Undergraduate Writing Tutor I	3	6	WCS 392 Writing Fellows III - Research & Practice in Writing & Peer Mentorship (4472) (B and above)			SEDS, SMG, SSH, SoM			
391	WCS 501	Science Communication	3	6				SSH	SEDS, SMG		
392	WCS 730	From Genre to Style and Back: Writing for PhD Students	4	8				Eurasian Studies	SSH		
Communication and Composition, Languages, Literature and Linguistics											
393	WLL 235/WCS 260	Creative Writing: Introduction to Fiction Writing I	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SSH, SoM	World Languages, Literature and Culture	SEDS, SMG, SSH	
394	WLL 360/WCS 360	Poetry Writing Seminar	3	6				3 year UG SSH World Languages, Literatures and Cultures	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH	SEDS, SMG, SSH, SoM	
395	WLL 465/WCS 465	Creative Writing: Autofiction	3	6	WCS 260/WLL 235 Creative Writing: Introduction to Fiction Writing I (4000) (C- and above)			World Languages, Literature and Culture	SSH		
History, Philosophy and Religious Studies											
396	HST 100	History of Kazakhstan	3	6				4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SMG, 5 year UG SMG (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation)	1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, Business Administration (UG)	SEDS, SMG, SSH, SoM	
397	HST 124	Introduction to the History of Medicine	3	6				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, History	1 year UG SSH, 2 year UG SSH	SEDS, SMG, SSH, SoM	
398	HST 131	European History I (to 1700)	3	6				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, History	1 year UG SSH, 2 year UG SSH	SEDS, SMG, SSH, SoM	
399	HST 172	Middle Eastern History II (from 1800)	3	6				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, History	1 year UG SSH, 2 year UG SSH	SEDS, SMG, SSH, SoM	
400	HST 205	The Mongol Empire	3	6	Subject "HST" BETWEEN 100 and 199 OR Subject "" BETWEEN 100 and 199 OR Subject "" BETWEEN 100 and 199 OR Subject "" BETWEEN 100 and 199			(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, History	1 year UG SSH, 2 year UG SSH	SEDS, SMG, SSH, SoM	

401	HST 336	The Totalitarian Phenomenon	3	6	HST 100 History of Kazakhstan (172) (C- and above)			4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SMG, 5 year UG SMG (pending graduation), 5 year UG SOM (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation), 6 year UG SMG (pending graduation), 6 year UG SOM (pending graduation), History	SSH	SEDS, SMG, SoM	
402	HST 399	Independent Study	3	6				Instructor's Permission Required. Registration through Add Course form only!			
403	HST 424	Global Histories	3	6	Subject "HST" BETWEEN 100 and 199 OR Subject "HST" BETWEEN 200 and 299 OR Subject "HST" BETWEEN 300 and 399 OR Subject "HST" BETWEEN 400 and 499			4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SMG, 5 year UG SMG (pending graduation), 5 year UG SOM (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation), 6 year UG SMG (pending graduation), 6 year UG SOM (pending graduation), History	SSH	SEDS, SMG, SoM	
404	HST 498	Directed Reading	3	6				Instructor's Permission Required. Registration through Add Course form only!			
405	HST 524	Global Histories	4	8				Eurasian Studies			
406	PHIL 141	Critical Thinking	3	6				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared	1 year UG SSH, 2 year UG SSH	SEDS, SMG, SSH, SoM	
407	PHIL 210	Ethics	3	6				2 year UG SSH Chemistry, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SMG, 5 year UG SMG (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation), 6 year UG SSH, 6 year UG SSH (pending graduation)	2 year UG SEDS, 2 year UG SMG, 3 year UG SEDS, 3 year UG SMG	SEDS, SMG, SSH, SoM	
408	PHIL 223	Philosophy of Science	3	6				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared	1 year UG SSH, 2 year UG SSH	SEDS, SMG, SSH, SoM	
409	PHIL 350	History of 19th and 20th Century Philosophy	3	6				4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SMG, 5 year UG SMG (pending graduation), 5 year UG SOM (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation), 6 year UG SMG (pending graduation), 6 year UG SOM (pending graduation)	SSH	SEDS, SMG, SoM	
410	PHIL 575	Philosophy of Art	4	8				Eurasian Studies	GSE, GSPP, SSH		
411	REL 212	Buddhist Religious Traditions	3	6				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, History	1 year UG SSH, 2 year UG SSH	SEDS, SMG, SSH, SoM	
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies											
412	HST 110/REL 110	Introduction to World Religions	3	6				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, History	1 year UG SSH, 2 year UG SSH	SEDS, SMG, SSH, SoM	
413	HST 319/PHIL 319	Philosophy of History	3	6				4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SMG, 5 year UG SMG (pending graduation), 5 year UG SOM (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation), 6 year UG SMG (pending graduation), 6 year UG SOM (pending graduation)	SSH	SEDS, SMG, SoM	
History, Philosophy and Religious Studies, Kazakh Language and Turkic Studies											
414	HST 272/TUR 272	Modern Turkey: from the Ottoman Empire to the Turkish Republic	3	6				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, History	1 year UG SSH, 2 year UG SSH	SEDS, SMG, SSH, SoM	
History, Philosophy and Religious Studies, Kazakh Language and Turkic Studies, Sociology and Anthropology, Sociology and Anthropology											
415	HST 375/TUR 375/ANT 375/SOC 375	Inner Asian Frontiers of China: A Cultural Perspective	3	6				Anthropology	Sociology, World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	
History, Philosophy and Religious Studies, Languages, Literature and Linguistics											

416	HST 274/WLL 274	Texts and Contexts	3	6				History	World Languages, Literature and Culture	SSH	
417	WLL 375/PHIL 375	Philosophy of Art	3	6				World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
History, Philosophy and Religious Studies, Languages, Literature and Linguistics, Political Science and International Relations											
418	HST 342/PLS 322/WLL 342	Russian Intellectual History (1762 - 1905)	3	6	Subject "HST" BETWEEN 100 and 199 OR Subject "WLL" BETWEEN 100 and 199 OR Subject "PLS" BETWEEN 100 and 199 OR Subject "REL" BETWEEN 100 and 199			4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SMG, 5 year UG SMG (pending graduation), 5 year UG SOM (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation), 6 year UG SMG (pending graduation), 6 year UG SOM (pending graduation), History	SSH	SEDS, SMG, SoM	
Kazakh Language and Turkic Studies											
419	KAZ 001	Kazakh Language Placement Test	0	0				Business Administration (UG), SEDS, SMG, SSH, SoM			
420	KAZ 201	Academic Kazakh I	3	6	KAZ 150 Basic Kazakh (1215) (C- and above) OR KLL "[B1.2] Intermediate"			(ND-CC) Business Administration (UG), 1 year UG SOM, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation)	Business Administration (UG), SEDS, SMG, SSH, SoM		
421	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 SOM, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation)	Business Administration (UG), SEDS, SMG, SSH, SoM		
422	KAZ 313	Kazakh for Business	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH			
423	KAZ 349	Kazakh Mythology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SOM, 2 year UG SMG, 3 year UG SEDS, 3 year UG SMG, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SMG, 5 year UG SMG (pending graduation), 5 year UG SOM (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation), 6 year UG SMG (pending graduation), 6 year UG SOM (pending graduation), 6 year UG SSH, 6 year UG SSH (pending graduation)	2 year UG SSH Biological Sciences, 2 year UG SSH Chemistry, 2 year UG SSH Mathematics, 2 year UG SSH Physics, 4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH	Business Administration (UG), SEDS, SMG, SSH, SoM	
424	KAZ 350	Kazakh Literature	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, GSB, SEDS, SMG, SSH, SoM			
425	KAZ 351	Kazakh Short Stories	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH			
426	KAZ 356	Kazakh Music History	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH			
427	KAZ 357	Literature of Alash	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, GSB, SEDS, SMG, SSH, SoM			
428	KAZ 362	Creative Writing in Kazakh Language	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, GSB, SEDS, SMG, SSH, SoM			
429	KAZ 363	Language and Globalization	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH			
430	KAZ 364	Kazakh for Civil Service	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH			
431	KAZ 366	Kazakh Language for Engineers	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH			
432	KAZ 368	Onomastics: History and Function of Names	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, GSB, SEDS, SMG, SSH, SoM			
433	KAZ 371	Contemporary Kazakh Literature	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, GSB, SEDS, SMG, SSH, SoM			
434	KAZ 372	Language and ethnicity	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, GSB, SEDS, SMG, SSH, SoM			
435	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH			
436	KAZ 377	Intercultural Communication through Film	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, GSB, SEDS, SMG, SSH, SoM			
437	KAZ 378	Kazakh for Social Science	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, GSB, SEDS, SMG, SSH, SoM			

438	KAZ 410	Kazakh literature of the XV-XIX centuries	3	6	Subject "KAZ" BETWEEN 300 and 399 OR Subject "KAZ" BETWEEN 300 and 399			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, GSB, SEDS, SMG, SSH, SoM			
439	KFL 101	Elementary Kazakh as a Foreign Language I	4	8				Instructor's Permission Required. Registration through Add Course form only!			
440	KFL 201	Intermediate Kazakh as a Foreign Language I	4	8				Instructor's Permission Required. Registration through Add Course form only!			
441	TUR 100	Languages, Cultures, and Communities of the Turkic World	3	6				SEDS, SMG, SSH, SoM			
442	TUR 230	Literatures of Central Asia	3	6				SEDS, SMG, SSH, SoM			
443	TUR 231	Istanbul in Literature and Culture	3	6				SEDS, SMG, SSH, SoM			
444	TUR 305	Introduction to Chagatay and Ottoman Turkish	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
445	TUR 411	Advanced Readings in Turkish Literature	3	6				SEDS, SMG, SSH, SoM			
446	TUR 451	The Turkish Novel	3	6				SEDS, SMG, SSH, SoM			
447	TUR 775	Doctoral Topic in Turkic Studies	4	8				Eurasian Studies			
Kazakh Language and Turkic Studies, Languages, Literature and Linguistics											
448	TUR 280/LING 280	Introduction to Turkic Historical and Comparative Linguistics	3	6				2 year UG SSH World Languages, Literatures and Cultures	World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	
Languages, Literature and Linguistics											
449	CHN 102	Beginning Mandarin II	4	8	CHN 101 Beginning Mandarin I (1384) (C and above)			SSH	SEDS, SMG, SoM		
450	CHN 202	Intermediate Mandarin II	4	8	CHN 201 Intermediate Mandarin I (2181) (C and above)			SSH	SEDS, SMG, SoM		
451	DUT 101	Beginning Dutch I	4	8				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, 2 year UG SSH World Languages, Literatures and Cultures, Undeclared SSH	3 year UG SSH World Languages, Literatures and Cultures	2 year UG SSH, 3 year UG SSH	
452	DUT 102	Beginning Dutch II	4	8	DUT 101 Beginning Dutch I (7642) (C- and above)			SSH	SEDS, SMG, SoM		
453	FRE 101	Beginning French I	4	8				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, 2 year UG SSH World Languages, Literatures and Cultures	3 year UG SSH World Languages, Literatures and Cultures	2 year UG SSH, 3 year UG SSH	
454	FRE 102	Beginning French II	4	8	FRE 101 Beginning French I (246) (C- and above)			SSH	SEDS, SMG, SoM		
455	FRE 202	Intermediate French II	4	8	FRE 201 Intermediate French I (667) (C- and above)			SSH	SEDS, SMG, SoM		
456	GER 101	Beginning German	4	8				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, 2 year UG SSH World Languages, Literatures and Cultures	3 year UG SSH World Languages, Literatures and Cultures	2 year UG SSH, 3 year UG SSH	
457	GER 102	Beginning German II	4	8	GER 101 Beginning German (3173) (C- and above)			SSH	SEDS, SMG, SoM		
458	KOR 101	Beginning Korean I	4	8				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, 2 year UG SSH World Languages, Literatures and Cultures	3 year UG SSH World Languages, Literatures and Cultures	2 year UG SSH, 3 year UG SSH	
459	KOR 201	Intermediate Korean I	4	8	KOR 102 Beginning Korean II (4791) (C- and above)			SSH	SEDS, SMG, SoM		
460	LING 131	Introduction to Linguistics	3	6				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, 2 year UG SSH World Languages, Literatures and Cultures	Business Administration (UG), World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	
461	LING 273	Survey of Research Methods in Linguistics	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
462	LING 277	Language Diversity and Language Universals	3	6	LING 131 Introduction to Linguistics (1394) (C and above)			2 year UG SSH World Languages, Literatures and Cultures	World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	
463	LING 278	Sounds of the World’s Languages	3	6				2 year UG SSH World Languages, Literatures and Cultures	World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	
464	LING 375	The Art and Science of Analyzing Languages: Morphosyntax of the World's Languages	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	

465	LING 377	Historical Linguistics	3	6	LING 131 Introduction to Linguistics (1394) (C- and above) AND (LING 240 Introduction to Sociolinguistics (6838) (C- and above) OR LING 270 Languages of Eurasia (2485) (C- and above) OR LING 273 Survey of Research Methods in Linguistics (2158) (C- and above) OR LING 277 Language Diversity and Language Universals (3834) (C- and above) OR LING 278 Sounds of the World's Languages (3850) (C- and above) OR LING 280/TUR 280 Introduction to Turkic Historical and Comparative Linguistics (3175) (C- and above) OR LING 375 The Art and Science of Analyzing Languages: Morphosyntax of the World's Languages (6237) (C- and above) OR LING 470 Multilingualism and Language Contact (3339) (C- and above) OR LING 374 Language Contact in Central Asia (3047) (C- and above) OR LING 140 Language Variation and Change: the Story of English (4835) (C- and above))			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
466	LING 431	Statistics and computational methods in Linguistics	3	6	LING 131 Introduction to Linguistics (1394) (C- and above) AND Subject "LING" BETWEEN 200 and 299			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
467	LING 731	Statistics and computational methods in Linguistics	4	8				Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
468	PER 101	Beginning Persian I	4	8				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, 2 year UG SSH World Languages, Literatures and Cultures	3 year UG SSH World Languages, Literatures and Cultures	2 year UG SSH, 3 year UG SSH	
469	PER 201	Intermediate Persian 1	4	8	PER 102 Beginning Persian II (4790) (C- and above)			SSH	SEDS, SMG, SoM		
470	POL 101	Beginning Polish	4	8				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, 2 year UG SSH World Languages, Literatures and Cultures	3 year UG SSH World Languages, Literatures and Cultures	2 year UG SSH, 3 year UG SSH	
471	RFL 156	Kazakhstan - history, culture, traditions, society, modernity	6	3				Instructor's Permission Required. Registration through Add Course form only!			
472	RFL 203	Intensive Intermediate Russian	4	8				Instructor's Permission Required. Registration through Add Course form only!			
473	RFL 211	East in Soviet Russian-language culture: origin and fate	3	6				Instructor's Permission Required. Registration through Add Course form only!			
474	RFL 213	Soviet Everyday Life through Cinema	3	6				Instructor's Permission Required. Registration through Add Course form only!			
475	RFL 469	International relations of Eurasia	3	6				Instructor's Permission Required. Registration through Add Course form only!			
476	SPA 101	Beginning Spanish I	4	8				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, 2 year UG SSH World Languages, Literatures and Cultures	3 year UG SSH World Languages, Literatures and Cultures	2 year UG SSH, 3 year UG SSH	
477	SPA 201	Intermediate Spanish I	4	8	SPA 102 Beginning Spanish II (1128) (C- and above)			SSH	SEDS, SMG, SoM		
478	SPA 314	Advanced Spanish Grammar and Composition	3	6	SPA 202 Intermediate Spanish II (1842) (C- and above)			SSH	SEDS, SMG, SoM		
479	WLL 110	Introduction to Literary Studies	3	6				(ND-CC) Undeclared SSH, 1 year UG SSH Undeclared, 2 year UG SSH World Languages, Literatures and Cultures	Business Administration (UG), World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	
480	WLL 201	World Literature I	3	6				2 year UG SSH World Languages, Literatures and Cultures	World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	
481	WLL 240	Introduction to the Novel	3	6				2 year UG SSH World Languages, Literatures and Cultures	World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	
482	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 SSH World Languages, Literatures and Cultures	World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	
483	WLL 257	Fan Culture in the Age of Convergence	3	6				2 year UG SSH World Languages, Literatures and Cultures	World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	
484	WLL 334	Postmodern Fiction: Forms and Messages	3	6	Subject "WLL" BETWEEN 100 and 399			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
485	WLL 341	Soviet Literature as Multinational Literature	3	6				World Languages, Literature and Culture	SSH		

486	WLL 349	Terrible Perfection: Women in 19th-Century 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	SSH	SEDS, SMG, SoM	
487	WLL 399	Independent Study	3	6				Instructor's Permission Required. Registration through Add Course form only!			
488	WLL 400	Research Assistance in Linguistics and Literature	1	2				Instructor's Permission Required. Registration through Add Course form only!			
489	WLL 401	Advanced Topics in World Literature	3	6				World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	

490	WLL 451	The Call of the Evil: Unmasking the Villain(ness) in Popular Culture and Literature	3	6	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 349 Terrible Perfection: Women in 19th-Century Russian Literature (2488) (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	SSH	SEDS, SMG, SoM	
491	WLL 498	Languages, Linguistics, and Literatures Capstone I	3	6				Instructor's Permission Required. Registration through Add Course form only!			

492	WLL 551	The Call of the Evil: Unmasking the Villain(ness) in Popular Culture and Literature	4	8	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 349 Terrible Perfection: Women in 19th-Century Russian Literature (2488) (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)			Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
Languages, Literature and Linguistics, Sociology and Anthropology											
493	WLL 171/ANT 175	Introduction to Linguistic Anthropology	3	6			ANT 277/WLL 271 Language and Society (1027) (C- and above)	(ND-CC) Undeclared SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Anthropology, SoM, Sociology, Undeclared SEDS, Undeclared SSH	2 year UG SSH, 3 year UG SSH Biological Sciences, World Languages, Literature and Culture	SEDS, SMG, SSH	
494	WLL 385/ANT 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	SEDS, SMG, SSH, SoM	
Physics											
495	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 SEDS, 1 year UG SMG, 1 year UG SSH Biological Sciences, 1 year UG SSH Chemistry, 1 year UG SSH Mathematics, 1 year UG SSH Physics	SEDS, SMG, SSH, SoM		
496	PHYS 201	Introductory Astronomy I	3	6				5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Physics	SEDS, SMG, SSH, SoM		

497	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			
498	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	SEDS, SMG, SSH, SoM		
499	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	SEDS, SMG, SSH, SoM		
500	PHYS 361	Classical Electrodynamics I	3	6		PHYS 315 Applied Mathematical Methods (653) (D and above) OR PHYS 411 Advanced Mathematical Physics (3142) (D and above)		Physics	SEDS, SMG, SSH, SoM		
501	PHYS 395	Research Methods	3	6				Physics			
502	PHYS 452	Quantum Mechanics II	3	6	PHYS 451 Quantum Mechanics I (1415) (C- and above)			Physics	SEDS, SMG, SSH, SoM		
503	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	SEDS, SMG, SSH, SoM		
504	PHYS 465	Advanced Experimental Physics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)			Physics			
505	PHYS 473	Introduction to Solid State Physics	4	8	PHYS 261 Modern Physics with laboratory (125) (C- and above) OR CHEM 331 Physical Chemistry I (634) (C- and above) OR MAE 301 Engineering Thermodynamics (5927) (C- and above) OR CHME 201 Chemical Engineering Thermodynamics (5007) (C- and above) OR ELCE 204 Solid State Devices (5508) (C- and above)			Physics	SEDS, SMG, SSH, SoM		
506	PHYS 498	Honors Thesis Research	0	0				Instructor's Permission Required. Registration through Add Course form only!			
507	PHYS 505	Classical Mechanics	3	6				Physics			
508	PHYS 515	Classical Electrodynamics	3	6				Physics			
509	PHYS 530	Solid State Physics	4	8				Physics			
510	PHYS 550	Advanced Mathematical Physics	3	6				Physics			
511	PHYS 563	General Relativity	3	6				Physics			
512	PHYS 565	Advanced Physics Laboratory	4	8				Physics			
513	PHYS 591	Research Methods	3	6				Physics			
514	PHYS 600	Thesis Research	0	0				Physics			
515	PHYS 700	Doctoral Thesis	90	180							

516	PHYS 700-0	Thesis Research	0	0				Physics			
517	PHYS 705	Classical Mechanics	4	8				Physics			
518	PHYS 750	Advanced Mathematical Physics	4	8				Physics			
519	PHYS 763	General Relativity	4	8				Physics			
520	PHYS 791	Research methods and ethics	3	6				Physics			
Political Science and International Relations											
521	PLS 100	Introduction to the Politics of Central Asia	3	6				(ND-CC) Undeclared SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation), 6 year UG SSH, 6 year UG SSH (pending graduation), Undeclared SSH	SEDS, SMG, SSH, SoM		
522	PLS 101	Introduction to Political Science	3	6				(ND-CC) Undeclared SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation), 6 year UG SSH, 6 year UG SSH (pending graduation), Undeclared SSH	Business Administration (UG), SEDS, SMG, SSH, SoM		
523	PLS 120	Introduction to Political Theory	3	6				(ND-CC) Undeclared SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation), 6 year UG SSH, 6 year UG SSH (pending graduation), Political Science and International Relations, Undeclared SSH	SEDS, SMG, SSH, SoM		
524	PLS 140	Introduction to Comparative Politics	3	6				(ND-CC) Undeclared SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation), 6 year UG SSH, 6 year UG SSH (pending graduation), Political Science and International Relations, Undeclared SSH	SEDS, SMG, SSH, SoM		
525	PLS 150	Introduction to International Relations	3	6				(ND-CC) Undeclared SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), 6 year UG SEDS, 6 year UG SEDS (pending graduation), 6 year UG SSH, 6 year UG SSH (pending graduation), Political Science and International Relations, Undeclared SSH	SEDS, SMG, SSH, SoM		
526	PLS 210	Political Science Research Methods	3	6				2 year UG SSH Political Sciences and International Relations	3 year UG SSH Political Sciences and International Relations	SEDS, SMG, SSH, SoM	
527	PLS 211	Quantitative Methods	3	6			ECON 211 Economic Statistics (2280) (C- and above)	2 year UG SSH Political Sciences and International Relations	3 year UG SSH Political Sciences and International Relations	SEDS, SMG, SSH, SoM	
528	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)			3 year UG SSH Political Sciences and International Relations	Political Science and International Relations	SEDS, SMG, SSH, SoM	
529	PLS 330	Politics and Governance of Eurasia	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			3 year UG SSH Political Sciences and International Relations	Political Science and International Relations	SEDS, SMG, SSH, SoM	
530	PLS 338	U.S. Government and Politics	3	6	(PLS 140 Introduction to Comparative Politics (223) (C- and above) OR PLS 101 Introduction to Political Science (513) (C- and above)) AND PLS 210 Political Science Research Methods (129) (C- and above)			3 year UG SSH Political Sciences and International Relations	Political Science and International Relations	SEDS, SMG, SSH, SoM	
531	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)			3 year UG SSH Political Sciences and International Relations	Political Science and International Relations	SEDS, SMG, SSH, SoM	

532	PLS 360	Foreign Policy Analysis	3	6	PLS 150 Introduction to International Relations (511) (C- and above)			3 year UG SSH Political Sciences and International Relations	Political Science and International Relations	SEDS, SMG, SSH, SoM	
533	PLS 370	Law, Politics and Society	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			3 year UG SSH Political Sciences and International Relations	Political Science and International Relations	SEDS, SMG, SSH, SoM	
534	PLS 391	Intermediate Special Topics in Comparative Politics	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			3 year UG SSH Political Sciences and International Relations	Political Science and International Relations	SEDS, SMG, SSH, SoM	
535	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)			Instructor's Permission Required. Registration through Add Course form only!			
536	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		SEDS, SMG, SSH, SoM	
537	PLS 417	Scientific Research in Political Science	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		SEDS, SMG, SSH, SoM	
538	PLS 423	Immigration Theory	3	6				Political Science and International Relations		SEDS, SMG, SSH, SoM	
539	PLS 424	Issues in the Philosophy of Social Science	3	6	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		SEDS, SMG, SSH, SoM	
540	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		SEDS, SMG, SSH, SoM	
541	PLS 437	Nationalism and Multi-Ethnic Governance	3	6	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 140 Introduction to Comparative Politics (223) (C- and above)			Political Science and International Relations		SEDS, SMG, SSH, SoM	
542	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		SEDS, SMG, SSH, SoM	
543	PLS 451	Advanced Topics in International Relations	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			Political Science and International Relations		SEDS, SMG, SSH, SoM	
544	PLS 452	The United Nations System	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)		PLS 458 International Organization (1870) (C- and above)	Political Science and International Relations		SEDS, SMG, SSH, SoM	
545	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)			Instructor's Permission Required. Registration through Add Course form only!			
546	PLS 510	Quantitative Research Methods	4	8				Political Science and International Relations	Eurasian Studies, GSPP	GSB, GSE, SEDS, SSH	
547	PLS 516	Experimental Political Science	4	8	PLS 511 Qualitative Methods in Political Science (1631) (C- and above)			Political Science and International Relations	Eurasian Studies, GSPP	GSB, GSE, SEDS, SSH	
548	PLS 517	Scientific Research in Political Science	4	8				Political Science and International Relations	Eurasian Studies, GSPP	GSB, GSE, SEDS, SSH	
549	PLS 523	Immigration Theory	4	8				Political Science and International Relations	Eurasian Studies, GSPP	GSB, GSE, SEDS, SSH	
550	PLS 524	Issues in the Philosophy of Social Science	4	8				Political Science and International Relations	Eurasian Studies, GSPP	GSB, GSE, SEDS, SSH	
551	PLS 531	Politics and Governance of the Russian Federation	4	8				Political Science and International Relations	Eurasian Studies, GSPP	GSB, GSE, SEDS, SSH	
552	PLS 537	Nationalism and Multiethnic Governance	4	8				Political Science and International Relations	Eurasian Studies, GSPP	GSB, GSE, SEDS, SSH	
553	PLS 550	Core Seminar in IR	4	8				Political Science and International Relations	Eurasian Studies, GSPP	GSB, GSE, SEDS, SSH	
554	PLS 552	The United Nations System	4	8			PLS 558 International Organization (1871) (C- and above)	Political Science and International Relations	Eurasian Studies, GSPP	GSB, GSE, SEDS, SSH	

555	PLS 581	Independent Study in Political Science	4	8				Instructor's Permission Required. Registration through Add Course form only!			
556	PLS 598	MA Thesis I	6	12				Political Science and International Relations			
557	PLS 723	Immigration Theory	4	8				Eurasian Studies		GSB, GSE	
558	PLS 731	Politics and Governance of the Russian Federation	4	8				Eurasian Studies		GSB, GSE	
559	PLS 737	Nationalism and Multiethnic Governance	4	8				Eurasian Studies		GSB, GSE	
SSH											
560	SSH 300	School of Sciences and Humanities Internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			
561	SSH 301	School of Sciences and Humanities Internship: Second Experience	3	6				Instructor's Permission Required. Registration through Add Course form only!			
Sociology and Anthropology											
562	ANT 101	Being Human: An Introduction to Four Field Anthropology	3	6				(ND-CC) Undeclared SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Anthropology, SoM, Sociology, Undeclared SEDS, Undeclared SSH	2 year UG SSH, 3 year UG SSH Biological Sciences, Business Administration (UG)	SEDS, SMG, SSH	
563	ANT 140	World Prehistory	3	6				(ND-CC) Undeclared SSH, 5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Anthropology, SoM, Sociology, Undeclared SEDS, Undeclared SSH	2 year UG SSH, 3 year UG SSH Biological Sciences	SEDS, SMG, SSH	
564	ANT 262	Monkey business: Primate Society and Behavior	3	6				Anthropology	Sociology	SEDS, SMG, SSH, SoM	
565	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			3 year UG SSH Anthropology, 3 year UG SSH Sociology, 4 year UG SSH Anthropology, 4 year UG SSH Sociology, 5 year UG SSH Anthropology, 5 year UG SSH Anthropology (pending graduation), 5 year UG SSH Sociology, 5 year UG SSH Sociology (pending graduation)	Anthropology, Sociology	SEDS, SMG, SSH, SoM	
566	ANT 400	Research Assistance in Anthropology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
567	ANT 402	Research Assistance in Anthropology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
568	ANT 421	Sport and Construction of Identity	3	6				3 year UG SSH Anthropology, 4 year UG SSH Anthropology, 5 year UG SSH Anthropology, 5 year UG SSH Anthropology (pending graduation), 5 year UG SSH Sociology (pending graduation)	Anthropology, Sociology	SEDS, SMG, SSH, SoM	
569	ANT 498	Capstone Seminar I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
570	ANT 521	Sport and Construction of Identity	4	8				Eurasian Studies			
571	ANT 585	Postcolonial Theory and Its Application in Eurasia	4	8				Eurasian Studies			
572	PLS 204/ANT 204	Capitalism in Crisis	3	6				5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Anthropology	2 year UG SSH, 3 year UG SSH Biological Sciences, Political Science and International Relations, Sociology	SEDS, SMG, SSH, SoM	
573	SOC 101	Introduction to Sociology	3	6				(ND-CC) Undeclared SSH, Medical Sciences, Nursing, Sociology, Undeclared SEDS, Undeclared SSH	Business Administration (UG), SSH	SEDS, SMG, SoM	
574	SOC 201	Social Science Research Methods	3	6				3 year UG SSH Anthropology, 3 year UG SSH Sociology, 4 year UG SSH Anthropology, 4 year UG SSH Sociology, 5 year UG SSH Anthropology, 5 year UG SSH Anthropology (pending graduation), 5 year UG SSH Sociology, 5 year UG SSH Sociology (pending graduation)	Anthropology, Sociology	SEDS, SMG, SSH, SoM	
575	SOC 203	Quantitative Methods in Sociology	3	6				3 year UG SSH Anthropology, 3 year UG SSH Sociology, 4 year UG SSH Anthropology, 4 year UG SSH Sociology, 5 year UG SSH Anthropology, 5 year UG SSH Anthropology (pending graduation), 5 year UG SSH Sociology, 5 year UG SSH Sociology (pending graduation)	Anthropology, Sociology	SEDS, SMG, SSH, SoM	

576	SOC 213	Work and Society	3	6				3 year UG SSH Anthropology, 3 year UG SSH Sociology, 4 year UG SSH Anthropology, 4 year UG SSH Sociology, 5 year UG SSH Anthropology, 5 year UG SSH Anthropology (pending graduation), 5 year UG SSH Sociology, 5 year UG SSH Sociology (pending graduation)	Anthropology, Sociology	SEDS, SMG, SSH, SoM	
577	SOC 215	Sociology of Race and Ethnicity	3	6				3 year UG SSH Anthropology, 3 year UG SSH Sociology, 4 year UG SSH Anthropology, 4 year UG SSH Sociology, 5 year UG SSH Anthropology, 5 year UG SSH Anthropology (pending graduation), 5 year UG SSH Sociology, 5 year UG SSH Sociology (pending graduation)	Anthropology, Sociology	SEDS, SMG, SSH, SoM	
578	SOC 223	Social Movements: How People Make Change	3	6				3 year UG SSH Anthropology, 3 year UG SSH Sociology, 4 year UG SSH Anthropology, 4 year UG SSH Sociology, 5 year UG SSH Anthropology, 5 year UG SSH Anthropology (pending graduation), 5 year UG SSH Sociology, 5 year UG SSH Sociology (pending graduation)	Anthropology, Sociology	SEDS, SMG, SSH, SoM	
579	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)			4 year UG SSH Sociology, 5 year UG SSH Sociology, 5 year UG SSH Sociology (pending graduation)	3 year UG SSH Sociology	Anthropology, Sociology	
580	SOC 310	Social Inequality	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above)			3 year UG SSH Anthropology, 3 year UG SSH Sociology, 4 year UG SSH Anthropology, 4 year UG SSH Sociology, 5 year UG SSH Anthropology, 5 year UG SSH Anthropology (pending graduation), 5 year UG SSH Sociology, 5 year UG SSH Sociology (pending graduation)	Anthropology, Sociology	SEDS, SMG, SSH, SoM	
581	SOC 320	Organized Crime and Corruption	3	6	SOC 101 Introduction to Sociology (508) (C- and above)			3 year UG SSH Anthropology, 3 year UG SSH Sociology, 4 year UG SSH Anthropology, 4 year UG SSH Sociology, 5 year UG SSH Anthropology, 5 year UG SSH Anthropology (pending graduation), 5 year UG SSH Sociology, 5 year UG SSH Sociology (pending graduation)	Anthropology, Sociology	SEDS, SMG, SSH, SoM	
582	SOC 400	Research Assistance in Sociology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
583	SOC 401	Research Assistance in Sociology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
584	SOC 410	Violence against women: An Intersectional Approach	3	6	Subject "SOC" BETWEEN 200 and 299 OR Subject "SOC" BETWEEN 200 and 299 OR Subject "SOC" BETWEEN 300 and 399 OR Subject "SOC" BETWEEN 300 and 399			4 year UG SSH Sociology, 5 year UG SSH Sociology, 5 year UG SSH Sociology (pending graduation)	3 year UG SSH Sociology	Anthropology, Sociology	
585	SOC 411	Citizenship in Eurasia: Political Sociology of Civic Belonging	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above) OR SOC 180 Introducing Kazakhstan: from the Past to the Future (5063) (C- and above) OR SOC 201 Social Science Research Methods (1341) (C- and above) OR SOC 301 Classical Sociological Theory (683) (C- and above)			SEDS, SMG, SSH			
586	SOC 498	Capstone Seminar Part I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
587	SOC 510	Social Inequality	4	8				Eurasian Studies			
588	SOC 710	Social Inequality	4	8				Eurasian Studies			
Sociology and Anthropology, Sociology and Anthropology											
589	ANT 214/SOC 214	Qualitative Methods	3	6				3 year UG SSH Anthropology, 3 year UG SSH Sociology, 4 year UG SSH Anthropology, 4 year UG SSH Sociology, 5 year UG SSH Anthropology, 5 year UG SSH Anthropology (pending graduation), 5 year UG SSH Sociology, 5 year UG SSH Sociology (pending graduation)	Anthropology, Sociology	SEDS, SMG, SSH, SoM	
590	ANT 482/SOC 482	Climate Change, Future Energy and Sustainability	3	6	ANT 214/SOC 214 Qualitative Methods (1033) (C- and above) OR SOC 203 Quantitative Methods in Sociology (1377) (C- and above)			3 year UG SSH Anthropology, 3 year UG SSH Sociology, 4 year UG SSH Anthropology, 4 year UG SSH Sociology, 5 year UG SSH Anthropology, 5 year UG SSH Anthropology (pending graduation), 5 year UG SSH Sociology, 5 year UG SSH Sociology (pending graduation)	Anthropology, Sociology	SEDS, SMG, SSH, SoM	
SoE											
Chemical and Materials Engineering											

591	CHME 200	Basic Principles and Calculations in Chemical Engineering	3	6				2 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
592	CHME 201	Chemical Engineering Thermodynamics	3	6				2 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
593	CHME 222	Inorganic and Analytical Chemistry	3	6				2 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
594	CHME 300	Heat and Mass Transfer	3	6				3 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
595	CHME 301	Applied Mathematics for Process Design	3	6				3 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
596	CHME 302	Instrumental Methods of Analysis for Engineers	3	6				3 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
597	CHME 351	Environment and Development	3	6				3 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
598	CHME 353	Electrochemical Engineering	3	6				3 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
599	CHME 400	Process Design and Simulation	3	6	CHME 300 Heat and Mass Transfer (5952) (D and above) AND CHME 304 Chemical Reaction Engineering (6168) (D and above)			4 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
600	CHME 401	Chemical Engineering Lab II	3	6				4 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
601	CHME 453	Multiphase Systems	3	6	CHME 202 Fluid Mechanics (5543) (D and above)			4 year UG SEDS Chemical and Materials Engineering	Chemical and Materials Engineering		
602	DCHME 700	Thesis Research	89	178							
603	DCHME 700-0	Thesis Research	0	0				Chemical Engineering	Science, Engineering and Technology		
604	DCHME 755	Integrated Computational Materials Engineering	4	8				Chemical Engineering	Science, Engineering and Technology		
605	DCHME 761	Advanced Chemical Reaction Engineering	4	8				Chemical Engineering	Science, Engineering and Technology		
606	DCHME 762	Advanced Materials Processing	4	8				Chemical Engineering	Science, Engineering and Technology		
607	MBME 601	Master Thesis I	12	24				2 year Gr SEDS Biomedical Engineering			
608	MBME 603	Biomaterials Science & Engineering	3	6				1 year Gr SEDS Biomedical Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
609	MBME 604	Biosensors	3	6				1 year Gr SEDS Biomedical Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
610	MBME 610	Anatomy and Physiology for Biomedical Engineers	3	6				1 year Gr SEDS Biomedical Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		

611	MBME 710	Biophotonics	3	6				2 year Gr SEDS Biomedical Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
612	MCHME 601	Master Thesis I	12	24				2 year Gr SEDS Chemical and Materials Engineering			
613	MCHME 603	Advanced Materials Processing	3	6				1 year Gr SEDS Chemical and Materials Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
614	MCHME 604	Advanced Materials Characterization Methods	3	6				1 year Gr SEDS Chemical and Materials Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
615	MCHME 605	Advanced Chemical Reaction Engineering	3	6				1 year Gr SEDS Chemical and Materials Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
616	MCHME 714	Computational Materials Engineering	3	6				2 year Gr SEDS Chemical and Materials Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
Civil Engineering											
617	MSC 600	Research Methods and Ethics	3	6				1 year Gr SEDS Engineering Management	2 year Gr SEDS Engineering Management		
618	MSC 602	Advanced Applied Mathematics	3	6				1 year Gr SEDS Civil and Environmental Engineering, 1 year Gr SEDS Electrical and Computer Engineering, 1 year Gr SEDS Mechanical and Aerospace Engineering, Biomedical Engineering, Chemical and Materials Engineering	2 year Gr SEDS Electrical and Computer Engineering		
619	MSC 615	Advanced Statistics and Probability	3	6				1 year Gr SEDS Engineering Management			
Civil Engineering, Communication and Composition											
620	MSC 601	Technical Communication	3	6				1 year Gr SEDS Biomedical Engineering, 1 year Gr SEDS Chemical and Materials Engineering, 1 year Gr SEDS Civil and Environmental Engineering, 1 year Gr SEDS Computer Science, 1 year Gr SEDS Electrical and Computer Engineering, 1 year Gr SEDS Robotics, 1 year PhD SEDS Robotics Engineering	SMG	SEDS	
Civil and Environmental Engineering											

621	CEE 200	Structural Mechanics I	3	6				2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering	3 year UG SEDS Civil and Environmental Engineering, 3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Civil and Environmental Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering (pending graduation), 5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)	
622	CEE 201	Environmental Chemistry	3	6				2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering	3 year UG SEDS Civil and Environmental Engineering, 3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Civil and Environmental Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering (pending graduation), 5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)	
623	CEE 204	Civil Engineering CAD and Surveying	3	6				2 year UG SEDS Civil and Environmental Engineering	3 year UG SEDS Civil and Environmental Engineering	5 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering (pending graduation)	
624	CEE 300	Structural Design – Concrete	3	6	CEE 203 Structural Analysis (5500) (D and above)			3 year UG SEDS Civil and Environmental Engineering	4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering (pending graduation)		
625	CEE 302	Geotechnical Engineering	3	6				3 year UG SEDS Civil and Environmental Engineering	4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering (pending graduation)		
626	CEE 304	Fluid Mechanics	3	6				3 year UG SEDS Civil and Environmental Engineering	4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering (pending graduation)		

627	CEE 306	Civil Engineering Materials	3	6	ENG 102 Engineering Materials I (4708) (D and above)			3 year UG SEDS Civil and Environmental Engineering	4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering (pending graduation)		
628	CEE 401	Construction Technology and Management	3	6	CEE 306 Civil Engineering Materials (5897) (D and above)			4 year UG SEDS Civil and Environmental Engineering	5 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering (pending graduation)		
629	CEE 450	Behavior and Design of Structural System	3	6	CEE 300 Structural Design – Concrete (5895) (D and above) AND CEE 301 Structural Design – Steel (6157) (D and above)			4 year UG SEDS Civil and Environmental Engineering	5 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering (pending graduation)		
630	CEE 460	Water Supply and Distribution Management	3	6	CEE 305 Hydraulics and Hydrology (6177) (D and above)			4 year UG SEDS Civil and Environmental Engineering	5 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering (pending graduation)		
631	CEE 462	Pavement Design and Performance	3	6	CEE 306 Civil Engineering Materials (5897) (D and above) AND CEE 303 Geotechnical Design (6158) (D and above)			4 year UG SEDS Civil and Environmental Engineering	5 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering (pending graduation)		
632	CEE 463	Individual Research Project in Civil & Environmental Engineering 1	3	6				4 year UG SEDS Civil and Environmental Engineering			
633	CEE 467	Building Information Modelling for Geotechnical Engineering	3	6	CEE 303 Geotechnical Design (6158) (D and above)			4 year UG SEDS Civil and Environmental Engineering	5 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS Civil and Environmental Engineering (pending graduation)		
634	DCEE 700-0	Thesis Research	0	0				Civil Engineering			
635	DCEE 750	Finite Element Methods	4	8				1 year PhD SEDS Civil Engineering			
636	DCEE 757	Advanced Environmental Chemistry	4	8				1 year PhD SEDS Civil Engineering			
637	DCEE 761	Advanced Soil Mechanics	4	8				1 year PhD SEDS Civil Engineering			
638	DCEE 772	Engineering Management and Engineering Economy	4	8				1 year PhD SEDS Civil Engineering			
639	DCEE 773	Unsaturated Soil Mechanics for Engineering Practice	4	8				1 year PhD SEDS Civil Engineering			

640	EMEM 507	Project Management	3	6				1 year Gr SEDS Engineering Management	2 year Gr SEDS Engineering Management	Biomedical Engineering, Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Electrical and Electronic Engineering, Industrial and Systems Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Robotics	
641	EMEM 523	Supply Chain Management	3	6				2 year Gr SEDS Engineering Management			
642	EMEM 533	Engineering Management and Engineering Economy	3	6				1 year Gr SEDS Engineering Management	2 year Gr SEDS Engineering Management	Biomedical Engineering, Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Electrical and Electronic Engineering, Industrial and Systems Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Robotics	
643	EMEM 535	Managing Product and Service Development	3	6				2 year Gr SEDS Engineering Management			
644	EMEM 537	Engineering Decision Tools	3	6				2 year Gr SEDS Engineering Management			
645	EMEM 538	Knowledge and Innovation Management	3	6				1 year Gr SEDS Engineering Management			

646	EMEM 539	Big Data and Information Management	3	6				1 year PhD SEDS Civil Engineering, 2 year Gr SEDS Engineering Management	1 year Gr SEDS Engineering Management	Biomedical Engineering, Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Electrical and Electronic Engineering, Industrial and Systems Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, Robotics	
647	EMEM 549	Capstone Project I	3	6				2 year Gr SEDS Engineering Management			
648	MCEE 601	Master Thesis I	12	24	MCEE 600 Research Seminar (4692) (P)			2 year Gr SEDS Civil and Environmental Engineering			
649	MCEE 603	Finite Element Methods	3	6				1 year Gr SEDS Civil and Environmental Engineering, Mechanical and Aerospace Engineering			
650	MCEE 604	Advanced Soil Mechanics	3	6				1 year Gr SEDS Civil and Environmental Engineering			
651	MCEE 605	Advanced Environmental Chemistry	3	6				1 year Gr SEDS Civil and Environmental Engineering	2 year Gr SEDS Civil and Environmental Engineering	SEDS	
652	MCEE 716	Unsaturated Soil Mechanics for Engineering Practice	3	6				2 year Gr SEDS Civil and Environmental Engineering			
Economics, SMG											
653	ECON 220/SMG 200	Resource Economics	3	6	MATH 161 Calculus I (118) (C- and above) OR MATH 162 Calculus II (170) (C- and above)		ECON 201 Intermediate Microeconomics (133) (C- and above) OR ECON 202 Intermediate Macroeconomics (207) (C- and above)	3 year UG SMG, 4 year UG SMG	4 year UG SEDS, 4 year UG SSH		
Electrical and Computer Engineering											
654	DELCE 700-0	Thesis Research	0	0				Electrical Engineering			
655	DELCE 753	Stochastic Processes	4	8				Electrical Engineering	Science, Engineering and Technology	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering	
656	DELCE 760	Advanced System Modelling and Control	4	8				Electrical Engineering	Science, Engineering and Technology	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering	

657	DELCE 761	Advanced Data Structures and Algorithms	4	8				Electrical Engineering	Science, Engineering and Technology	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering	
658	ELCE 200	Circuits Theory I	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)			2 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
659	ELCE 203	Signals and Systems	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)			2 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
660	ELCE 203L	Signals and Systems Laboratory	1	2		ELCE 203 Signals and Systems (4993) (D and above)		2 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
661	ELCE 204	Solid State Devices	3	6	ENG 103 Engineering Materials II (4818) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
662	ELCE 204L	Solid State Devices Laboratory	1	2	ENG 103 Engineering Materials II (4818) (C- and above)	ELCE 204 Solid State Devices (5508) (D and above)		3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
663	ELCE 205	Discrete Mathematics	3	6	MATH 162 Calculus II (170) (C- and above)			2 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
664	ELCE 301	Electronic Circuits	3	6	ELCE 201 Circuit Theory (5507) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
665	ELCE 301L	Electronic Circuits Laboratory	1	2	ELCE 201L Circuit Theory Laboratory (6179) (C- and above)	ELCE 301 Electronic Circuits (5918) (C- and above)		3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
666	ELCE 304	Computer Networks	3	6	ENG 101 Programming for Engineers (4517) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
667	ELCE 304L	Computer Networks Laboratory	1	2		ELCE 304 Computer Networks (5920) (D and above)		3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
668	ELCE 306	Linear Control Theory	3	6	ELCE 203 Signals and Systems (4993) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
669	ELCE 307	Digital Signal Processing	3	6	ELCE 203 Signals and Systems (4993) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
670	ELCE 307L	Digital Signal Processing Laboratory	1	2	ELCE 203 Signals and Systems (4993) (C- and above) AND ELCE 203L Signals and Systems Laboratory (6182) (C- and above)	ELCE 307 Digital Signal Processing (5921) (D and above)		3 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
671	ELCE 352	Applied Simulation Laboratory	2	4	ELCE 200 Introduction to Electrical Circuits (4991) (D+ and above)			3 year UG SEDS Electrical and Computer Engineering	4 year UG SEDS Electrical and Computer Engineering	5 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS Electrical and Computer Engineering (pending graduation)	
672	ELCE 455	Machine Learning with Python	3	6	ENG 101 Programming for Engineers (4517) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above)			4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
673	ELCE 461	Industrial Automation	3	6	ELCE 202 Digital Logic Design (4992) (C- and above)			4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering	SEDS, SMG	
674	ELCE 462	Wireless Networks	3	6	ENG 201 Applied Probability and Statistics (5505) (C- and above) AND (ELCE 308 Communication Systems (5922) (C- and above) OR ELCE 304 Computer Networks (5920) (C- and above))			4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		

675	ELCE 463	Network Science: Methods and Applications	3	6	ENG 101 Programming for Engineers (4517) (C- and above) AND MATH 162 Calculus II (170) (C- and above) AND ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (C- and above)			4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
676	ELCE 466	RF and Microwave Circuits	3	6				4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering		
677	ELCE 467	Modern Wireless Communications	3	6	ELCE 350 Electromagnetics I (7464) (C- and above)			4 year UG SEDS Electrical and Computer Engineering	Electrical and Computer Engineering	Physics, SEDS, SMG	
678	ENG 101	Programming for Engineers	3	6			CSCI 151 Programming for Scientists and Engineers (192) (F) OR CSCI 111 Web Programming and Problem Solving (110) (F) OR CSCI 115 Programming Fundamentals (5257) (F) OR CSCI 152 Performance and Data Structures (489) (F) OR CSCI 408 Senior Project I (1481) (F) OR CSCI 409 Senior Project II (1483) (F)	1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering			
679	MECE 601	Master Thesis I	12	24				2 year Gr SEDS Electrical and Computer Engineering	1 year Gr SEDS Electrical and Computer Engineering		
680	MECE 603	Advanced Data Structures and Algorithms	3	6				1 year Gr SEDS Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
681	MECE 605	Statistics and Probability for Electrical and Computer Engineers	3	6				1 year Gr SEDS Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
682	MECE 606	Embedded Systems and Applications	3	6				1 year Gr SEDS Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
683	MECE 724	System Modelling and Control	3	6				1 year Gr SEDS Electrical and Computer Engineering	2 year Gr SEDS Electrical and Computer Engineering		

684	MECE 726	Modern Semiconductor Devices and Systems	3	6				2 year Gr SEDS Electrical and Computer Engineering	1 year Gr SEDS Electrical and Computer Engineering	Applied Mathematics, Biological Sciences, Biological Sciences and Technologies, Biomedical Engineering, Chemical Engineering, Chemical and Materials Engineering, Chemistry, Civil Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Economics, Electrical and Computer Engineering, Electrical and Electronic Engineering, Engineering Management, Eurasian Studies, Industrial and Systems Engineering, Life Sciences, Mechanical Engineering, Mechanical and Aerospace Engineering, Physics, Political Science and International Relations, Robotics	
685	MECE 727	Biosensors	3	6				2 year Gr SEDS Electrical and Computer Engineering	1 year Gr SEDS Electrical and Computer Engineering		
686	MECE 731	RF and Microwave Circuits	3	6				2 year Gr SEDS Electrical and Computer Engineering	1 year Gr SEDS Electrical and Computer Engineering		
Geosciences											
687	GEOL 201	Mineralogy	3	6	GEOL 101 Fundamentals of Geology (4774) (C- and above)			2 year UG SMG Geology	2 year UG SMG Mining Engineering, 3 year UG SMG Geology, 3 year UG SMG Mining Engineering, 4 year UG SMG Geology, 4 year UG SMG Mining Engineering		
688	GEOL 202	Geologic Maps and Cross-Sections	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			2 year UG SMG Geology	2 year UG SMG Mining Engineering, 3 year UG SMG Mining Engineering		
689	GEOL 203	Sedimentary petrology	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 202 Geologic Maps and Cross-Sections (5123) (D and above)	GEOL 202 Geologic Maps and Cross-Sections (5123) (D and above)		3 year UG SMG Geology			
690	GEOL 207	Geomorphology	3	6	GEOL 101 Fundamentals of Geology (4774) (C- and above) OR GEOL 102 Fundamentals of Geology (4772) (C- and above)			2 year UG SMG Geology			
691	GEOL 302	Thermodynamics and Geochemistry	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			3 year UG SMG Geology			
692	GEOL 303	Structural Geology and Tectonics	3	6	(GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)) AND GEOL 202 Geologic Maps and Cross-Sections (5123) (D and above)			3 year UG SMG Geology	2 year UG SMG Mining Engineering		
693	GEOL 305	Geology of ore deposits	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above) OR GEOL 201 Mineralogy (5122) (D and above)			3 year UG SMG Geology	2 year UG SMG Mining Engineering, 3 year UG SMG Mining Engineering		

694	GEOL 310	Field Geology 2	3	6	GEOL 303 Structural Geology and Tectonics (5874) (D and above) OR GEOL 301 Igneous and metamorphic petrology (5886) (D and above)			4 year UG SMG Geology			
695	GEOL 401	Petroleum Geology and Geochemistry	3	6				4 year UG SMG Geology, 4 year UG SMG Petroleum Engineering			
696	GEOL 402	Water Resource Management	3	6				4 year UG SMG Geology	4 year UG SMG Mining Engineering	4 year UG SEDS, 4 year UG SSH	
697	GEOL 404	Research Project I	3	6				4 year UG SMG Geology			
698	GEOL 501	Advanced Economic Geology	3	6				1 year Gr SMG Geosciences			
699	GEOL 502	Advanced Petroleum Geology	3	6				1 year Gr SMG Geosciences			
700	GEOL 503	Advanced Sedimentology	3	6				1 year Gr SMG Geosciences			
701	GEOL 504	Advanced Geochemistry	3	6				1 year Gr SMG Geosciences			
702	GEOL 505	Advanced Geophysics	3	6				1 year Gr SMG Geosciences			
Mechanical and Aerospace Engineering											
703	DMAE 700	Thesis Research	89	178							
704	DMAE 700-0	Thesis Research	0	0				Mechanical Engineering			
705	DMAE 701	Advanced Applied Mathematics	4	8				Mechanical Engineering	SEDS		
706	DMAE 763	Computational Fluid Structure Interaction	4	8				Mechanical Engineering	SEDS		
707	DMAE 765	Advanced Manufacturing Processes and Strategies	4	8				Mechanical Engineering	SEDS		
708	DMAE 772	Advanced Materials and Composites	4	8							
709	ENG 100	Introduction to Engineering	3	6				1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering	2 year UG SEDS Chemical and Materials Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering		
710	ENG 200	Engineering Mathematics III (Differential Equations and Linear Algebra)	3	6	MATH 162 Calculus II (170) (C and above)			2 year UG SEDS Chemical and Materials Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering	3 year UG SEDS Chemical and Materials Engineering, 3 year UG SEDS Civil and Environmental Engineering, 3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Mechanical and Aerospace Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, SMG	
711	ENG 400	Capstone Project	3	6				Instructor's Permission Required. Registration through Add Course form only!			
712	MAE 201	Computer Aided Design	3	6				2 year UG SEDS Mechanical and Aerospace Engineering	3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Mechanical and Aerospace Engineering	
713	MAE 202	Environmental Science	3	6				2 year UG SEDS Mechanical and Aerospace Engineering	3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Mechanical and Aerospace Engineering	

714	MAE 300	Fluid Mechanics I	3	6	PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Mechanical and Aerospace Engineering	5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)	
715	MAE 301	Engineering Thermodynamics	3	6				3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Mechanical and Aerospace Engineering	5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)	
716	MAE 303	Control Systems	3	6				3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Mechanical and Aerospace Engineering	5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)	
717	MAE 307	Engineering Dynamics II	3	6	MAE 206 Engineering Dynamics I (5535) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Mechanical and Aerospace Engineering	5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)	
718	MAE 400	Heat Transfer	3	6	MAE 300 Fluid Mechanics I (5926) (D and above) AND MAE 301 Engineering Thermodynamics (5927) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering	5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)		
719	MAE 401	Mechanical Systems Design	3	6	MAE 302 Machine Elements Design (5928) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering	5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)		
720	MAE 450	Additive Manufacturing	3	6	MAE 205 Material and Manufacturing I (5534) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering	5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)		
721	MAE 453	Fire Engineering	3	6	MAE 305 Fluid Mechanics II (6173) (D and above) AND MAE 301 Engineering Thermodynamics (5927) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering	5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)		
722	MAE 455	Flight Performance and Mechanics	3	6	MAE 340 Aerodynamics (6576) (D and above) OR MAE 305 Fluid Mechanics II (6173) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering	5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)		
723	MAE 462	Multiphase Systems	3	6	MAE 300 Fluid Mechanics I (5926) (D and above) AND MAE 305 Fluid Mechanics II (6173) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering	5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)		
724	MAE 466	Application of Optimization in Mechanical and Aerospace Engineering.	3	6	ENG 202 Numerical Methods in Engineering (5506) (D and above) AND MATH 162 Calculus II (170) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering	5 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS Mechanical and Aerospace Engineering (pending graduation)		
725	MMAE 600	Research Seminar	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering			
726	MMAE 601	Master Thesis I	12	24	MMAE 600 Research Seminar (4703) (P)			2 year Gr SEDS Mechanical and Aerospace Engineering			

727	MMAE 603	Modern Control Engineering	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering			
728	MMAE 605	Advanced Manufacturing Processes and Strategies	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering			
729	MMAE 702	Sustainable Vehicle Transportation Systems	3	6				2 year Gr SEDS Mechanical and Aerospace Engineering	1 year Gr SEDS Mechanical and Aerospace Engineering		
730	MMAE 713	Computational Fluid Structure Interaction	3	6				2 year Gr SEDS Mechanical and Aerospace Engineering	1 year Gr SEDS Mechanical and Aerospace Engineering		
731	MMAE 717	Advanced Materials and Composites	3	6							
Mining Engineering											
732	MINE 301	Mine Surveying and Geographic Information Systems	3	6	SMG 100 Introduction to Natural Resources Extraction (4773) (C- and above)			3 year UG SMG Mining Engineering			
733	MINE 302	Geomechanics	3	6				3 year UG SMG Mining Engineering			
734	MINE 303	Mine Ventilation	3	6				4 year UG SMG Mining Engineering			
735	MINE 308	Mine Planning	3	6							
736	MINE 401	Mining Geotechnical Engineering	3	6	MINE 302 Geomechanics (5878) (C- and above)			4 year UG SMG Mining Engineering			
737	MINE 402	Coal Mining	3	6				4 year UG SMG Mining Engineering			
738	MINE 489	Research Project I	3	6				4 year UG SMG Mining Engineering			
739	MINE 501	Foundations of Mining	3	6				1 year Gr SMG Mining Engineering			
740	MINE 502	Geology for Mining Engineers	3	6				1 year Gr SMG Mining Engineering			
741	MINE 503	Applied Geostatistics	3	6				1 year Gr SMG Mining Engineering			
742	MINE 504	Mine Geomechanics	3	6				1 year Gr SMG Mining Engineering			
743	MINE 511	Mineral Processing Plant Design	3	6				1 year Gr SMG Mining Engineering, 2 year Gr SMG Mining Engineering			
744	MINE 602	Mine Maintenance and Services	3	6	MINE 502 Geology for Mining Engineers (3691) (C- and above)			2 year Gr SMG Mining Engineering			
745	MINE 605	Mechanized Excavation and Tunnelling	3	6				2 year Gr SMG Mining Engineering			
746	MINE 690	Thesis I	6	12				2 year Gr SMG Mining Engineering			
747	MINE 701	Advanced Mine Geomechanics	4	8				1 year PhD SMG Mining Engineering			
748	MINE 801	Advanced Mechanized Excavation and Tunneling	4	8				1 year PhD SMG Mining Engineering			
749	MINE 890-0	Thesis Research	0	0				1 year PhD SMG Mining Engineering, 2 year PhD SMG Mining Engineering, 3 year PhD SMG Mining Engineering, 4 year PhD SMG Mining Engineering, 5 year PhD SMG Mining Engineering (pending graduation)			
Petroleum Engineering											
750	PETE 201	Fluid Mechanics and Thermodynamics	3	6	MATH 161 Calculus I (118) (C- and above)			2 year UG SMG Mining Engineering, 2 year UG SMG Petroleum Engineering	3 year UG SMG Mining Engineering, 3 year UG SMG Petroleum Engineering, 4 year UG SMG Mining Engineering, 4 year UG SMG Petroleum Engineering		
751	PETE 301	Numerical Methods for Petroleum Engineers	3	6	ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (C- and above) OR ENG 101 Programming for Engineers (4517) (C- and above)			3 year UG SMG Petroleum Engineering	4 year UG SMG Petroleum Engineering		
752	PETE 302	Reservoir Engineering I with Laboratory works	4	8	PETE 204 Reservoir Rock and Fluid Properties with Lab (5487) (C- and above)			3 year UG SMG Petroleum Engineering	4 year UG SMG Petroleum Engineering		

753	PETE 303	Well Logging and Formation Evaluation	3	6	GEOL 101 Fundamentals of Geology (4774) (C- and above)			3 year UG SMG Petroleum Engineering	4 year UG SMG Petroleum Engineering		
754	PETE 304	Well Completion and Stimulation	3	6	PETE 203 Drilling Engineering with Laboratories (5486) (C- and above)			3 year UG SMG Petroleum Engineering	4 year UG SMG Petroleum Engineering		
755	PETE 400	Capstone Design Project I	3	6	PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above) AND PETE 203 Drilling Engineering with Laboratories (5486) (C- and above)			4 year UG SMG Petroleum Engineering			
756	PETE 405	Enhanced Oil Recovery	3	6	PETE 204 Reservoir Rock and Fluid Properties with Lab (5487) (C- and above)			4 year UG SMG Petroleum Engineering			
757	PETE 410	Introduction to Data Science and Machine Learning	3	6	MATH 161 Calculus I (118) (C- and above)			4 year UG SMG Petroleum Engineering			
758	PETE 501	Foundations of Petroleum Engineering	3	6				1 year Gr SMG Petroleum Engineering			
759	PETE 502	Petroleum Geology	3	6				1 year Gr SMG Petroleum Engineering			
760	PETE 503	Fluid Flow Through Porous Media	3	6				1 year Gr SMG Petroleum Engineering			
761	PETE 504	Advanced Formation Evaluation	3	6				1 year Gr SMG Petroleum Engineering			
762	PETE 505	Advanced Drilling Engineering	3	6				1 year Gr SMG Petroleum Engineering			
763	PETE 509	Advanced Well Testing and Evaluation	3	6				2 year Gr SMG Petroleum Engineering			
764	PETE 600	Thesis I	6	12				2 year Gr SMG Petroleum Engineering			
765	PETE 601	Petroleum Data Analytics	3	6				2 year Gr SMG Petroleum Engineering			
766	PETE 602	Research Seminar	3	6				2 year Gr SMG Petroleum Engineering			
767	PETE 802	Fluid Flow Through Porous Media	4	8				1 year PhD SMG Petroleum Engineering			
768	PETE 805	Special Topics in Petroleum Engineering: Data Analytics	4	8				1 year PhD SMG Petroleum Engineering			
769	PETE 890-0	Thesis Research	0	0				1 year PhD SMG Petroleum Engineering, 2 year PhD SMG Petroleum Engineering, 3 year PhD SMG Petroleum Engineering, 4 year PhD SMG Petroleum Engineering, 5 year PhD SMG Petroleum Engineering (pending graduation)			
SMG											
770	SMG 100	Introduction to Natural Resources Extraction	3	6				1 year UG SMG, 2 year UG SMG, 3 year UG SMG	4 year UG SEDS, 4 year UG SSH		
771	SMG 210	Strength of Materials	3	6	SMG 100 Introduction to Natural Resources Extraction (4773) (C- and above) AND MATH 162 Calculus II (170) (C- and above) AND PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C- and above)			2 year UG SMG, 3 year UG SMG, 4 year UG SMG			
772	SMG 710	Advanced Statistics	3	6				1 year PhD SMG Mining Engineering, 1 year PhD SMG Petroleum Engineering	1 year PhD SEDS Chemical Engineering, 1 year PhD SEDS Civil Engineering, 1 year PhD SEDS Computer Science, 1 year PhD SEDS Electrical Engineering, 1 year PhD SEDS Mechanical Engineering, 1 year PhD SEDS Robotics Engineering, 1 year PhD SEDS Science, Engineering and Technology		
School of Engineering											
773	DENG 700	Thesis Research	89	178							
774	DENG 700-0	Thesis Research	0	0							

775	DENG 782	Research Methods and Ethics	3	6				1 year PhD SEDS Chemical Engineering, 1 year PhD SEDS Civil Engineering, 1 year PhD SEDS Computer Science, 1 year PhD SEDS Electrical Engineering, 1 year PhD SEDS Mechanical Engineering, 1 year PhD SEDS Robotics Engineering, 1 year PhD SEDS Science, Engineering and Technology	2 year PhD SEDS Chemical Engineering, 2 year PhD SEDS Civil Engineering, 2 year PhD SEDS Computer Science, 2 year PhD SEDS Electrical Engineering, 2 year PhD SEDS Mechanical Engineering, 2 year PhD SEDS Robotics Engineering, 2 year PhD SEDS Science, Engineering and Technology	3 year PhD SEDS Chemical Engineering, 3 year PhD SEDS Civil Engineering, 3 year PhD SEDS Computer Science, 3 year PhD SEDS Electrical Engineering, 3 year PhD SEDS Mechanical Engineering, 3 year PhD SEDS Robotics Engineering, 3 year PhD SEDS Science, Engineering and Technology, 4 year PhD SEDS Chemical Engineering, 4 year PhD SEDS Civil Engineering, 4 year PhD SEDS Computer Science, 4 year PhD SEDS Electrical Engineering, 4 year PhD SEDS Mechanical Engineering, 4 year PhD SEDS Robotics Engineering, 4 year PhD SEDS Science, Engineering and Technology, 5 year PhD SEDS Science, Engineering and Technology (pending graduation)	
776	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology			
SCAI											
Computer Science											
777	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)	SSH, SoM			

778	CSCI 115	Programming Fundamentals	4	8			CSCI 101 Introduction to Computational Sciences (147) (D and above) OR CSCI 111 Web Programming and Problem Solving (110) (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)	Biological Sciences, Chemistry, Mathematics, SoM	SSH		
779	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)	Computer Science, Physics, Robotics Engineering, Robotics and Mechatronics			
780	CSCI 231	Computer Systems and Organization	3	6	CSCI 151 Programming for Scientists and Engineers (192) (C- and above)			Computer Science	(ND-RA) Undeclared SEDS, Undeclared SEDS		
781	CSCI 235	Programming Languages	4	8	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science	(ND-RA) Undeclared SEDS, Undeclared SEDS		
782	CSCI 281	Human-Computer Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
783	CSCI 299	Internship I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
784	CSCI 335	Introduction to Microprocessor Design and Verification	3	6	CSCI 231 Computer Systems and Organization (194) (B- and above) OR ELCE 202 Digital Logic Design (4992) (B- and above)			Computer Science	Electrical and Computer Engineering		
785	CSCI 341	Database Systems	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science, 5 year UG SEDS Computer Science (pending graduation)			
786	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)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science, 5 year UG SEDS Computer Science (pending graduation)			
787	CSCI 355	Compiler Construction	3	6	CSCI 235 Programming Languages (638) (C and above) AND CSCI 272 Formal Languages (4689) (C and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science, 5 year UG SEDS Computer Science (pending graduation)			
788	CSCI 361	Software Engineering	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science, 5 year UG SEDS Computer Science (pending graduation)			
789	CSCI 390	Artificial Intelligence	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science, 5 year UG SEDS Computer Science (pending graduation), SMG	(ND-RA) Undeclared SEDS, Undeclared SEDS		
790	CSCI 399	Internship II	3	6				Instructor's Permission Required. Registration through Add Course form only!			
791	CSCI 399F	Internship II - F	6	12				Instructor's Permission Required. Registration through Add Course form only!			
792	CSCI 408	Senior Project I	3	6				4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science, 5 year UG SEDS Computer Science (pending graduation)			

793	CSCI 434	Information Security	3	6		CSCI 333 Computer Networks (1145) (D and above)		3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS (pending graduation), 5 year UG SEDS Computer Science, 5 year UG SEDS Computer Science (pending graduation)			
794	CSCI 436	Introduction to Cloud Computing	3	6	CSCI 333 Computer Networks (1145) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science, 5 year UG SEDS Computer Science (pending graduation)			
795	CSCI 437	Internet of Things: Technologies and Applications	3	6		CSCI 333 Computer Networks (1145) (D and above)		3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science, 5 year UG SEDS Computer Science (pending graduation)			
796	CSCI 471	Complexity and Computability	3	6	MATH 251 Discrete Mathematics (85) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science, 5 year UG SEDS Computer Science (pending graduation)			
797	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)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS Computer Science, 5 year UG SEDS Computer Science (pending graduation)			
798	CSCI 501	Software Principles and Practice	3	6				Computer Science, Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering		
799	CSCI 535	Wireless Communication and Networks	3	6				Computer Science, Data Science			
800	CSCI 537	Software Defined Networking	3	6				Computer Science, Data Science			
801	CSCI 575	Formal Methods and Applications	3	6				Computer Science, Data Science			
802	CSCI 585	Computer Vision	3	6				Computer Science, Data Science			
803	CSCI 592	Intelligent Systems	3	6				Computer Science, Data Science			
804	CSCI 594	Deep Learning	3	6				Computer Science, Data Science			
805	CSCI 693	Thesis Proposal	3	6	SEDS 591 Research Methods (3184) (C- and above)			2 year Gr SEDS Computer Science			
806	CSCI 700-0	Thesis Research	0	0				Computer Science			
807	CSCI 701	Advanced Software Principles and Practice	4	8				Computer Science	Robotics Engineering		
808	CSCI 735	Advanced Wireless Communication and Networks	4	8				Computer Science	Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology	
809	CSCI 737	Advanced Software Defined Networking	4	8				Computer Science	Robotics Engineering		
810	CSCI 785	Advanced Computer Vision	4	8				Computer Science	Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology	
811	CSCI 792	Advanced Intelligent Systems	4	8				Computer Science	Robotics Engineering		

812	CSCI 794	Advanced Deep Learning	4	8				Computer Science	Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology	
813	DS 501	Fundamentals of Data Science	3	6				Data Science			
814	DS 502	Probability and Statistics for Data Science	3	6				Data Science	Computer Science		
815	DS 507	Database Management Systems	3	6				Data Science	Computer Science		
816	DS 509	Information Retrieval	3	6	DS 501 Fundamentals of Data Science (5218) (C- and above) OR CSCI 501 Software Principles and Practice (2408) (C- and above)			Computer Science, Data Science			
817	DS 551	Process and Project Management	3	6				Data Science	Computer Science		
818	DS 552	Data-Driven Innovation	3	6				2 year Gr SEDS Data Science			
819	DS 693	Thesis Proposal	3	6	SEDS 591 Research Methods (3184) (C- and above)			2 year Gr SEDS Data Science			
820	DS 709	Advanced Information Retrieval	4	8				Computer Science			
821	SEDS 503	Laboratory Practicum	3	6	SEDS 502 Teaching Practicum (2824) (P)			Computer Science, Data Science, Robotics			
822	SEDS 591	Research Methods	3	6				Computer Science, Data Science, Robotics			
Mathematics											
823	MATH 161	Calculus I	4	8				(ND-CC) Business Administration (UG), Biological Sciences, Business Administration (UG), Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM		
824	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			5 year UG SSH, 5 year UG SSH (pending graduation), Chemistry, Mathematics, Physics, SEDS, SMG	(ND-CC) Undeclared SSH, Undeclared SSH	SSH, SoM	
825	MATH 251	Discrete Mathematics	3	6	MATH 161 Calculus I (118) (C and above)			Computer Science, Mathematics	SEDS, SMG, SSH, SoM		
826	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			Mathematics, Physics	SEDS, SMG, SSH, SoM		
827	MATH 273	Linear Algebra with Applications	4	8	MATH 161 Calculus I (118) (C and above)	MATH 162 Calculus II (170) (C and above)		Computer Science, Mathematics, Physics, Robotics Engineering, Robotics and Mechatronics	SEDS, SMG, SSH, SoM		
828	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			Mathematics, Physics	Chemistry, Robotics Engineering, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
829	MATH 302	Abstract Algebra I	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
830	MATH 310	Applied Statistical Methods	3	6	MATH 161 Calculus I (118) (C and above)		MATH 321 Probability (482) (C and above)	Biological Sciences, Petroleum Engineering	Mining Engineering	SEDS, SMG, SSH, SoM	
831	MATH 321	Probability	3	6	MATH 162 Calculus II (170) (C and above)		ECON 211 Economic Statistics (2280) (C- and above) OR PLS 211 Quantitative Methods (221) (C- and above)	Mathematics, Robotics Engineering, Robotics and Mechatronics	Computer Science	SEDS, SMG, SSH, SoM	
832	MATH 322	Mathematical Statistics	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
833	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	SEDS, SMG, SSH, SoM		

834	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	SEDS, SMG, SSH, SoM		
835	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	SEDS, SMG, SSH, SoM		
836	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)			Mathematics	SEDS, SMG, SSH, SoM		
837	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	SEDS, SMG, SSH, SoM		
838	MATH 424	Mathematical Finance	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
839	MATH 425	Stochastic Processes	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
840	MATH 446	Time Series Analysis	3	6	MATH 322 Mathematical Statistics (1165) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
841	MATH 449	Statistical Programming	3	6	MATH 322 Mathematical Statistics (1165) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
842	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	SEDS, SMG, SSH, SoM		
843	MATH 477	Applied Finite Element Methods	3	6	MATH 351 Numerical Methods with Applications (1166) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
844	MATH 480	Complex Analysis	3	6	MATH 263 Calculus III (81) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
845	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	SEDS, SMG, SSH, SoM		
846	MATH 490	Special Topics in Mathematics I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
847	MATH 491	Special Topics in Mathematics II	3	6				Instructor's Permission Required. Registration through Add Course form only!			
848	MATH 497	Directed Study in Mathematics I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
849	MATH 510	Measure Theory and Applications	3	6				Applied Mathematics	SEDS, SMG, SSH, SoM		
850	MATH 515	Theory of Probability	3	6				Applied Mathematics	SEDS, SMG, SSH, SoM		
851	MATH 519	Scientific Computing	3	6				Applied Mathematics	SEDS, SMG, SSH, SoM		
852	MATH 540	Statistical Learning	3	6				Applied Mathematics	SEDS, SMG, SSH, SoM		
853	MATH 541	Data Analysis and Statistical Learning	3	6	MATH 540 Statistical Learning (2340) (B- and above)			Applied Mathematics	SEDS, SMG, SSH, SoM		
854	MATH 555	Stochastic Analysis	3	6	MATH 510 Measure Theory and Applications (5685) (C and above)			Applied Mathematics	SEDS, SMG, SSH, SoM		
855	MATH 580	Advanced Complex Analysis	3	6				Applied Mathematics	SEDS, SMG, SSH, SoM		
856	MATH 592	Research Seminar	3	6				Applied Mathematics			
857	MATH 620	Asymptotic Analysis	3	6				Applied Mathematics	SEDS, SMG, SSH, SoM		
858	MATH 676	Advanced Partial Differential Equations with Applications	3	6				Applied Mathematics	SEDS, SMG, SSH, SoM		

859	MATH 700-0	Thesis Research	0	0				Mathematics			
860	MATH 701	Real Analysis	4	8				Mathematics	SEDS, SSH		
861	MATH 722	Advanced Partial Differential Equations	4	8	MATH 701 Real Analysis (5489) (B and above)			Mathematics	SEDS, SSH		
862	MATH 751	Probability Theory	4	8				Mathematics	SEDS, SSH		
863	MATH 780	Research Methods and Ethics	3	6				Mathematics			
Robotics and Mechatronics											
864	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))			2 year UG SMG, Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Mathematics, SoM		
865	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 Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Mathematics, SoM		
866	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 Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, SoM		
867	ROBT 301	Mechanical Design with CAD and Machining Laboratory	4	8	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above)			Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Mathematics, SoM		
868	ROBT 303	Linear Control Theory with Lab	4	8	ROBT 202 System Dynamics and Modeling (68) (C- and above)			Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Mathematics, SoM		
869	ROBT 308	Industrial Automation	3	6				Robotics Engineering, Robotics and Mechatronics	1 year UG SSH Physics, Undeclared SEDS		
870	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)			Robotics Engineering, Robotics and Mechatronics	Computer Science, Mathematics, Physics, Undeclared SEDS		
871	ROBT 403	Robotics II: Control, Modeling and Learning with Laboratory	4	8	ROBT 303 Linear Control Theory with Lab (623) (C- and above) AND ROBT 312 Robotics I: Kinematics and Dynamics (5263) (C- and above)			Robotics Engineering, Robotics and Mechatronics	1 year UG SSH Physics, Undeclared SEDS		
872	ROBT 407	Machine Learning with Applications	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 Engineering, Robotics and Mechatronics	Computer Science		
873	ROBT 491	Capstone Project I	3	6	ROBT 391 Research methods (7418) (C- and above)			4 year UG SEDS Robotics Engineering, Robotics and Mechatronics	Robotics Engineering		
874	ROBT 501	Robot Manipulation and Mobility	3	6				Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering		

875	ROBT 503	Dynamic Systems and Control	3	6				Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering		
876	ROBT 611	Industrial Robotics	3	6	ROBT 501 Advanced Robot Kinematics (2263) (C- and above)			Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering		
877	ROBT 613	Brain-Machine Interfaces	3	6				Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering		
878	ROBT 615	Optimal Control and Planning	3	6	ROBT 503 System Dynamics and Control (2264) (C- and above)			Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering		
879	ROBT 691	Thesis Proposal	6	12				Robotics			
880	ROBT 700	Thesis Research	89	178							
881	ROBT 700-0	Thesis Research	0	0				Robotics Engineering			
882	ROBT 701	Advanced Robot Manipulation and Mobility	4	8				Robotics Engineering	Science, Engineering and Technology		
883	ROBT 703	Advanced Optimal Control and Planning	4	8				Robotics Engineering	Science, Engineering and Technology		
884	ROBT 709	Advanced Robot Dynamics and Control	4	8				Robotics Engineering	Science, Engineering and Technology		