Course Requirements and Registration Priorities
Fall 2022

#	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				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	SSH	SEDS, SMG, SoM	
9	ECON 102	Introduction to Macroeconomics	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	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	2 year UG SSH Undeclared	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	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	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	4 year UG SSH Economics	SSH	
19	ECON 335	Economics of Information	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics, 5 year UG SSH	4 year UG SSH Economics	SSH	
20	ECON 403	Introduction to Contract Theory and Auctions	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics	SSH	SEDS, SMG, SoM	
21	ECON 413	Econometrics II Time Series	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics	SSH	SEDS, SMG, SoM	
22	ECON 416	Empirical Industrial Organization	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics	SSH	SEDS, SMG, SoM	
23	ECON 433	Econometrics II Panel Data	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics	SSH	SEDS, SMG, SoM	
24	ECON 501	Microeconomics I	4	8				Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
25	ECON 502	Macroeconomics I	4	8				Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
26	ECON 503	Introduction to Contract Theory and Auctions	4	8				Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
27	ECON 511	Statistics	4	8				Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	

28	ECON 512	Mathematical Economics	4	8				Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
29	ECON 532	Applied Econometrics	4	8				Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
30	ECON 533	Econometrics II Panel Data	4	8	ECON 531 Econometrics (2505) (C- and above)			Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
31	ECON 589	Thesis I	4	8							
GSB											
32	BUS 101	Core Course in Business	3	6				2 year UG SOM Medical Sciences, 3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH	4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH	2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
33	FIN 201	Principles of Finance	3	6	BUS 101 Core Course in Business (5889) (B- and above)			4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH	2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
34	GSBF 501	Team Building and Business Communications	1	2				For GSB programs only! Registration by School admin.			
35	GSBF 511	Applied Data Analytics I	2	4				For GSB programs only! Registration by School admin.			
36	GSBF 512	Principles of Finance	2	4				For GSB programs only! Registration by School admin.			
37	GSBF 515a	Investments I	2	4				For GSB programs only! Registration by School admin.			
38	GSBF 517	Financial Economics	2	4				For GSB programs only! Registration by School admin.			
39	GSBF 542	Global Finance Experience Residency (II)	3	6							
40	GSBF 550A	Master’s Thesis	5	10				For GSB programs only! Registration by School admin.			
41	MBA 01	Consequential Leadership	1	2							
42	MBA 02	Business Mathematics and Business Computer Application	1	2							
43	MBA 03	Financial Accounting	2	4				For GSB programs only! Registration by School admin.			

44	MBA 04	Probability and Statistics	2	4				For GSB programs only! Registration by School admin.			
45	MBA 05	Business Communication	2	4				For GSB programs only! Registration by School admin.			
46	MBA 07	Managerial Effectiveness	2	4							
47	MBA 11	Managerial Accounting	2	4				For GSB programs only! Registration by School admin.			
48	MBA 13	Macroeconomics	2	4				For GSB programs only! Registration by School admin.			
49	MBA 17	Negotiations	2	4				For GSB programs only! Registration by School admin.			
50	MBA 19	Distinguished Speaker Series	0	1				For GSB programs only! Registration by School admin.			
51	MBA 20	Practicum Project	2.5	5				For GSB programs only! Registration by School admin.			
52	MBAE 16	Project Management	2	4				For GSB programs only! Registration by School admin.			
53	MBAE 17	China Business Environment	2	4				For GSB programs only! Registration by School admin.			
54	MBAE 18	Consumer Behavior	2	4				For GSB programs only! Registration by School admin.			
55	MBAE 20	Marketing Research	2	4							
56	MBAE 21	Project Finance	2	4				For GSB programs only! Registration by School admin.			
57	MBAE 8	Leadership	2	4							
58	MSF 02	Thesis Preparation Seminar	2	4				For GSB programs only! Registration by School admin.			
59	MSF 04	Private Equity	2	4				For GSB programs only! Registration by School admin.			
60	MSF 07	Economic Policy in Global Markets	2	4				For GSB programs only! Registration by School admin.			
61	MSF 08	Microeconomic Foundations of Finance	2	4				For GSB programs only! Registration by School admin.			

62	MSF 10	Independent Research	2	4				For GSB programs only! Registration by School admin.			
GSPP											
Master in Public Administration											
63	MPA 602	Public Administration in Theory and Practice	4	8				1 year GSPP Public Administration			
64	MPA 603	Economic Applications for Public Managers	4	8				1 year GSPP Public Administration			
65	MPA 605	Research Methods for Public Managers	4	8				1 year GSPP Public Administration			
66	MPA 609	Human Resource Policy and Management	4	8				2 year GSPP Public Administration			
67	MPA 699	Master's Project with Overseas Component	6	12				2 year GSPP Public Administration			
68	MPE 617	Institutions and development policies	4	8				2 year GSPP Public Policy	2 year GSPP Public Administration	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM	
69	MPE 625	Ethics and Public Policy	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM	
70	MPE 627	Public Policy and Health Issues	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM	
71	MPE 628	Good Governance and Corruption	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM	
72	MPE 634	Foreign Policy Analysis	4	8				2 year GSPP Public Policy	2 year GSPP Public Administration	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM	
73	MPE 639	International Financial Policy	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM	
74	MPE 648	Environmental Economics and Public Policy	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM	
75	MPE 671	Game Theory and Public Policy	4	8				2 year GSPP Public Policy	2 year GSPP Public Administration	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM	
Master in Public Policy											
76	MPP 601	Microeconomics and Public Policy	4	8				1 year GSPP Public Policy			
77	MPP 611	Statistics for Public Policy	4	8				1 year GSPP Public Policy			
78	MPP 613	Policy Research Design and Methods	4	8				1 year GSPP Public Policy			
79	MPP 621	Public Policy and Analysis	4	8				1 year GSPP Public Policy			
80	MPP 631	Politics and Public Policy	4	8				2 year GSPP Public Policy			

81	MPP 699-0	Policy Analysis Exercise with Overseas Component	0	0	MPP 613 Policy Research Design and Methods (1301) (C- and above)						
PhD in Public Policy											
82	DPE 617	Institutions and Development Policies	4	8				2 year GSPP PhD Public Policy	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
83	DPE 625	Ethics and Public Policy	4	8				2 year GSPP PhD Public Policy	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
84	DPE 627	Public Policy and Health Issues	4	8				2 year GSPP PhD Public Policy	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
85	DPE 628	Good Governance and Corruption	4	8				2 year GSPP PhD Public Policy	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
86	DPE 634	Foreign Policy Analysis	4	8				2 year GSPP PhD Public Policy	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
87	DPE 648	Environmental Economics and Public Policy	4	8				2 year GSPP PhD Public Policy	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
88	DPE 671	Game Theory and Public Policy	4	8				2 year GSPP PhD Public Policy	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
89	DPP 600	Developing Dissertation Research	0	0				GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			
90	DPP 601	Microeconomics in the Public Sector	4	8				1 year GSPP PhD Public Policy			
91	DPP 603	Public Administration and Management	4	8				1 year GSPP PhD Public Policy			
92	DPP 611	Statistics in Public Policy	4	8				1 year GSPP PhD Public Policy			
93	DPP 614	Advanced Quantitative Methods	4	8				2 year GSPP PhD Public Policy			
94	DPP 616	Advanced Qualitative Methods	4	8				2 year GSPP PhD Public Policy			
95	DPP 621	Public Policy and Analysis	4	8				1 year GSPP PhD Public Policy			
96	DPP 689-0	PhD Qualifying Examination: Core Exam	0	0				2 year GSPP PhD Public Policy			
97	DPP 690-0	Thesis Preparation and Writing	0	0				3 year GSPP PhD Public Policy, 4 year GSPP PhD Public Policy			
GSE											
MA in Multilingual Education											

98	EDML 601	Introduction to Linguistics	3	6				1 year GSE MA in Multil.Education				
99	EDML 610	Foundations of Multilingual Education	3	6				1 year GSE MA in Multil.Education				
100	EDML 613	The Multilingual School	3	6				2 year GSE MA in Multil.Education				
101	EDML 614	Multilingual curriculum development and assessment	3	6				2 year GSE MA in Multil.Education				
102	EDML 627	Application of CLIL in Teaching	3	6				2 year GSE MA in Multil.Education				
103	EDML 690	Thesis Research I	3	6				2 year GSE MA in Multil.Education				
MSc Educational Leadership HE												
104	EDHE 603	Thesis Seminar 3	3	6				2 year GSE Educ.Leadership				
105	EDHE 625	Fundamentals of Higher Education	3	6				1 year GSE Educ.Leadership				
106	EDHE 627	Student Experience, Learning and Success in Higher Education	3	6				2 year GSE Educ.Leadership				
107	EDHE 631	Sociology of Higher Education	3	6				2 year GSE Educ.Leadership				
108	EDUC 506	Academic English II	1.5	3				2 year GSE (pending graduation), 3 year GSE (pending graduation)				
109	EDUC 507	Academic English III	1.5	3				Educational Leadership				
110	EDUC 510	Advanced English for Education Professionals I	3	6				1 year GSE MA in Multil.Education				
111	EDUC 512	English for Thesis Writing I	3	6				2 year GSE MA in Multil.Education				
112	EDUC 535	Academic English I	2	4				1 year GSE Educ.Leadership				
113	EDUC 590	Academic English Writing for Doctoral Students I	3	6				1 year GSE PhD Education				
114	EDUC 600	Research Methods I	3	6				1 year GSE				
115	EDUC 602	Educational Context and Reform in Kazakhstan	3	6				1 year GSE MA in Multil.Education				
116	EDUC 606	Introduction to Education Research	2	4				1 year GSE Educ.Leadership				
117	EDUC 617	Contextualizing Education Reform in Kazakhstan and Beyond	3	6				1 year GSE Educ.Leadership				

118	EDUC 701	Education Research Methods	3	6				1 year GSE PhD Education			
119	EDUC 709	Introduction to Scholarship in Education	3	6				1 year GSE PhD Education			
120	EDUC 712	Educational Policy and Reform	3	6				1 year GSE PhD Education			
121	EDUC 727	Exploring the Research Topic 1	0	0				1 year GSE PhD Education			
122	EDUC 730	Preparation for Proposal Defence	0	0				2 year GSE PhD Education			
123	EDUC 731	Proposal Defence	3	6				4 year GSE, 4 year GSE (pending graduation)			
124	EDUC 733	Thesis Proposal Defense	12.5	25				2 year GSE PhD Education, 3 year GSE PhD Education			
125	EDUC 740	Doctoral Seminar	3	6				3 year GSE PhD Education, 4 year GSE (pending graduation), 4 year GSE PhD Education, 5 year GSE (pending graduation), 6 year GSE (pending graduation), 7 year GSE (pending graduation), 8 year GSE (pending graduation), 9 year GSE (pending graduation)			
126	EDUC 750	Dissertation Research	9	18				4 year GSE PhD Education			
127	EDUC 751	Dissertation Research	0	0				3 year GSE PhD Education			
128	EDUC 800	International Study	12	24				2 year GSE PhD Education			
MSc Educational Leadership IE											
129	EDIE 603	Thesis Seminar 3	3	6				2 year GSE Educ.Leadership			
130	EDIE 625	Fundamentals of Inclusive Education	3	6				1 year GSE Educ.Leadership			
131	EDIE 631	Developing Inclusive Schools for an Inclusive Society	3	6				2 year GSE Educ.Leadership			
MSc Educational Leadership SE											
132	EDSE 603	Thesis Seminar 3	3	6				2 year GSE Educ.Leadership			
133	EDSE 625	Fundamentals of School Education	3	6				1 year GSE Educ.Leadership			
134	EDSE 632	School Improvement and Effectiveness	3	6				2 year GSE Educ.Leadership			

135	EDSE 634	Assessment: Theories, policies, practices	3	6				2 year GSE Educ.Leadership			
136	EDSE 691	Thesis Seminar II	3	6				2 year GSE (pending graduation)			
Other											
Other											
137	STUMOB 001	Student Mobility Course	0	0							
138	T - 17191	Artists, Patrons and Academies in Early Modern Europe	3	6							
139	T - 17289	Literature and Culture of English Speaking Countries: Modernism	3	6							
140	T - 17310	English Literature and The Media	3	6							
141	T - 17352	Intercultural Communication	3	6							
142	T - 17609	Urban Music and Oral Tradition	3	6							
143	T - 18270	International Corporate Finance	3	6							
144	T - 18340	Theory of Knowledge I	3	6							
145	T - 18981	Political Actors and Collective Action	3	6							
146	T - 19150	History of the twentieth century	3	6							
147	T - 19545	Experimental Economics	3	6							
148	T - BC 11961	Japan and the World	3	6							
149	T - BC 51161	Media Politics	3	6							
150	T - BE 21381	Introduction to Political Science	3	6							
151	T - BE 21831	Quantitative Methods for Social Sciences	3	6							
152	T - BE 22292	International Financial Institutions and Economic Development in Southeast Asia	3	6							
153	T - BE 22351	Introduction to International Law	1.5	3							
154	T - BE 22581	Sociology of Migration	3	6							

155	T - EC 4460	Gender and Economic Policy in International Comparison	3	6							
156	T - EC 4600	The Economics of Sports	3	6							
157	T - FH 27041	Economic Dynamics	3	6							
158	T - FH 27041	Economic Dynamics	2	4							
159	T - FR 1020	Beginning French II	3	6							
160	T - MCE 012	G20 and Global Governance	4	8							
161	T - MSE 078	Productivity and Economic Growth	4	8							
162	T - MSP 073	Policy Process Analysis	4	8							
163	T - MSR 047	Public-Private Partnerships in Infrastructure Development	4	8							
164	T - MSR 053	Land Policy	4	8							
165	T - MSZ 001	Programming Fundamentals using Python	4	8							
166	T - PLS 2120	American National Government	3	6							
167	T - PP 5019	Economic Development Strategy	1	2							
168	T - PP 5020	Analysis of Economic Growth	1	2							
169	T - PP 5021	Digital Transformation and Economic Prosperity	1	2							
170	T - PP 5022	Embracing Globalisation for Economic Growth	1	2							
171	T - PP 5227	Principles and Policies in Sustainability and the Environment	4	8							
172	T - PP 5515	Gender and Development	4	8							
SoM											
Biological Science											

173	BIOL 101	Biology for non-Science majors	3	6			BIOL 110 Modern Biology I (1070) (C- and above)	5 year UG SEDS, 5 year UG SSH, Anthropology, Economics, History, Nursing, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literature and Culture			
174	BIOL 105	General Biology	3	6				5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
175	BIOL 110	Modern Biology I	3	6				1 year UG SOM Medical Sciences, 2 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Chemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Robotics Engineering, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
176	BIOL 110L	Modern Biology I Laboratory	1	2		BIOL 110 Modern Biology I (1070) (C and above)		1 year UG SOM Medical Sciences, 2 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Chemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Robotics Engineering, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
177	BIOL 120	Modern Biology II	3	6	BIOL 110 Modern Biology I (1070) (C and above)			2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SSH, Biological Sciences, Undeclared SSH	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
178	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)		2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SSH, Biological Sciences, Undeclared SSH	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
179	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, 5 year UG SEDS, 5 year UG SSH	Biological Sciences	SEDS, SMG, SSH, SoM	

180	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, 4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Biological Sciences	SEDS, SMG, SSH, SoM	
181	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, 5 year UG SEDS, 5 year UG SSH	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
182	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, 5 year UG SEDS, 5 year UG SSH	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
183	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, 5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
184	BIOL 331	Human Anatomy and Physiology II	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, 5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
185	BIOL 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
186	BIOL 355	Critical Research Reasoning	3	6	BIOL 120 Modern Biology II (1195) (C and above)			3 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Biological Sciences	SEDS, SMG, SSH, SoM	
187	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, 5 year UG SEDS, 5 year UG SSH	Biological Sciences	SEDS, SMG, SSH, SoM	

188	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, 5 year UG SEDS, 5 year UG SSH	Biological Sciences, Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
189	BIOL 385	Cell signaling: principles and mechanisms	3	6	BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
190	BIOL 392	Directed Study in Biology	3	6				Instructor's Permission Required. Registration through Add Course form only!			
191	BIOL 410	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, 4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	3 year UG SSH Biological Sciences, Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
192	BIOL 420	Bioethics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences, 4 year UG SSH Chemistry, 5 year UG SEDS, 5 year UG SSH	Biological Sciences	SEDS, SMG, SSH, SoM	
193	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, 5 year UG SEDS, 5 year UG SSH	Biological Sciences	SEDS, SMG, SSH, SoM	

194	BIOL 456	Biology Research Design	3	6		BIOL 355 Critical Research Reasoning (1000) (C and above)		4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Biological Sciences, Chemical Engineering, Computer Science, Mathematics, Physics, Robotics Engineering, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
195	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, 5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
196	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))			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
197	BIOL 490	Graduation Project 1	4	8	BIOL 355 Critical Research Reasoning (1000) (B and above)			Instructor's Permission Required. Registration through Add Course form only!			
198	BIOL 520	Statistical Methods in Life Sciences	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
199	BIOL 550	Structural and Molecular Biology in Health and Disease	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
200	BIOL 560	Molecular Biology of Prokaryotic Cells	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
201	BIOL 592	Research Seminar	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
202	BIOL 599	Master’s Thesis Research	0	0				1 year Gr SSH Biological Sciences and Technologies, 2 year Gr SSH Biological Sciences and Technologies			

203	BIOL 631	Synthetic Biology	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
204	BIOL 632	Drug Discovery and Design	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
205	BIOL 634	Advanced Cancer Biology	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
206	BIOL 670	Gene Therapy	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
207	BIOL 691	Master's Thesis Research Proposal	3	6				2 year Gr SSH Biological Sciences and Technologies			
208	BIOL 800-0	Thesis Research	0	0				Life Sciences			
209	BIOL 820	Statistical Methods in Life Sciences	3	6				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
210	BIOL 831	Synthetic Biology	4	8				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
211	BIOL 832	Drug Discovery and Design	4	8				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
212	BIOL 834	Advanced Cancer Biology	4	8				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
213	BIOL 850	Structural and Molecular Biology in Health and Disease	4	8				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
214	BIOL 860	Molecular Biology of Prokaryotic Cells	4	8				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
MMM											
215	MMMM 501	Molecular Basis of Infection	3	6				SoM			
216	MMMM 503	Bioethics in Research: Principles and Practice	3	6				SoM			
217	MMMM 506	Biocomputing	1	2				SoM			
218	MMMM 513	Molecular Basis of Neurological Disorders	3	6				SoM			
219	MMMM 601	Entrepreneurship	2	4				SoM			
MPTOX											
220	MPTX 501	Organ system and common diseases	3	6				SoM			
221	MPTX 502	Cellular Communications	3	6				SoM			

222	MPTX 503	Principles of Pharmacology and Toxicology	3	6		MPTX 501 Organ system and common diseases (5841) (C and above)		SoM			
223	MPTX 505	Drug Discovery I	3	6		MPTX 503 Principles of Pharmacology and Toxicology (5843) (C and above)		SoM			
224	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)			SoM			
225	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)			SoM			
226	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)		SoM			
227	MPTX 604E	Scientific Writing	3	6				SoM			
MSMR											
228	MSMR 501	Musculoskeletal System	3	6				Sports Medicine and Rehabilitation			
229	MSMR 503	Exercise Genetics, Physiology and Endocrinology	3	6				Sports Medicine and Rehabilitation			
230	MSMR 504	Pharmacology in Sports and Rehabilitation	3	6				Sports Medicine and Rehabilitation			
231	MSMR 505	Exercise and Biomechanics	3	6				Sports Medicine and Rehabilitation			
232	MSMR 507	Management and Rehabilitation of Injury	4	8				Sports Medicine and Rehabilitation			
233	MSMR 510	Biostatistics and Epidemiology	3	6				Sports Medicine and Rehabilitation			
234	MSMR 603	Master Research Project	8	16				Sports Medicine and Rehabilitation			

235	MSMR 701	Ethics and Professionalism	3	6				SoM			
Master of Sciences in Biomedicine											
236	MMMM 502	Molecular Basis of Cancer	3	6				SoM			
237	MMMM 504	Molecular Basis of Genetic Disease	3	6				SoM			
238	MMMM 603	Recombinant Drugs	3	6				SoM			
239	MMMM 605	Developmental Biology	3	6				SoM			
240	MPTX 603	Introduction to Research Project	6	12				SoM			
Medical Sciences											
241	NUSM 101	Introduction to Medicine	2	4				1 year UG SOM Medical Sciences, 2 year UG SOM Medical Sciences	Biological Sciences		
242	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			
243	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			
244	NUSM 303	Introduction to Anatomy and Histology	3	6	BIOL 120 Modern Biology II (1195) (C and above)			3 year UG SOM Medical Sciences			
Nursing											
245	NUR 103L	Microbiology for Nurses with Lab	4	8				1 year UG SOM Nursing			
246	NUR 112	Introduction to Professional Nursing	2	4				1 year UG SOM Nursing			
247	NUR 201	Pathophysiologic Foundations of Nursing Care	3	6				2 year UG SOM Nursing			
248	NUR 202	Introduction to Genetics & Molecular Therapeutics	3	6				2 year UG SOM Nursing, 3 year UG SOM Nursing			
249	NUR 203	Pharmacology and Therapeutics	3	6				2 year UG SOM Nursing			
250	NUR 205	Psychology for the Health Practitioner	3	6				3 year UG SOM Nursing			
251	NUR 211	Foundations of Nursing Practice I	3	6				2 year UG SOM Nursing			
252	NUR 301	Nutrition for Clinical Practice	3	6				For Bachelor of Nursing (2-year program) only! Registration by School admin.			

253	NUR 302	Physical Assessment Across the Lifespan	4	8				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
254	NUR 303	Nursing Care of Older Adults	4	8				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
255	NUR 304	Introduction to Basic Statistics for Evidence Based Practice	3	6				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
256	NUR 311C	Obstetric Nursing + Clinical	5	10				3 year UG SOM Nursing			
257	NUR 312C	Pediatric Nursing: Nursing Care of Children & Families + Clinical	5	10				3 year UG SOM Nursing			
258	NUR 321	Ethics in Healthcare	2	4				3 year UG SOM Medical Sciences, 3 year UG SOM Nursing			
259	NUR 401	Education: Principles and Practice for Teaching in Nursing	4	8				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
260	NUR 403	Data Analytics for Quality Improvement in Healthcare	3	6				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
261	NUR 404	Community and Home Health Nursing	4	8				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
262	NUR 406.1	Medical-Surgical Nursing: Complex Surgical Management	4	8				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
263	NUR 411C	Community and Home Health Nursing and Clinical	4	8				4 year UG SOM Nursing			
264	NUR 412	Geriatric Nursing: Nursing Care of the Older Adult	2	4				4 year UG SOM Nursing			
265	NUR 413C	Medical Surgical Nursing 3 - Management of the Complex and Critically Ill Patient and Clinical	7	14				4 year UG SOM Nursing			
266	NUR 421	Capstone I: Developing a Project Proposal in Nursing	3	6				4 year UG SOM Nursing			

PHD											
267	PHDBS 701-0	Thesis Research	0	0				Biomedical Sciences			
268	PHDBS 702	Molecular Basis of Health and Disease	0	0				Biomedical Sciences	Life Sciences		
269	PHDBS 703	Biomedical Research Analysis and Design of Experimentation	0	0				Biomedical Sciences	Life Sciences		
270	PHDBS 704-0	NUSOM seminar	0	0				Biomedical Sciences			
271	PHDBS 705	Biosafety, Animal Welfare and Ethics	4	8				Biomedical Sciences	Life Sciences		
272	PHDBS 706	Advanced Biomedical Research Analysis and Design of Experimentation	0	0				Biomedical Sciences			
273	PHDBS 707	Publication Analysis	0	0				Biomedical Sciences			
274	PHDBS 708	Writing for Biomedical Sciences	0	0				Biomedical Sciences	Life Sciences		
275	PHDBS 710	Molecular Pathology of Cancer	3	6				Biomedical Sciences	Life Sciences		
276	PHDGH 701-0	Thesis Research	0	0				Global Health			
277	PHDGH 702	Foundations of Global Health	4	8				Global Health			
278	PHDGH 703	Health Policy and Systems in Global Health	4	8				Global Health			
279	PHDGH 704-0	NUSOM Seminar in Global Health	0	0				Global Health			
Public Health											
280	PUBH 501	Principles of Public Health Problem Solving	3	6				SoM			
281	PUBH 511	Inferential Biostatistics	3	6				SoM			
282	PUBH 521	Principles of Analytical Epidemiology	3	6				SoM			
283	PUBH 528	Qualitative Research Methods	3	6				SoM			
284	PUBH 552	Principles of Heath Economics and Policy	3	6	PUBH 551 Health Services Management, Health Economic and Health Policy (3696) (C and above)			SoM			
285	PUBH 561	Graduate Research Seminar I	3	6				SoM			

286	PUBH 599	Global Nutrition and Sustainability	3	6				SoM			
287	PUBH 601	Health Education and Promotion	3	6				SoM			
288	PUBH 633	Methods in Public Health	3	6				SoM			
289	PUBH 681	Master’s Project Planning	3	6				SoM			
SSH											
Academic Success Centre, Communication and Composition											
290	WCS 150	Rhetoric and Composition	3	6				1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, 2 year UG SOM Nursing, 3 year UG SOM Nursing, 4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		

291	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)	5 year UG SEDS, 5 year UG SSH, SEDS, SMG		SSH, SoM	
Area Studies											
292	EAS 500	Introduction to Eurasia	4	8				Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
293	EAS 501	General Methodology	4	8				Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
294	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)			Instructor's Permission Required. Registration through Add Course form only!			

295	EAS 511	Independent Study in Eurasian Studies	4	8				Instructor's Permission Required. Registration through Add Course form only!			
296	EAS 512	Topics in Eurasian Studies	4	8				Instructor's Permission Required. Registration through Add Course form only!			
297	EAS 700	Introduction to Eurasia	4	8				Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
298	EAS 701	Critical Issues in Eurasian Studies	2	4				Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
299	EAS 702	Elective in Eurasian Humanities	4	8				Instructor's Permission Required. Registration through Add Course form only!			
300	EAS 703	Elective in Eurasian Social Sciences	4	8				Instructor's Permission Required. Registration through Add Course form only!			
301	EAS 704	Elective 2 in Eurasian Humanities	4	8				Instructor's Permission Required. Registration through Add Course form only!			
302	EAS 705	Elective 2 in Social Sciences	4	8				Instructor's Permission Required. Registration through Add Course form only!			
303	EAS 708	Proseminar in Eurasian Humanities	4	8				Instructor's Permission Required. Registration through Add Course form only!			
304	EAS 710	Independent Study in Eurasian Studies	4	8							
305	EAS 711	Doctoral Seminar in Eurasian Studies I	4	8				Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SoM		
306	EAS 800-0	Dissertation Research in Eurasian Studies	0	0				Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SoM		
Area Studies, Political Science and International Relations, Sociology and Anthropology											
307	PLS 514/EAS 506/SOC 514	Qualitative Research Methods	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
Chemistry											

308	CHEM 090	Chemistry for Non-Science majors	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Economics, History, Nursing, Political Science and International Relations, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH, World Languages, Literature and Culture	Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Robotics Engineering, Robotics and Mechatronics, SMG	SEDS, SSH	
309	CHEM 091	Survey of Physical Science	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Economics, History, Nursing, Political Science and International Relations, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH, World Languages, Literature and Culture	Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Robotics Engineering, Robotics and Mechatronics, SMG	SEDS, SSH	
310	CHEM 101	General Chemistry I	3	6				1 year UG SMG, 5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, SoM			
311	CHEM 101L	General Chemistry I lab	1	2		CHEM 101 General Chemistry I (113) (C and above)		1 year UG SMG, 5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, SoM			
312	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry	SEDS, SMG, SSH, SoM		
313	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, 3 year UG SSH, 4 year UG SSH, Chemistry			
314	CHEM 220	Quantitative Chemical Analysis	3	6	CHEM 102 General Chemistry II (232) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
315	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 SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	

316	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 SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
317	CHEM 331L	Physical Chemistry Lab	1	2		CHEM 331 Physical Chemistry I (634) (C and above)		5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
318	CHEM 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
319	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 SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
320	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			
321	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 SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
322	CHEM 400	Chemistry Seminar	3	6	CHEM 380 Research Methods (636) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
323	CHEM 410	Structural Spectroscopy	4	8	CHEM 212 Organic Chemistry II (443) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
324	CHEM 471	Environmental Chemistry	3	6	CHEM 102 General Chemistry II (232) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
325	CHEM 510	Principles of Physical Chemistry	3	6				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	

326	CHEM 518	Applied Polymer Science	4	8				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
327	CHEM 520	Applied Analytical Chemistry	3	6				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
328	CHEM 522	Analytical Environmental Chemistry	3	6	CHEM 520 Applied Analytical Chemistry (5267) (C and above)			Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
329	CHEM 530	Inorganic Structures and Reaction Mechanisms	3	6				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
330	CHEM 531	Nanochemistry and Functional Nanomaterials	3	6				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
331	CHEM 543	Structural Identification of Organic Compounds	3	6				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
332	CHEM 591	Scientific Methods in Chemistry	3	6				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
333	CHEM 691	Thesis Proposal	3	6				Chemistry			
334	CHEM 700	Hot Topics in Chemistry	4	8				Chemistry	GSB, GSE, GSPP, SEDS, SMG, SoM		
335	CHEM 711	Polymer Chemistry	4	8				Chemistry	GSB, GSE, GSPP, SEDS, SMG, SoM		
336	CHEM 720	Spectrochemical Methods of analysis	4	8				Chemistry	GSB, GSE, GSPP, SEDS, SMG, SoM		
337	CHEM 722	Advanced Environmental Chemistry	4	8				Chemistry	GSB, GSE, GSPP, SEDS, SMG, SoM		
338	CHEM 730	Chemical Thermodynamics and Kinetics	4	8				Chemistry	GSB, GSE, GSPP, SEDS, SMG, SoM		
339	CHEM 750	Modern Inorganic Chemistry	4	8				Chemistry	GSB, GSE, GSPP, SEDS, SMG, SoM		
340	CHEM 798-0	Thesis Research	0	0							
Communication and Composition											
341	WCS 101	Communication and Society	3	6				SEDS, SMG, SSH, SoM			
342	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 SOM, 2 year UG SSH, 3 year UG SOM Nursing, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS	SEDS, SMG, SSH, SoM	

343	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, SMG, SSH, SoM			
344	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 SOM, 2 year UG SSH, 3 year UG SOM Nursing, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS	SEDS, SMG, SSH, SoM	
345	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 SOM, 2 year UG SSH, 3 year UG SOM Nursing, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS	SEDS, SMG, SSH, SoM	
346	WCS 250	Advanced Rhetoric and Composition	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			3 year UG SOM Nursing, 5 year UG SSH, SEDS, SMG, SSH, SoM	2 year UG SOM, 2 year UG SSH		
347	WCS 361	Advanced Fiction Writing	3	6	WCS 260/WLL 235 Creative Writing: Introduction to Fiction Writing I (4000) (C- and above)			SSH		SEDS, SMG, SoM	
348	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, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH		
349	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)			Instructor's Permission Required. Registration through Add Course form only!			

350	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)			Instructor's Permission Required. Registration through Add Course form only!			
351	WCS 501	Science Communication	3	6				SSH	SMG, SoM		
352	WCS 730	From Genre to Style and Back: Writing for PhD Students	4	8				Instructor's Permission Required. Registration through Add Course form only!			
Communication and Composition, Languages, Literature and Linguistics											
353	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 SOM, 2 year UG SSH, 3 year UG SOM Nursing, 5 year UG SSH	World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	
354	WLL 462/WCS 462	Creative Nonfiction	3	6	WCS 260/WLL 235 Creative Writing: Introduction to Fiction Writing I (4000) (C and above)			Instructor's Permission Required. Registration through Add Course form only!			
355	WLL 562/WCS 562	Creative Nonfiction	4	8				Instructor's Permission Required. Registration through Add Course form only!			
History, Philosophy and Religious Studies											
356	HST 100	History of Kazakhstan	3	6				4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH	SEDS, SMG, SSH, SoM	
357	HST 131	European History I (to 1700)	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
358	HST 242	History of the Soviet Union: Politics, Society, Culture	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
359	HST 399	Independent Study	3	6				Instructor's Permission Required. Registration through Add Course form only!			
360	HST 433	Empire, Nation and Identity in Nineteenth-Century Eurasia	3	6	HST 100 History of Kazakhstan (172) (C- and above)			5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		

361	HST 435	Stalinist Central Asia	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
362	HST 498	Directed Reading	3	6				Instructor's Permission Required. Registration through Add Course form only!			
363	HST 533	Empire, Nation and Identity in Nineteenth-Century Eurasia	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
364	PHIL 141	Critical Thinking	3	6				SEDS, SMG, SSH, SoM			
365	PHIL 210	Ethics	3	6				5 year UG SEDS, 5 year UG SSH, Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, SMG	SEDS, SSH, SoM		
366	PHIL 214	Free Will and Moral Responsibility	3	6				SEDS, SMG, SSH, SoM			
367	PHIL 225	Truth and Reality	3	6				SEDS, SMG, SSH, SoM			
368	PHIL 240	Formal Logic	3	6				SEDS, SMG, SSH, SoM			
369	PHIL 361	Philosophy of Language	3	6				SEDS, SMG, SSH, SoM			
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies											
370	HST 110/REL 110	Introduction to World Religions	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
History, Philosophy and Religious Studies, Languages, Literature and Linguistics											
371	HST 274/WLL 274	Texts and Contexts	3	6				History, World Languages, Literature and Culture	5 year UG SEDS, 5 year UG SSH, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	

372	HST 441/WLL 441	Utopias in Russian and Soviet Literature	3	6	Subject "HST" BETWEEN 200 and 299 OR Subject "HST" BETWEEN 300 and 399 OR Subject "WLL" BETWEEN 200 and 299 OR Subject "WLL" BETWEEN 300 and 399			History, World Languages, Literature and Culture	5 year UG SEDS, 5 year UG SSH, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	
373	HST 541/WLL 541	Utopias in Russian and Soviet Literature	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
History, Philosophy and Religious Studies, Sociology and Anthropology											
374	ANT 215/REL 215	What is Islam? Anthropological Perspectives	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
Kazakh Language and Turkic Studies											
375	KAZ 001	Kazakh Language Placement Test	0	0							
376	KAZ 201	Academic Kazakh I	3	6	KAZ 150 Basic Kazakh (1215) (C- and above) OR KLL "[B1.2] Intermediate"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
377	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 SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
378	KAZ 211	Academic Speaking in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"		KAZ 303 Academic Speaking in Kazakh (702) (C- and above) OR KAZ 304 Academic Writing in Kazakh (703) (C- and above)	1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
379	KAZ 212	Academic Writing in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"		KAZ 304 Academic Writing in Kazakh (703) (C- and above) OR KAZ 303 Academic Speaking in Kazakh (702) (C- and above)	1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		

380	KAZ 313	Kazakh for Business	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
381	KAZ 351	Kazakh Short Stories	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
382	KAZ 356	Kazakh Music History	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
383	KAZ 357	Literature of Alash	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
384	KAZ 363	Language and Globalization	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
385	KAZ 364	Kazakh for Civil Service	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
386	KAZ 366	Kazakh Language for Engineers	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
387	KAZ 368	Onomastics: History and Function of Names	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		

388	KAZ 371	Contemporary Kazakh Literature	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
389	KAZ 373	Kazakh Terminology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
390	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
391	KAZ 376	Language and Culture	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
392	KAZ 410	Kazakh literature of the XV-XIX centuries	3	6	Subject "KAZ" BETWEEN 300 and 399 OR Subject "KAZ" BETWEEN 300 and 399			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
393	KFL 101	Elementary Kazakh as a Foreign Language I	4	8				Instructor's Permission Required. Registration through Add Course form only!			
394	TUR 100	Languages, Cultures, and Communities of the Turkic World	3	6				SEDS, SMG, SSH, SoM			
395	TUR 230	Literatures of Central Asia	3	6				SEDS, SMG, SSH, SoM			
396	TUR 231	Istanbul in Literature and Culture	3	6				SEDS, SMG, SSH, SoM			
397	TUR 411	Advanced Readings in Turkish Literature	3	6				SEDS, SMG, SSH, SoM			
398	TUR 451	The Turkish Novel	3	6				SEDS, SMG, SSH, SoM			
399	TUR 575	Advanced Topics in Turkic Studies	4	8				Instructor's Permission Required. Registration through Add Course form only!			

400	TUR 775	Doctoral Topic in Turkic Studies	4	8				Instructor's Permission Required. Registration through Add Course form only!			
Kazakh Language and Turkic Studies, Languages, Literature and Linguistics											
401	TUR 280/LING 280	Introduction to Turkic Historical and Comparative Linguistics	3	6				5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
Languages, Literature and Linguistics											
402	CHN 102	Beginning Mandarin II	4	8	CHN 101 Beginning Mandarin I (1384) (C and above)			2 year UG SSH World Languages, Literatures and Cultures, 3 year UG SSH World Languages, Literatures and Cultures, 5 year UG SEDS, 5 year UG SSH	1 year UG SEDS Undeclared, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	
403	CHN 201	Intermediate Mandarin I	4	8	CHN 102 Beginning Mandarin II (1844) (C and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
404	FRE 101	Beginning French I	4	8				SEDS, SMG, SSH, SoM			
405	FRE 102	Beginning French II	4	8	FRE 101 Beginning French I (246) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
406	FRE 202	Intermediate French II	4	8	FRE 201 Intermediate French I (667) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
407	GER 102	Beginning German II	4	8	GER 101 Beginning German (3173) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
408	GER 201	Intermediate German I	4	8	GER 102 Beginning German II (3335) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
409	KOR 101	Beginning Korean I	4	8				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, Undeclared SSH		
410	KOR 201	Intermediate Korean I	4	8	KOR 102 Beginning Korean II (4791) (C- and above)			World Languages, Literature and Culture	SSH		
411	KOR 301	Advanced Korean I	4	8	KOR 202 Intermediate Korean II (5060) (C- and above)			World Languages, Literature and Culture	SSH		
412	LING 131	Introduction to Linguistics	3	6				Undeclared SSH	World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	

413	LING 172	Introduction to Sociolinguistics	3	6	LING 130 Introduction to Language and Communication (4014) (C- and above) OR LING 131 Introduction to Linguistics (1394) (C- and above)			Undeclared SSH	World Languages, Literature and Culture	SEDS, SMG, SSH, SoM	
414	LING 272	Language and the Mind	3	6				World Languages, Literature and Culture	SEDS, SMG, SSH, SoM		
415	LING 277	Language Diversity and Language Universals	3	6	LING 131 Introduction to Linguistics (1394) (C and above)			World Languages, Literature and Culture	5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM	
416	LING 278	Sounds of the World’s Languages	3	6				World Languages, Literature and Culture	5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM	
417	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	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
418	LING 470	Multilingualism and Language Contact	3	6	LING 131 Introduction to Linguistics (1394) (C- and above) OR LING 270 Languages of Eurasia (2485) (C- and above) OR ANT 277/WLL 271 Language and Society (1027) (C- and above) OR LING 272 Language and the Mind (1847) (C- and above) OR LING 273 Survey of Research Methods in Linguistics (2158) (C- and above) OR LING 274 Introduction to Applied Linguistics (2486) (C- and above) OR LING 275 Second Language Acquisition Theory and Research I (4473) (C- and above)			World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
419	SPA 101	Beginning Spanish I	4	8				2 year UG SSH World Languages, Literatures and Cultures, 3 year UG SSH World Languages, Literatures and Cultures	SSH	SEDS, SMG, SoM	
420	SPA 201	Intermediate Spanish I	4	8	SPA 102 Beginning Spanish II (1128) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	

421	SPA 314	Advanced Spanish Grammar and Composition	3	6	SPA 202 Intermediate Spanish II (1842) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
422	WLL 110	Introduction to Literary Studies	3	6				5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	Undeclared SSH	SEDS, SMG, SSH, SoM	
423	WLL 121	Introduction to Cultural Studies	3	6				5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	Undeclared SSH	SEDS, SMG, SSH, SoM	
424	WLL 201	World Literature I	3	6				World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
425	WLL 209	Introduction to Translation Studies	3	6				World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
426	WLL 244	Survey of Nineteenth-Century Russian Literature	3	6				World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
427	WLL 248	Survey of Soviet Literature and Culture	3	6				World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
428	WLL 400	Research Assistance in Linguistics and Literature	1	2				Instructor's Permission Required. Registration through Add Course form only!			
429	WLL 498	Languages, Linguistics, and Literatures Capstone I	3	6				4 year UG SSH World Languages, Literatures and Cultures			
Languages, Literature and Linguistics, Languages, Literature and Linguistics											
430	SPA 351/WLL 351	Literature and Film of the Postcolonial World	3	6	Subject "WLL" BETWEEN 200 and 299			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
Physics											
431	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)	SEDS, SMG, SSH, SoM			

432	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)			5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		
433	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))			5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		
434	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)			5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		
435	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)		5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		
436	PHYS 395	Research Methods	3	6				5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		

437	PHYS 452	Quantum Mechanics II	3	6	PHYS 451 Quantum Mechanics I (1415) (C- and above)			5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		
438	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)			5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		
439	PHYS 491	Directed Study of Advanced Physics Topics	3	6				Instructor's Permission Required. Registration through Add Course form only!			
440	PHYS 498	Honors Thesis Research	0	0				5 year UG SEDS, 5 year UG SSH, Physics			
441	PHYS 505	Classical Mechanics	3	6				Physics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
442	PHYS 511	Computational Modeling and Simulation	3	6				Physics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
443	PHYS 515	Classical Electrodynamics	3	6				Physics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
444	PHYS 530	Solid State Physics	4	8				Physics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
445	PHYS 550	Advanced Mathematical Physics	3	6				Physics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
446	PHYS 591	Research Methods	3	6				Physics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
447	PHYS 600	Thesis Research	0	0				Physics			
448	PHYS 700-0	Thesis Research	0	0				Physics			
449	PHYS 705	Classical Mechanics	4	8				SEDS, SSH			

450	PHYS 711	Computational Modeling and Simulation	4	8				SEDS, SSH			
451	PHYS 715	Classical Electrodynamics	4	8				SEDS, SSH			
452	PHYS 730	Solid State Physics	4	8				SEDS, SSH			
453	PHYS 750	Advanced Mathematical Physics	4	8				SEDS, SSH			
Political Science and International Relations											
454	PLS 100	Introduction to the Politics of Central Asia	3	6				5 year UG SEDS, SSH	SEDS, SMG, SoM		
455	PLS 101	Introduction to Political Science	3	6				5 year UG SSH, SEDS, SMG	Biological Sciences, Chemistry, Mathematics, Physics	SSH	
456	PLS 102	The Political Challenges of Technologies and Science: An Introduction	3	6				5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	
457	PLS 120	Introduction to Political Theory	3	6				5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	
458	PLS 140	Introduction to Comparative Politics	3	6				5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	
459	PLS 150	Introduction to International Relations	3	6				5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	
460	PLS 210	Political Science Research Methods	3	6				5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
461	PLS 211	Quantitative Methods	3	6			ECON 211 Economic Statistics (2280) (C- and above)	5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
462	PLS 320	Feminist Political Theory	3	6	PLS 120 Introduction to Political Theory (512) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)						
463	PLS 326	Modern Political Theory	3	6	PLS 120 Introduction to Political Theory (512) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
464	PLS 341	Politics of Development	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		

465	PLS 342	Political Corruption	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
466	PLS 345	Revolutions, Social Movements, and Contentious Politics	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
467	PLS 351	International Political Economy	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
468	PLS 370	Law, Politics and Society	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
469	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!			
470	PLS 415	Maximum Likelihood Models	3	6	PLS 210 Political Science Research Methods (129) (C- and above) OR PLS 211 Quantitative Methods (221) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
471	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)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
472	PLS 422	Just War Theory	3	6	PLS 120 Introduction to Political Theory (512) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
473	PLS 432	Comparative Democratization	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		

474	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)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
475	PLS 445	Political Violence	3	6	(PLS 140 Introduction to Comparative Politics (223) (C- and above) OR PLS 150 Introduction to International Relations (511) (C- and above)) AND PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
476	PLS 458	International Organization	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
477	PLS 460	Environmental Politics	3	6				5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
478	PLS 469	International Relations of Eurasia	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
479	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!			
480	PLS 511	Advanced Research I	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
481	PLS 515	Maximum Likelihood Models	4	8	PLS 510 Quantitative Research Methods (1946) (C- and above)			Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
482	PLS 516	Experimental Political Science	4	8	PLS 511 Qualitative Methods in Political Science (1631) (C- and above)			Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		

483	PLS 532	Comparative Democratization	4	8	PLS 540 Core Seminar in Comparative Politics (1374) (C- and above)			Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
484	PLS 540	Core Seminar in Comparative Politics	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
485	PLS 541	Advanced Topics in Comparative Politics	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
486	PLS 545	Political Violence	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
487	PLS 550	Core Seminar in IR	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
488	PLS 598	MA Thesis I	6	12				Instructor's Permission Required. Registration through Add Course form only!			
SSH											
489	SSH 300	School of Sciences and Humanities Internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			
490	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											
491	ANT 140	World Prehistory	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
492	ANT 240	Laboratory Methods in Archaeology	3	6				Anthropology	2 year UG SSH, 5 year UG SEDS, 5 year UG SSH, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	
493	ANT 262	Monkey business: Primate Society and Behavior	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
494	ANT 312	The Anthropology of Conflict	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	2 year UG SSH	SEDS, SMG, SSH, SoM	

495	ANT 316	Bazaars and Museums: Material and Cultural Heritage in Central Asia and Beyond	3	6	ANT 110 Introduction to Sociocultural Anthropology (501) (C- and above) OR Subject "ANT" BETWEEN 200 and 299 OR Subject "ANT" BETWEEN 200 and 299			5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	2 year UG SSH	SEDS, SMG, SSH, SoM	
496	ANT 400	Research Assistance in Anthropology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
497	ANT 401	Research Assistance in Anthropology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
498	ANT 402	Research Assistance in Anthropology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
499	ANT 421	Sport and Construction of Identity	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	2 year UG SSH	SEDS, SMG, SSH, SoM	
500	ANT 498	Capstone Seminar I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
501	SOC 101	Introduction to Sociology	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Applied Nursing, Medical Sciences, Nursing, Nursing (two year program), Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	2 year UG SSH, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	SEDS, SMG, SSH, SoM	
502	SOC 115	Global Social Problems	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	1 year UG SSH, 2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
503	SOC 201	Social Science Research Methods	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
504	SOC 210	Gender and Society	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
505	SOC 217	Sociology of the Family	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	

506	SOC 301	Classical Sociological Theory	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above) OR ANT 110 Introduction to Sociocultural Anthropology (501) (C- and above)			Anthropology, Sociology	SSH	SEDS, SMG, SoM	
507	SOC 310	Social Inequality	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above)			Anthropology, Sociology	SSH	SEDS, SMG, SoM	
508	SOC 400	Research Assistance in Sociology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
509	SOC 401	Research Assistance in Sociology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
510	SOC 402	Research Assistance in Sociology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
511	SOC 415	Social Problems and Issues in Eurasia	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
512	SOC 498	Capstone Seminar Part I	3	6				4 year UG SSH Sociology			
513	SOC 510	Social Inequality	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
514	SOC 515	Social Problems and Issues in Eurasia	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
Sociology and Anthropology, Sociology and Anthropology											
515	ANT 214/SOC 214	Qualitative Methods	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
SoE											
Chemical and Materials Engineering											
516	CHME 200	Basic Principles and Calculations in Chemical Engineering	3	6				2 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
517	CHME 201	Chemical Engineering Thermodynamics	3	6				2 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		

518	CHME 222	Inorganic and Analytical Chemistry	3	6				2 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
519	CHME 300	Heat and Mass Transfer	3	6				3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
520	CHME 301	Applied Mathematics for Process Design	3	6				3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
521	CHME 302	Instrumental Methods of Analysis for Engineers	3	6				3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
522	CHME 351	Environment and Development	3	6				3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
523	CHME 353	Electrochemical Engineering	3	6				3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
524	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, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
525	CHME 401	Chemical Engineering Lab II	3	6				4 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
526	CHME 453	Multiphase Systems	3	6	CHME 202 Fluid Mechanics (5543) (D and above)			4 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
527	DCHME 700-0	Thesis Research	0	0				1 year PhD SEDS Chemical Engineering, Chemical Engineering	Science, Engineering and Technology		
528	DCHME 755	Integrated Computational Materials Engineering	4	8				1 year PhD SEDS Chemical Engineering	Science, Engineering and Technology		
529	DCHME 761	Advanced Chemical Reaction Engineering	4	8				1 year PhD SEDS Chemical Engineering	Science, Engineering and Technology		
530	DCHME 762	Advanced Materials Processing	4	8				1 year PhD SEDS Chemical Engineering	Science, Engineering and Technology		

531	MBME 601	Master Thesis I	12	24				2 year Gr SEDS Biomedical Engineering			
532	MBME 603	Biomaterials Science & Engineering	3	6				1 year Gr SEDS Biomedical Engineering	SEDS, SMG		
533	MBME 604	Biosensors	3	6				1 year Gr SEDS Biomedical Engineering	SEDS, SMG		
534	MBME 610	Anatomy and Physiology for Biomedical Engineers	3	6				1 year Gr SEDS Biomedical Engineering	SEDS, SMG		
535	MBME 703	Medical Device Technology	3	6				2 year Gr SEDS Biomedical Engineering	SEDS, SMG		
536	MCHME 601	Master Thesis I	12	24				2 year Gr SEDS Chemical and Materials Engineering			
537	MCHME 603	Advanced Materials Processing	3	6				1 year Gr SEDS Chemical and Materials Engineering	SEDS, SMG		
538	MCHME 604	Advanced Materials Characterization Methods	3	6				1 year Gr SEDS Chemical and Materials Engineering	SEDS, SMG		
539	MCHME 605	Advanced Chemical Reaction Engineering	3	6				1 year Gr SEDS Chemical and Materials Engineering	SEDS, SMG		
540	MCHME 714	Computational Materials Engineering	3	6				2 year Gr SEDS Chemical and Materials Engineering	SEDS, SMG		
Civil Engineering											
541	MSC 600	Research Methods and Ethics	3	6				1 year Gr SEDS Electrical and Computer Engineering, 1 year Gr SEDS Engineering Management	Engineering Management, SEDS, SMG, SSH		
542	MSC 602	Advanced Applied Mathematics	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 Electrical and Computer Engineering, 1 year Gr SEDS Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering		
543	MSC 615	Advanced Statistics and Probability	3	6				1 year Gr SEDS Engineering Management	Engineering Management	SEDS	
Civil Engineering, Communication and Composition											

544	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 Mechanical and Aerospace Engineering, 1 year Gr SEDS Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Robotics	Electrical and Computer Engineering, Mechanical and Aerospace Engineering, SMG	
Civil and Environmental Engineering											
545	CEE 200	Structural Mechanics I	3	6				2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH, SMG	Civil and Environmental Engineering, Mechanical and Aerospace Engineering		
546	CEE 201	Environmental Chemistry	3	6				2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering, Mechanical and Aerospace Engineering		
547	CEE 204	Civil Engineering CAD and Surveying	3	6				2 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
548	CEE 300	Structural Design – Concrete	3	6	CEE 203 Structural Analysis (5500) (D and above)			3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
549	CEE 302	Geotechnical Engineering	3	6				3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
550	CEE 304	Fluid Mechanics	3	6				3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
551	CEE 306	Civil Engineering Materials	3	6	ENG 102 Engineering Materials I (4708) (D and above)			3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
552	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, 5 year UG SSH	Civil and Environmental Engineering		

553	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, 5 year UG SSH	Civil and Environmental Engineering		
554	CEE 455	Solid and Hazardous Waste Management	3	6	CEE 202 Environmental Engineering (5499) (D and above)			4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
555	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, 5 year UG SSH	Civil and Environmental Engineering		
556	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, 5 year UG SSH	Civil and Environmental Engineering		
557	CEE 463	Individual Research Project in Civil & Environmental Engineering 1	3	6				4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH			
558	CEE 465	Structure and Properties of Concrete Materials	3	6	CEE 306 Civil Engineering Materials (5897) (D and above)			4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
559	DCEE 700-0	Thesis Research	0	0				1 year PhD SEDS Civil Engineering	SEDS		
560	DCEE 750	Finite Element Methods	4	8				1 year PhD SEDS Civil Engineering	SEDS	SMG	
561	DCEE 757	Advanced Environmental Chemistry	4	8				1 year PhD SEDS Civil Engineering	SEDS		
562	DCEE 761	Advanced Soil Mechanics	4	8				1 year PhD SEDS Civil Engineering	SEDS	SMG	
563	DCEE 772	Engineering Management and Engineering Economy	4	8				1 year PhD SEDS Civil Engineering	SEDS	SMG	
564	DCEE 773	Unsaturated Soil Mechanics for Engineering Practice	4	8				1 year PhD SEDS Civil Engineering	SEDS		
565	EMEM 507	Project Management	3	6				1 year Gr SEDS Engineering Management	Engineering Management	SEDS	
566	EMEM 509	Systems Engineering	3	6				2 year Gr SEDS Mechanical Engineering, 2 year Gr SEDS Mechanical and Aerospace Engineering	Engineering Management, Mechanical and Aerospace Engineering	SEDS	

567	EMEM 523	Supply Chain Management	3	6				2 year Gr SEDS Engineering Management	Engineering Management	SEDS	
568	EMEM 533	Engineering Management and Engineering Economy	3	6				1 year Gr SEDS Engineering Management	Engineering Management	SEDS	
569	EMEM 537	Engineering Decision Tools	3	6				2 year Gr SEDS Engineering Management	Engineering Management	SEDS	
570	EMEM 538	Knowledge and Innovation Management	3	6				1 year Gr SEDS Engineering Management	Engineering Management	SEDS	
571	EMEM 539	Big Data and Information Management	3	6				2 year Gr SEDS Engineering Management	Engineering Management	SEDS	
572	EMEM 549	Capstone Project I	3	6							
573	MCEE 601	Master Thesis I	12	24	MCEE 600 Research Seminar (4692) (P)			2 year Gr SEDS Civil and Environmental Engineering			
574	MCEE 603	Finite Element Methods	3	6				1 year Gr SEDS Civil and Environmental Engineering, 1 year Gr SEDS Mechanical and Aerospace Engineering	SEDS		
575	MCEE 604	Advanced Soil Mechanics	3	6				1 year Gr SEDS Civil and Environmental Engineering	SEDS, SMG		
576	MCEE 605	Advanced Environmental Chemistry	3	6				1 year Gr SEDS Civil and Environmental Engineering	SEDS, SMG		
577	MCEE 716	Unsaturated Soil Mechanics for Engineering Practice	3	6				2 year Gr SEDS Civil and Environmental Engineering	SEDS, SMG		
Economics, SMG											
578	ECON 220/SMG 200	Resource Economics and Project Valuation	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)	4 year UG SMG			
Electrical and Computer Engineering											
579	DELCE 700-0	Thesis Research	0	0				1 year PhD SEDS Electrical Engineering	Electrical Engineering		
580	DELCE 753	Stochastic Processes	4	8				1 year PhD SEDS Electrical Engineering	SEDS		
581	DELCE 761	Advanced Data Structures and Algorithms	4	8				1 year PhD SEDS Electrical Engineering	SEDS		

582	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, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
583	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, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
584	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, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
585	ELCE 204	Solid State Devices	3	6	ENG 103 Engineering Materials II (4818) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
586	ELCE 205	Discrete Mathematics	3	6	MATH 162 Calculus II (170) (C- and above)			2 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
587	ELCE 301	Electronic Circuits	3	6	ELCE 201 Circuit Theory (5507) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
588	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, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
589	ELCE 304	Computer Networks	3	6	ENG 101 Programming for Engineers (4517) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
590	ELCE 304L	Computer Networks Laboratory	1	2		ELCE 304 Computer Networks (5920) (D and above)		3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
591	ELCE 306	Linear Control Theory	3	6	ELCE 203 Signals and Systems (4993) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		

592	ELCE 307	Digital Signal Processing	3	6	ELCE 203 Signals and Systems (4993) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
593	ELCE 452	Renewable Energy and Electric Vehicles	3	6	ELCE 200 Introduction to Electrical Circuits (4991) (C- and above)			4 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
594	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, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
595	ELCE 457	Introduction to Computer Vision	3	6	ENG 101 Programming for Engineers (4517) (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, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
596	ELCE 461	Industrial Automation	3	6	ELCE 202 Digital Logic Design (4992) (C- and above)			4 year UG SEDS Electrical and Computer Engineering			
597	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			

598	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, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering		
599	MECE 601	Master Thesis I	12	24				2 year Gr SEDS Electrical and Computer Engineering			
600	MECE 603	Advanced Data Structures and Algorithms	3	6				1 year Gr SEDS Electrical and Computer Engineering	SEDS, SMG, SSH		
601	MECE 605	Statistics and Probability for Electrical and Computer Engineers	3	6				1 year Gr SEDS Electrical and Computer Engineering	SEDS, SMG, SSH		
602	MECE 606	Embedded Systems and Applications	3	6				1 year Gr SEDS Electrical and Computer Engineering	SEDS, SMG, SSH		
603	MECE 726	Modern Semiconductor Devices and Systems	3	6				2 year Gr SEDS Electrical and Computer Engineering			
Geosciences											
604	GEOL 201	Mineralogy	3	6	GEOL 101 Fundamentals of Geology (4774) (C- and above)			Geology	Mining Engineering	SEDS	
605	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)			Geology	Mining Engineering	SEDS	

606	GEOL 207	Geomorphology	3	6	GEOL 101 Fundamentals of Geology (4774) (C- and above) OR GEOL 102 Fundamentals of Geology (4772) (C- and above)			Geology	Mining Engineering	SEDS	
607	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)			Geology	Mining Engineering	SEDS	
608	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)			Geology	Mining Engineering	SEDS	
609	GEOL 306	Geodynamics	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			SMG			
610	GEOL 308	Environmental Geochemistry	3	6				Geology	Mining Engineering	SEDS	
611	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	4 year UG SMG Mining Engineering		
612	GEOL 401	Petroleum Geology and Geochemistry	3	6				4 year UG SMG Geology, 4 year UG SMG Petroleum Engineering		3 year UG SMG Geology	
613	GEOL 402	Water Resource Management	3	6				4 year UG SMG Geology, 4 year UG SMG Mining Engineering		3 year UG SMG Geology	
614	GEOL 404	Research Project I	3	6				4 year UG SMG Geology			
Mechanical and Aerospace Engineering											
615	DMAE 700-0	Thesis Research	0	0				1 year PhD SEDS Mechanical Engineering, Mechanical Engineering			

616	DMAE 701	Advanced Applied Mathematics	4	8				1 year PhD SEDS Mechanical Engineering	SEDS		
617	DMAE 750	Advanced Statistics and Probability	4	8			MSC 615 Advanced Statistics and Probability (2394) (B- and above)	1 year PhD SEDS Mechanical Engineering	SEDS		
618	DMAE 751	Modern Control Engineering	4	8				1 year PhD SEDS Mechanical Engineering	SEDS		
619	DMAE 753	Computational and Unsteady Aerodynamics	4	8				1 year PhD SEDS Mechanical Engineering			
620	DMAE 765	Advanced Manufacturing Processes and Strategies	4	8				1 year PhD SEDS Mechanical Engineering	SEDS		
621	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, 5 year UG SEDS, 5 year UG SSH, SMG, Undeclared SEDS	Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering		
622	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, 5 year UG SEDS, 5 year UG SSH		Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, SMG	
623	ENG 400	Capstone Project	3	6				4 year UG SEDS Chemical and Materials Engineering, 4 year UG SEDS Civil and Environmental Engineering, 4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH			

624	MAE 201	Computer Aided Design	3	6				2 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
625	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, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
626	MAE 301	Engineering Thermodynamics	3	6				3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
627	MAE 302	Machine Elements Design	3	6	MAE 205 Material and Manufacturing I (5534) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
628	MAE 303	Control Systems	3	6				3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
629	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, 5 year UG SSH	Mechanical and Aerospace Engineering		
630	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, 5 year UG SSH	Mechanical and Aerospace Engineering		
631	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, 5 year UG SSH	Mechanical and Aerospace Engineering		
632	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, 5 year UG SSH	Mechanical and Aerospace Engineering		
633	MAE 454	Aerodynamics	3	6	MAE 300 Fluid Mechanics I (5926) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
634	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, 5 year UG SSH	Mechanical and Aerospace Engineering		

635	MMAE 600	Research Seminar	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering			
636	MMAE 601	Master Thesis I	12	24	MMAE 600 Research Seminar (4703) (P)			2 year Gr SEDS Mechanical and Aerospace Engineering			
637	MMAE 603	Modern Control Engineering	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering	SEDS, SMG		
638	MMAE 605	Advanced Manufacturing Processes and Strategies	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering	SEDS, SMG		
639	MMAE 702	Sustainable Vehicle Transportation Systems	3	6				2 year Gr SEDS Mechanical and Aerospace Engineering	SEDS, SMG		
640	MMAE 706	Computational and Unsteady Aerodynamics	3	6				2 year Gr SEDS Mechanical and Aerospace Engineering			
Mining Engineering											
641	MINE 301	Mine Surveying and Geographic Information Systems	3	6	SMG 100 Introduction to Natural Resources Extraction (4773) (C- and above)			Mining Engineering			
642	MINE 302	Geomechanics	3	6				Mining Engineering			
643	MINE 303	Mine Ventilation	3	6				Mining Engineering			
644	MINE 304	Resource Estimation	3	6				Mining Engineering			
645	MINE 401	Mining Geotechnical Engineering	3	6	MINE 302 Geomechanics (5878) (C- and above)			Mining Engineering			
646	MINE 402	Coal Mining	3	6				Mining Engineering			
647	MINE 489	Research Project I	3	6				Mining Engineering			
648	MINE 501	Foundations of Mining	3	6				1 year Gr SMG Mining Engineering			
649	MINE 502	Geology for Mining Engineers	3	6				1 year Gr SMG Mining Engineering			
650	MINE 503	Applied Geostatistics	3	6				Mining Engineering			
651	MINE 504	Mine Geomechanics	3	6				Mining Engineering			
652	MINE 505	Advanced Mine Ventilation	3	6				Mining Engineering			

653	MINE 601	Mine Management and Sustainability	3	6				Mining Engineering			
654	MINE 602	Mine Maintenance and Services	3	6	MINE 502 Geology for Mining Engineers (3691) (C- and above)			Mining Engineering			
655	MINE 690	Thesis I	6	12				Mining Engineering			
656	MINE 890-0	Thesis Research	0	0				Mining Engineering			
Petroleum Engineering											
657	PETE 201	Fluid Mechanics and Thermodynamics	3	6	MATH 161 Calculus I (118) (C- and above)			2 year UG SMG Mining Engineering, 3 year UG SMG Mining Engineering, Petroleum Engineering	SEDS		
658	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)			Petroleum Engineering			
659	PETE 302	Reservoir Engineering I with Laboratory works	4	8	PETE 204 Reservoir Rock and Fluid Properties with Lab (5487) (C- and above)			Petroleum Engineering			
660	PETE 303	Well Logging and Formation Evaluation	3	6	GEOL 101 Fundamentals of Geology (4774) (C- and above)			Petroleum Engineering			
661	PETE 304	Well Completion and Stimulation	3	6	PETE 203 Drilling Engineering with Laboratories (5486) (C- and above)			Petroleum Engineering			
662	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)			Petroleum Engineering			
663	PETE 401	Production Enhancement	3	6	PETE 307 Production Engineering (6146) (C- and above)			Petroleum Engineering			
664	PETE 501	Foundations of Petroleum Engineering	3	6				Petroleum Engineering			
665	PETE 502	Petroleum Geology	3	6				Petroleum Engineering			

666	PETE 503	Fluid Flow Through Porous Media	3	6				Petroleum Engineering			
667	PETE 504	Advanced Formation Evaluation	3	6				Petroleum Engineering			
668	PETE 505	Advanced Drilling Engineering	3	6				Petroleum Engineering			
669	PETE 509	Advanced Well Testing and Evaluation	3	6				Petroleum Engineering			
670	PETE 600	Thesis I	6	12				Petroleum Engineering			
671	PETE 601	Petroleum Data Analytics	3	6				Petroleum Engineering			
672	PETE 602	Research Seminar	3	6				Petroleum Engineering			
673	PETE 620	Thesis II	12	24				2 year Gr SMG Petroleum Engineering			
674	PETE 701	Advanced Well Engineering	4	8				SMG	SEDS		
675	PETE 805	Special Topics in Petroleum Engineering: Data Analytics	4	8				SMG	SEDS		
676	PETE 890-0	Thesis Research	0	0				Petroleum Engineering			
SMG											
677	SMG 100	Introduction to Natural Resources Extraction	3	6				SMG	SEDS		
678	SMG 710	Advanced Statistics	3	6				SMG	SEDS		
School of Engineering											
679	DENG 700	Thesis Research	89	178							
680	DENG 700-0	Thesis Research	0	0				Science, Engineering and Technology			
681	DENG 782	Research Methods and Ethics	3	6				SEDS, SSH	SMG		
682	DENG 792	Doctoral Seminar IV	3	6	DENG 791 Doctoral Seminar III (4600) (P)			Science, Engineering and Technology			
683	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology			
684	DENG 795	Research at Host University	6	12	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology			
685	DENG 796	Thesis Completion	0	0				Science, Engineering and Technology			

686	DENG 797	Oral Defence of PhD Dissertation	0	0	DENG 785 PhD Proposal Oral Defence (2604) (P) AND DENG 789 Doctoral Seminar I (4598) (P) AND DENG 790 Doctoral Seminar II (4599) (P)			Science, Engineering and Technology			
687	DENG 798	Doctoral Seminar VI	3	6	DENG 793 Doctoral Seminar V (4602) (P)			Science, Engineering and Technology			
688	DENG 799	Doctoral Seminar VII	3	6	DENG 798 Doctoral Seminar VI (4607) (P)			Science, Engineering and Technology			
SCAI											
Computer Science											
689	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)	5 year UG SEDS, 5 year UG SSH, SSH			
690	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)	5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, Mathematics	Undeclared SSH		

691	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)	5 year UG SEDS, 5 year UG SSH, Computer Science, Physics, Robotics Engineering, Robotics and Mechatronics			
692	CSCI 231	Computer Systems and Organization	3	6	CSCI 151 Programming for Scientists and Engineers (192) (C- and above)			5 year UG SEDS, 5 year UG SSH, Computer Science			
693	CSCI 235	Programming Languages	4	8	CSCI 152 Performance and Data Structures (489) (C- and above)			5 year UG SEDS, 5 year UG SSH, Computer Science			
694	CSCI 281	Human-Computer Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			5 year UG SEDS, 5 year UG SSH, Computer Science			
695	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, 5 year UG SEDS Computer Science, 5 year UG SSH			
696	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, 5 year UG SEDS Computer Science, 5 year UG SSH			
697	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, 5 year UG SEDS Computer Science, 5 year UG SSH			
698	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, 5 year UG SEDS Computer Science, 5 year UG SSH			
699	CSCI 399	Internship II	3	6				Instructor's Permission Required. Registration through Add Course form only!			

700	CSCI 399F	Internship II - F	6	12				Instructor's Permission Required. Registration through Add Course form only!			
701	CSCI 408	Senior Project I	3	6				4 year UG SEDS Computer Science, 5 year UG SEDS, 5 year UG SSH			
702	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, 5 year UG SEDS Computer Science, 5 year UG SSH			
703	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, 5 year UG SEDS Computer Science, 5 year UG SSH			
704	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, 5 year UG SEDS Computer Science, 5 year UG SSH			
705	CSCI 501	Software Principles and Practice	3	6				Computer Science, Robotics	SEDS	SSH	
706	CSCI 511	CS Track Core-Theory	3	6				Computer Science, Data Science	SEDS	SSH	
707	CSCI 515	Modeling and Simulation for Computer Science	3	6				Computer Science, Data Science	SEDS	SSH	
708	CSCI 585	Computer Vision	3	6				Computer Science, Data Science	SEDS	SSH	
709	CSCI 594	Deep Learning	3	6				Computer Science, Data Science	SEDS	SSH	
710	CSCI 693	Thesis Proposal	3	6	SEDS 591 Research Methods (3184) (C- and above)			2 year Gr SEDS Computer Science			
711	CSCI 700-0	Thesis Research	0	0				1 year PhD SEDS Computer Science, Computer Science			
712	CSCI 701	Advanced Software Principles and Practice	4	8				Computer Science , Robotics Engineering	SEDS	SSH	
713	CSCI 711	Advanced Theory of Computation	4	8				Computer Science , Robotics Engineering	SEDS	SSH	
714	CSCI 785	Advanced Computer Vision	4	8				Computer Science , Robotics Engineering	SEDS	SSH	
715	CSCI 794	Advanced Deep Learning	4	8				Computer Science , Robotics Engineering	SEDS	SSH	

716	DS 501	Fundamentals of Data Science	3	6				Data Science			
717	DS 502	Probability and Statistics for Data Science	3	6				Data Science	Computer Science	SEDS, SSH	
718	DS 507	Database Management Systems	3	6				Data Science	Computer Science	SEDS, SSH	
719	DS 551	Process and Project Management	3	6				Data Science	Computer Science	SEDS, SSH	
720	DS 552	Data-Driven Innovation	3	6				Data Science	Computer Science	SEDS, SSH	
721	DS 693	Thesis Proposal	3	6	SEDS 591 Research Methods (3184) (C- and above)			2 year Gr SEDS Data Science			
722	SEDS 503	Laboratory Practicum	3	6	SEDS 502 Teaching Practicum (2824) (P)			2 year Gr SEDS Computer Science, 2 year Gr SEDS Data Science, 2 year Gr SEDS Robotics and Mechatronics			
723	SEDS 591	Research Methods	3	6				1 year Gr SEDS Computer Science, 1 year Gr SEDS Data Science, 1 year Gr SEDS Robotics			
Mathematics											
724	MATH 161	Calculus I	4	8				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	Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM	
725	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			2 year UG SEDS Undeclared, 5 year UG SEDS, 5 year UG SSH, Undeclared SSH	2 year UG SSH Biological Sciences, 3 year UG SSH Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM	
726	MATH 251	Discrete Mathematics	3	6	MATH 161 Calculus I (118) (C and above)			2 year UG SEDS Computer Science, 5 year UG SEDS, 5 year UG SSH	Computer Science, Mathematics	SEDS, SMG, SSH, SoM	
727	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			2 year UG SSH Mathematics, 2 year UG SSH Physics, 5 year UG SEDS, 5 year UG SSH	Mathematics, Physics	SEDS, SMG, SSH, SoM	

728	MATH 273	Linear Algebra with Applications	4	8	MATH 161 Calculus I (118) (C and above)	MATH 162 Calculus II (170) (C and above)		2 year UG SEDS Computer Science, 2 year UG SEDS Robotics Engineering, 2 year UG SEDS Robotics and Mechatronics, 2 year UG SSH Mathematics, 2 year UG SSH Physics, 5 year UG SEDS, 5 year UG SSH	Chemistry, Computer Science, Mathematics, Physics, Robotics Engineering, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
729	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			5 year UG SEDS, 5 year UG SSH, Physics	Chemistry, Mathematics, Robotics Engineering, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
730	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)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
731	MATH 310	Applied Statistical Methods	3	6	MATH 161 Calculus I (118) (C and above)		MATH 321 Probability (482) (C and above)	2 year UG SMG Mining Engineering, 5 year UG SEDS, 5 year UG SSH, Biological Sciences	SEDS, SMG, SSH, SoM		
732	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)	5 year UG SEDS, 5 year UG SSH, Mathematics, Robotics Engineering, Robotics and Mechatronics	Computer Science	SEDS, SMG, SSH, SoM	
733	MATH 322	Mathematical Statistics	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics, Robotics Engineering, Robotics and Mechatronics	Computer Science	SEDS, SMG, SSH, SoM	
734	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))			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		

735	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)	5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
736	MATH 361	Real Analysis I	3	6	MATH 263 Calculus III (81) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
737	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)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
738	MATH 412	Nonlinear Optimization	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 263 Calculus III (81) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
739	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))			SEDS, SMG, SSH			
740	MATH 425	Stochastic Processes	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
741	MATH 440	Regression Analysis	3	6	MATH 322 Mathematical Statistics (1165) (C and above)		SOC 203 Quantitative Methods in Sociology (1377) (C and above) OR PLS 211 Quantitative Methods (221) (C and above)	5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		

742	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)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
743	MATH 477	Applied Finite Element Methods	3	6	MATH 351 Numerical Methods with Applications (1166) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
744	MATH 480	Complex Analysis	3	6	MATH 263 Calculus III (81) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
745	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)		5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
746	MATH 490	Special Topics in Mathematics I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
747	MATH 491	Special Topics in Mathematics II	3	6				Instructor's Permission Required. Registration through Add Course form only!			
748	MATH 497	Directed Study in Mathematics I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
749	MATH 510	Measure Theory and Applications	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
750	MATH 512	Optimization Methods and Techniques	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
751	MATH 518	Applied Finite Element Analysis	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
752	MATH 519	Scientific Computing	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
753	MATH 540	Statistical Learning	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
754	MATH 551	Advanced Numerical Methods	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
755	MATH 576	Numerical Methods for Partial Differential Equations	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	

756	MATH 592	Research Seminar	3	6				Applied Mathematics			
757	MATH 676	Advanced Partial Differential Equations with Applications	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
758	MATH 700-0	Thesis Research	0	0				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
759	MATH 701	Real Analysis	4	8				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
760	MATH 721	Nonlinear Differential Equations with Applications	4	8				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
761	MATH 722	Advanced Partial Differential Equations	4	8	MATH 701 Real Analysis (5489) (B and above)			Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
Robotics and Mechatronics											
762	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))			5 year UG SEDS, 5 year UG SSH, Robotics Engineering, Robotics and Mechatronics, SMG	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
763	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)))			5 year UG SEDS, 5 year UG SSH, Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		

764	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))			5 year UG SEDS, 5 year UG SSH, Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
765	ROBT 301	Mechanical Design with CAD and Machining Laboratory	4	8	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
766	ROBT 303	Linear Control Theory with Lab	4	8	ROBT 202 System Dynamics and Modeling (68) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
767	ROBT 305	Embedded Systems	3	6	ROBT 206 Microcontrollers with Lab (476) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics Engineering, Robotics and Mechatronics	Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
768	ROBT 308	Industrial Automation	3	6				5 year UG SEDS, 5 year UG SSH, Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		

769	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)			5 year UG SEDS, 5 year UG SSH, Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
770	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)			5 year UG SEDS, 5 year UG SSH, Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
771	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)			5 year UG SEDS, 5 year UG SSH, Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
772	ROBT 414	Human-Robot Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics Engineering, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
773	ROBT 501	Robot Manipulation and Mobility	3	6				Robotics	SEDS		
774	ROBT 503	Dynamic Systems and Control	3	6				Robotics	SEDS		
775	ROBT 613	Brain-Machine Interfaces	3	6				Robotics	SEDS		
776	ROBT 615	Optimal Control and Planning	3	6	ROBT 503 System Dynamics and Control (2264) (C- and above)			Robotics	SEDS		

777	ROBT 691	Thesis Proposal	6	12				Robotics	SEDS		
778	ROBT 700-0	Thesis Research	0	0				1 year PhD SEDS Robotics Engineering	Robotics Engineering, Science, Engineering and Technology		
779	ROBT 701	Advanced Robot Manipulation and Mobility	4	8				1 year PhD SEDS Robotics Engineering	Robotics Engineering, Science, Engineering and Technology		
780	ROBT 703	Advanced Optimal Control and Planning	4	8				1 year PhD SEDS Robotics Engineering	Robotics Engineering, Science, Engineering and Technology		
781	ROBT 709	Advanced Robot Dynamics and Control	4	8				1 year PhD SEDS Robotics Engineering	Robotics Engineering, Science, Engineering and Technology		