Course Requirements and Registration Priorities
Spring 2021

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
CPS											
GSPP											
1	ZEST 061	Basic Economics and Statistics	0	0							
Mathematics											
2	MATH 500Z	Linear Algebra with Applications	0	0							
NUFYP											
3	FBIO 011	Introduction to Biology	0	0							
4	FBUS 011	Introduction to Business	0	0							
5	FCHM 011	Introduction to Chemistry	0	0							
6	FEAP 020	Foundation English for Academic Purposes 2	0	0							
7	FGEO 011	Introduction to Geography	0	0							
8	FHUM 011	Introduction to Humanities and Social Science	0	0							
9	FMAT 041	Foundation Mathematics 2	0	0							
10	FPHY 011	Introduction to Physics	0	0							
NUZYP											
11	ZCOM 041	Academic Communications for Graduate Studies II	0	0							
12	ZRDG 031	Academic Reading for Graduate Studies II	0	0							
13	ZWRT 021	Academic Writing for Graduate Studies II	0	0							
Sociology and Anthropology											
14	SOC 201Z	Social Science Research Methods	0	0							
GSB											
Economics											
15	ECON 101	Introduction to Microeconomics	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH	SEDS, SMG, SSH, SoM	

16	ECON 102	Introduction to Macroeconomics	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH	SEDS, SMG, SSH, SoM	
17	ECON 120	Managerial Economics	3	6				3 year UG SEDS Chemical and Materials Engineering, 3 year UG SEDS Civil and Environmental Engineering, 3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Computer Science, 3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Robotics and Mechatronics	Anthropology, Biological Sciences, Chemistry, History, Mathematics, Physics, Political Science and International Relations, SEDS, SMG, SoM, Sociology, Undeclared SSH, World Languages, Literature and Culture	
18	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))			5 year UG SEDS, 5 year UG SSH, Economics	2 year UG SSH Undeclared	SSH	
19	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))			5 year UG SEDS, 5 year UG SSH, Economics	2 year UG SSH Undeclared	SSH	
20	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)			5 year UG SEDS, 5 year UG SSH, Economics	2 year UG SSH Undeclared	SSH	

21	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)						
22	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)))			5 year UG SEDS, 5 year UG SSH, Economics		SSH	
23	ECON 302	Game Theory and Economic Analysis	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) OR ECON 101 Introduction to Microeconomics (379) (C- and above) AND MATH 251 Discrete Mathematics (85) (C- and above)		PLS 315 Political Game Theory (704) (C- and above)	3 year UG SSH Economics, 5 year UG SEDS, 5 year UG SSH	4 year UG SSH Economics	SSH	
24	ECON 305	Advanced Microeconomics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)	ECON 211 Economic Statistics (2280) (D and above)	ECON 398 General Special Topics in Economics (2184) (C- and above)	3 year UG SSH Economics, 5 year UG SEDS, 5 year UG SSH	4 year UG SSH Economics	SSH	

25	ECON 319	Matching Theory and Applications	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics, 5 year UG SEDS, 5 year UG SSH	4 year UG SSH Economics	SSH	
26	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 SEDS, 5 year UG SSH	4 year UG SSH Economics	SSH	
27	ECON 328	Labor Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics, 5 year UG SEDS, 5 year UG SSH	4 year UG SSH Economics	SSH	
28	ECON 332	Urban Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics, 5 year UG SEDS, 5 year UG SSH	4 year UG SSH Economics	SSH	
29	ECON 341	Economic Simulation Modeling	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics, 5 year UG SEDS, 5 year UG SSH	4 year UG SSH Economics	SSH	
30	ECON 399	Independent Study in Economics	3	6							
31	ECON 413	Econometrics II	3	6	ECON 301 Econometrics I (664) (C- and above)			5 year UG SEDS, 5 year UG SSH, Economics		SSH	
32	ECON 416	Empirical Industrial Organization	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			5 year UG SEDS, 5 year UG SSH, Economics		SSH	
33	ECON 418	Applied Econometrics	3	6	ECON 301 Econometrics I (664) (C- and above)		ECON 336 Programming for Economists (7979) (C- and above)	5 year UG SEDS, 5 year UG SSH, Economics		SSH	
34	ECON 443	Topics in Macroeconomic Theory	3	6	ECON 202 Intermediate Macroeconomics (207) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			5 year UG SEDS, 5 year UG SSH, Economics		SSH	
35	ECON 516	Empirical Industrial Organization	4	8	ECON 501 Microeconomics (2187) (C- and above) AND ECON 531 Econometrics (2505) (C- and above)			Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	

36	ECON 521	Microeconomic Theory II	4	8	ECON 501 Microeconomics (2187) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)			Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
37	ECON 522	Macroeconomics II	4	8	() (and above)			Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
38	ECON 524	Research Methodology	4	8	ECON 501 Microeconomics (2187) (C- and above) AND ECON 502 Macroeconomics (2186) (C- and above) AND ECON 511 Mathematics and Statistics (2188) (C- and above)	ECON 531 Econometrics (2505) (D and above)		Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
39	ECON 531	Econometrics	4	8	ECON 511 Mathematics and Statistics (2188) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)			Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
40	ECON 543	Topics in Macroeconomic Theory	4	8	ECON 502 Macroeconomics (2186) (C- and above)			Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
41	ECON 590	Thesis II	8	16	ECON 589 Thesis I (3714) (P)						
GSB											
42	BUS 101	Core Course in Business	3	6				3 year UG SEDS, 3 year UG SMG, 3 year UG SSH	2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	SEDS, SMG, SSH, SoM	
43	GSBF 512	Principles of Finance	2	4							
44	GSBF 513	Financial Econometrics	2	4							
45	GSBF 515a	Investments I	2	4							
46	GSBF 515b	Investments II	2	4	GSBF 515a Investments I (4106) (C- and above)						
47	GSBF 542	Global Finance Experience Residency (II)	3	6							
48	GSBF 550A	Master’s Thesis	3	6							

49	MBA 05	Business Communication	2	4							
50	MBA 09	Marketing Management	2	4							
51	MBA 11	Managerial Accounting	2	4							
52	MBA 12	Operations Management	2	4							
53	MBA 13	Macroeconomics	2	4							
54	MBA 15	Corporate Finance	2	4							
55	MBA 16	Entrepreneurship	2	4							
56	MBA 17	Negotiations	2	4							
57	MBA 19	Distinguished Speaker Series	0	1							
58	MSF 01	Financial Modeling	2	4							
GSPP											
Master in Public Administration											
59	MPA 608	Strategic Management and Leadership	4	8				1 year GSPP Public Administration			
60	MPA 699	Master’s Project with Overseas Component	0	0				1 year GSPP Public Administration			
61	MPE 609	Human Resource Management	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
62	MPE 610	National Identity and Public Policy	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
63	MPE 611	Benefit Cost Analysis	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
64	MPE 623	Law and Development	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
65	MPE 624	Public Management Reforms in Transitional Countries	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
66	MPE 630	Finance and Economic Development	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
67	MPE 638	Contemporary Security Challenges in Central Asia and Beyond	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
68	MPE 644	The Media and Public Policy	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
69	MPE 647	Macroeconomic Development and Human Capital	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
70	MPE 648	Environmental Economics and Public Policy	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		

71	MPE 663	Applied Public Economics and Finance	4	8	MPP 601 Microeconomics and Public Policy (1449) (B- and above) OR MPA 603 Economic Applications for Public Managers (2074) (B- and above)			Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
72	MPE 682	Sustainable Development and Environmental Governance	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
73	MPE 688	New Technologies and Public Policy	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
74	MPE 689	Data Analytics for Public Policy	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
Master in Public Policy											
75	MPP 602	Macroeconomics and Public Policy	4	8				1 year GSPP Public Policy			
76	MPP 613	Public Policy Research Design and Analysis	4	8				1 year GSPP Public Policy			
77	MPP 641	Public Management and Leadership	4	8				1 year GSPP Public Policy			
78	MPP 699	Policy Analysis Exercise with Singapore Component	8	16	MPP 601 Microeconomics and Public Policy (1449) (C- and above) AND MPP 611 Statistics for Public Policy (1450) (C- and above) AND MPP 613 Policy Research Design and Methods (1301) (C- and above) AND MPP 621 Public Policy and Analysis (1451) (C- and above)			2 year GSPP Public Policy			
79	MPP 699-0	Policy Analysis Exercise with Singapore Component	0	0	MPP 613 Policy Research Design and Methods (1301) (C- and above)			1 year GSPP Public Policy			
PhD in Public Policy											
80	DPP 600	Developing Dissertation Research	0	0				Public Policy			
81	DPP 602	Macroeconomics in Public Sector	4	8				1 year GSPP PhD Public Policy			
82	DPP 613	Research Design (qualitative and quantitative)	4	8				1 year GSPP PhD Public Policy			
83	DPP 615	Law, Governance and Public Policy	4	8				1 year GSPP PhD Public Policy			

84	DPP 631	Politics of Public Policy	4	8				1 year GSPP PhD Public Policy			
85	DPP 689-0	PhD Qualifying Examination: Core Exam	0	0				2 year GSPP PhD Public Policy			
86	DPP 690	Thesis Preparation and Writing	60	120	DPP 689 PhD Qualifying Examinations (4830) (P) AND DPP 699 Thesis Design and Written Proposal (4831) (C- and above)						
87	DPP 690-0	Thesis Preparation and Writing	0	0				3 year GSPP PhD Public Policy, 4 year GSPP			
88	DPP 699	Thesis Design and Written Proposal	6	12				2 year GSPP PhD Public Policy			
GSE											
MA in Multilingual Education											
89	EDML 612	Multilingual Society	3	6				1 year GSE MA in Multil.Education			
90	EDML 620	Language and Literacy Development	3	6				2 year GSE MA in Multil.Education			
91	EDML 630	Language Policy and Education Reform Across Contexts	3	6				1 year GSE MA in Multil.Education			
92	EDML 691	Thesis Research II	6	12				2 year GSE MA in Multil.Education			
MSc Educational Leadership HE											
93	EDHE 692	Thesis Seminar III	4.5	9				2 year GSE Educ.Leadership			
94	EDHE 693	Thesis Seminar IV	9	18				2 year GSE Educ.Leadership			
95	EDUC 506	Academic English II	1.5	3				1 year GSE Educ.Leadership			
96	EDUC 508	Academic English IV	1.5	3				2 year GSE Educ.Leadership			
97	EDUC 511	Advanced English for Education Professionals II	3	6				1 year GSE MA in Multil.Education			
98	EDUC 513	English for Thesis Writing II	3	6				2 year GSE MA in Multil.Education			

99	EDUC 572	Kazakh for Professional Purposes	3	6				1 year GSE MA in Multil.Education, 1 year GSE PhD Education, 2 year GSE MA in Multil.Education, 2 year GSE PhD Education, 3 year GSE PhD Education, 4 year GSE PhD Education, Educational Leadership			
100	EDUC 591	Academic English Writing for Doctoral Students II	3	6				2 year GSE PhD Education			
101	EDUC 592	Academic English Writing for Doctoral Students III	3	6				4 year GSE PhD Education			
102	EDUC 600	Research Methods II	3	6				1 year GSE Educ.Leadership, 1 year GSE MA in Multil.Education			
103	EDUC 670	Internship Project	6	12				1 year GSE Educ.Leadership			
104	EDUC 671	Work-based project	6	12				1 year GSE Educ.Leadership			
105	EDUC 675	Learning to Work	4.5	9				2 year GSE Educ.Leadership			
106	EDUC 704	Advanced Methods of Education Research	3	6				1 year GSE PhD Education			
107	EDUC 705	Advanced Methods of Education Research: Qualitative Methods	3	6				1 year GSE PhD Education			
108	EDUC 711	Globalisation and Education	3	6				1 year GSE PhD Education			
109	EDUC 720	Philosophy of Education	3	6				1 year GSE PhD Education			
110	EDUC 728	Exploring the Research Topic 2	0	0				1 year GSE PhD Education			
111	EDUC 730	Preparation for Proposal Defence	0	0				2 year GSE PhD Education			
112	EDUC 740	Doctoral Seminar	3	6				2 year GSE PhD Education			
113	EDUC 750	Dissertation Research	9	18				3 year GSE PhD Education, 4 year GSE PhD Education			
114	EDUC 760	Teaching and Learning in the University Context: Curriculum, Pedagogy and Assessment	3	6				3 year GSE PhD Education			
MSc Educational Leadership IE											

115	EDIE 692	Thesis Seminar III	4.5	9				2 year GSE Educ.Leadership			
116	EDIE 693	Thesis Seminar IV	9	18				2 year GSE Educ.Leadership			
MSc Educational Leadership SE											
117	EDSE 692	Thesis Seminar III	4.5	9				2 year GSE Educ.Leadership			
118	EDSE 693	Thesis Seminar IV	9	18				2 year GSE Educ.Leadership			
Other											
Other											
119	T-MOA 106	Developing and Marketing Innovations	3	6							
120	T-OFF 510	Operations and Maintenance Management	1.5	3							
121	T-OFF 540	Condition Monitoring and Management	1.5	3							
122	TEST 001	TEST 1	3	6							
123	TEST 002	TEST 2	4	8				SMG	Computer Science, Electrical and Computer Engineering		
SoM											
Biological Science											
124	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, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literature and Culture	3 year UG SEDS	4 year UG SEDS	
125	BIOL 110	Modern Biology I	3	6				5 year UG SEDS, 5 year UG SSH, Biological Sciences, Medical Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	Anthropology, Economics, History, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literature and Culture	

126	BIOL 110L	Modern Biology I Laboratory	1	2		BIOL 110 Modern Biology I (1070) (C and above)		5 year UG SEDS, 5 year UG SSH, Biological Sciences, Medical Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	Anthropology, Economics, History, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literature and Culture	
127	BIOL 120	Modern Biology II	3	6	BIOL 110 Modern Biology I (1070) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences, Medical Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	Anthropology, Economics, History, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literature and Culture	
128	BIOL 231	Human Anatomy and Physiology II	4	8	BIOL 230 Human Anatomy and Physiology I (72) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
129	BIOL 301	Molecular Cell Biology	3	6	BIOL 120 Modern Biology II (1195) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
130	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)		5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
131	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)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	

132	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)		5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
133	BIOL 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
134	BIOL 355	Critical Research Reasoning	3	6	BIOL 120 Modern Biology II (1195) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
135	BIOL 363	Structural Bioinformatics	4	8	BIOL 341 Biochemistry I (2002) (C and above) OR CHEM 341 Biochemistry I (1058) (C and above) OR CSCI 235 Programming Languages (638) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
136	BIOL 370	Genetics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
137	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)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
138	BIOL 420	Bioethics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			4 year UG SSH Biological Sciences, 4 year UG SSH Chemistry, 5 year UG SEDS, 5 year UG SSH	3 year UG SSH Biological Sciences, 3 year UG SSH Chemistry	SEDS, SMG, SSH, SoM	

139	BIOL 430	Histology with Laboratory	4	8	BIOL 230 Human Anatomy and Physiology I (72) (C and above) OR BIOL 230 Human Anatomy and Physiology I (6217) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
140	BIOL 440	Neuroscience	3	6	BIOL 230 Human Anatomy and Physiology I (72) (C and above) OR BIOL 230 Human Anatomy and Physiology I (6217) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
141	BIOL 445	Medical Microbiology	3	6	BIOL 305 Introduction to Microbiology (5789) (C and above) OR BIOL 305 Introduction to Microbiology with Lab (1642) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
142	BIOL 450	Food Microbiology	3	6	BIOL 305 Introduction to Microbiology with Lab (1642) (C and above) OR BIOL 305 Introduction to Microbiology (5789) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
143	BIOL 456	Biology Research Design	3	6		BIOL 355 Critical Research Reasoning (1000) (C and above)		5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
144	BIOL 468	Integrated Cell Biology	3	6	(BIOL 110 Modern Biology I (107) (C and above) OR BIOL 110 Modern Biology I (1070) (C and above)) AND BIOL 120 Modern Biology II (1195) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	

145	BIOL 471	Light and Electron microscopy concepts and techniques	3	6	BIOL 110 Modern Biology I (1070) (C and above) AND BIOL 120 Modern Biology II (1195) (C and above) AND CHEM 101 General Chemistry I (113) (C and above) AND PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
146	BIOL 471L	Light and Electron Microscopy Concepts and Techniques-Lab	1	2		BIOL 471 Light and Electron microscopy concepts and techniques (4686) (C and above)		5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
147	BIOL 491	Graduation Project 2	4	8	BIOL 490 Honors Thesis Research (1581) (C and above)						
148	BIOL 492	Directed Study in Biology	3	6							
149	BIOL 502	Research Methods	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
150	BIOL 570	Advanced Biotechnology	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
151	BIOL 580	Applied Bioinformatics	3	6	BIOL 520 Statistical Methods in Life Sciences (1203) (C and above)			Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
152	BIOL 590	Research Analysis in Life Sciences	3	6				1 year Gr SSH Biological Sciences and Technologies			
153	BIOL 591	Cellular Biophysics	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
154	BIOL 599	Master’s Thesis Research	0	0				Biological Sciences			
155	BIOL 630	Advanced Neuroscience	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
156	BIOL 637	Fundamentals of Advanced Microscopy	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	

157	BIOL 692	Master's Thesis	15	30	BIOL 691 Master's Thesis Research Proposal (5676) (B- and above)			Biological Sciences			
158	BIOL 730	Advanced Neuroscience	4	8				Biomedical Sciences, Life Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
159	BIOL 737	Advanced Optical and Electron Microscopy	4	8				Biomedical Sciences, Life Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
160	BIOL 770	Advanced Biotechnology	4	8				Biomedical Sciences, Life Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
161	BIOL 780	Applied Bioinformatics	4	8				Biomedical Sciences, Life Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
162	BIOL 791	Cellular Biophysics	4	8				Biomedical Sciences, Life Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
163	BIOL 800-0	Thesis Research	0	0				Life Sciences			
MMM											
164	MMMM 506	Biocomputing	1	2				1 year Gr SOM Molecular Medicine			
165	MMMM 508	Molecular Immunology	2	4				1 year Gr SOM Molecular Medicine			
166	MMMM 509	From the Bench to the Bedside: Drug Development and Clinical Trials	3	6				1 year Gr SOM Molecular Medicine			
167	MMMM 510	Natural Medicine	3	6				1 year Gr SOM Molecular Medicine			
168	MMMM 511	Research Methods in Molecular Biomedicine	3	6				1 year Gr SOM Molecular Medicine			
169	MMMM 512	Molecular Basis of Chronic Inflammation	1	2				1 year Gr SOM Molecular Medicine			
170	MMMM 690	Master Research Project	15	30				2 year Gr SOM Molecular Medicine			
MPTOX											
171	MPTX 508	Research Methods in Pharmacology	3	6	MPTX 502 Cellular Communications (5842) (C- and above) OR MPTX 503 Principles of Pharmacology and Toxicology (5843) (C- and above)			1 year Gr SOM Pharmacology and Toxicology			

172	MPTX 509	Drug Discovery and Development II	3	6	MPTX 505 Drug Discovery I (5845) (C- and above)			1 year Gr SOM Pharmacology and Toxicology			
173	MPTX 511E	Environmental Toxicology	3	6				1 year Gr SOM Pharmacology and Toxicology			
MSMR											
174	MSMR 502	Nutrition in Sports and Exercise	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
175	MSMR 506	Seminar in Sports Medicine	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
176	MSMR 511	Introduction to Research Project	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
177	MSMR 601	Psychology of Sports and Rehabilitation	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
Master of Sciences in Biomedicine											
178	MMMM 507	Critical Analysis of the Contemporary Concepts in Molecular Medicine	3	6				1 year Gr SOM Molecular Medicine			
179	MPTX 504	Systemic Pharmacology I	3	6	MSBM 512 Principles of Pharmacology and Toxicology (8727) (C- and above)			1 year Gr SOM Pharmacology and Toxicology			
180	MPTX 507	Drug Addiction and Toxicology	3	6	MSBM 512 Principles of Pharmacology and Toxicology (8727) (C- and above)			1 year Gr SOM Pharmacology and Toxicology			
181	MSMR 509	Robots for Rehabilitation	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
Nursing											
182	NUR 101	Human Anatomy and Physiology I and Lab	4	8				1 year UG SOM Nursing			
183	NUR 102L	Human Anatomy and Physiology II with Lab	4	8				1 year UG SOM Nursing			
184	NUR 122	English-Russian-Kazakh Medical Terminology	2	4				2 year UG SOM Nursing			
185	NUR 204	Nutrition for Nursing Clinical Practice	2	4							
186	NUR 212/L	Foundations of Nursing Practice II	2	4				2 year UG SOM Nursing			
187	NUR 213/C	Medical-Surgical Nursing I: Clinical	7	14				2 year UG SOM Nursing			

188	NUR 221	Nursing Research: Introduction to Critical Appraisal and Evidence-Based Practice	3	6				2 year UG SOM Nursing			
189	NUR 305	Research Methods for Nursing	3	6							
190	NUR 306	Medical-Surgical Nursing: Complex Medical Management for Acute and Chronic Patient	4	8							
191	NUR 307	Health Promotion and Disease Prevention in Culturally Diverse Populations	4	8							
192	NUR 308	Enhanced Communication in Professional Nursing	4	8							
193	NUR 402	Principles of Healthcare Administration	4	8							
194	NUR 405	Issues and Trends in Nursing	4	8							
195	NUR 406.2	Medical-Surgical Nursing: Complex Management	4	8							
196	NUR 407	Capstone: Clinical and EBP Quality Improvement Research	4	8							
PHD											
197	PHDBS 701-0	Thesis Research	0	0				1 year PhD SOM BioMed Sciences, 2 year PhD SOM BioMed Sciences			
198	PHDBS 702	Molecular Basis of Health and Disease	4	8				1 year PhD SOM BioMed Sciences, 1 year PhD SSH Life Sciences, 2 year PhD SOM BioMed Sciences			
199	PHDBS 703	Biomedical Research Analysis and Design of Experimentation	4	8				1 year PhD SOM BioMed Sciences, 1 year PhD SSH Life Sciences, 2 year PhD SOM BioMed Sciences			

200	PHDBS 704-0	NUSOM seminar	0	0				1 year PhD SOM BioMed Sciences, 1 year PhD SSH Life Sciences, 2 year PhD SOM BioMed Sciences	Chemical Engineering, Civil Engineering, Computer Science , Education, Electrical Engineering, Eurasian Studies, Mathematics, Mechanical Engineering, Mining Engineering, Petroleum Engineering, Physics, Public Policy, Robotics Engineering, Science, Engineering and Technology		
201	PHDBS 706	Advanced Biomedical Research Analysis and Design of Experimentation	4	8				2 year PhD SOM BioMed Sciences			
202	PHDBS 707	Publication Analysis	4	8				2 year PhD SOM BioMed Sciences			
203	PHDBS 708	Writing for Biomedical Sciences	3	6				2 year PhD SOM BioMed Sciences			
Public Health											
204	PUBH 512	Biostatistical Modeling and Sampling	3	6				1 year Gr SOM Public Health	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
205	PUBH 522	Advanced Analytical Epidemiology	3	6				1 year Gr SOM Public Health	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
206	PUBH 551	Health Services Management, Health Economic and Health Policy	3	6				1 year Gr SOM Public Health	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
207	PUBH 631	Social and Behavioral Sciences in Public Health	3	6				1 year Gr SOM Public Health	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
208	PUBH 641	Problem Investigations in Environmental Health	3	6				1 year Gr SOM Public Health	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
209	PUBH 651	Risk Management in Health Care	3	6				2 year Gr SOM Public Health			
210	PUBH 652	Applied Methods in Health Services Research	3	6				2 year Gr SOM Public Health			
211	PUBH 682	Master’s Project Implementation	12	24				2 year Gr SOM Public Health			
SSH											

Academic Success Centre, Communication and Composition											
212	WCS 150	Rhetoric and Composition	3	6				1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH	SEDS, SMG, SSH, SoM	
213	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)	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 5 year UG SEDS, 5 year UG SSH	2 year UG SEDS, 2 year UG SMG, 2 year UG SOM	2 year UG SSH, 3 year UG SSH	
Area Studies											
214	EAS 502	Disciplinary Methodology	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		

215	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)						
216	EAS 504	Thesis II	12.5	25	EAS 500 Introduction to Eurasia (1632) (C- and above) AND EAS 501 General Methodology (1633) (C- and above) AND EAS 502 Disciplinary Methodology (1379) (C- and above) AND EAS 503 Thesis I (2141) (C- and above)			SSH			
217	EAS 511	Independent Study in Eurasian Studies	4	8							
218	EAS 703	Elective in Eurasian Social Sciences	4	8							
219	EAS 708	Proseminar in Eurasian Humanities	4	8							
220	EAS 709	Proseminar in Eurasian Social Sciences	4	8							
221	EAS 712	Doctoral Seminar in Eurasian Studies II	4	8							
222	EAS 713	Qualifying Examination	0	0							
223	EAS 800-0	Dissertation Research in Eurasian Studies	0	0							
Chemistry											
224	CHEM 092	Survey of Environmental Sciences for Non-Science Majors	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Economics, History, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literature and Culture			
225	CHEM 101	General Chemistry I	3	6				5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, Medical Sciences	SEDS, SMG, SSH, SoM		

226	CHEM 101L	General Chemistry I lab	1	2		CHEM 101 General Chemistry I (113) (C and above)		5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, Medical Sciences	SEDS, SMG, SSH, SoM		
227	CHEM 102	General Chemistry II	3	6	CHEM 101 General Chemistry I (113) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, Medical Sciences, SMG	SEDS, SSH, SoM		
228	CHEM 189a	Independent Study	1	2							
229	CHEM 211	Organic Chemistry I	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	
230	CHEM 212	Organic Chemistry II	3	6	CHEM 211 Organic Chemistry I (154) (C and above) OR CHEM 191 Chemistry I for Engineers (1908) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
231	CHEM 212L	Organic Chemistry II Lab	1	2	CHEM 211L Organic Chemistry I Lab (156) (C and above)	CHEM 212 Organic Chemistry II (443) (C and above) OR CHEM 292 Organic Chemistry for Biologists II (1901) (C and above)		5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
232	CHEM 250	Descriptive Inorganic Chemistry	3	6	CHEM 101 General Chemistry I (113) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
233	CHEM 320	Instrumental Analysis	3	6	CHEM 220 Quantitative Chemical Analysis (555) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
234	CHEM 320L	Instrumental Analysis Lab	1	2	(CHEM 220 Quantitative Chemical Analysis (555) (C and above) AND CHEM 220L Quantitative Chemical Analysis Lab (5271) (C and above)) OR CHEM 220 Quantitative Chemical Analysis (555) (C and above)	CHEM 320 Instrumental Analysis (1055) (C and above)		5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	

235	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	
236	CHEM 332	Physical Chemistry II	3	6	CHEM 331 Physical Chemistry I (634) (C and above)	MATH 274 Introduction to Differential Equations (484) (C and above)		5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
237	CHEM 332L	Physical Chemistry II Lab	1	2		CHEM 332 Physical Chemistry II (1056) (C and above) AND CHEM 331L Physical Chemistry Lab (1060) (C and above)		5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
238	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	
239	CHEM 380	Research Methods	3	6				5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
240	CHEM 411	Advanced Organic Chemistry I	3	6	CHEM 212 Organic Chemistry II (443) (C and above) AND MATH 161 Calculus I (118) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
241	CHEM 433	Surfactants and Colloids	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	
242	CHEM 451	Applied Homogenous Catalysis	3	6	CHEM 350 Advanced Inorganic Chemistry (1905) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
243	CHEM 511	Theoretical Chemistry	3	6	CHEM 510 Principles of Physical Chemistry (5266) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
244	CHEM 515	Applied Colloid and Surfactant Science	3	6				Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
245	CHEM 540	Organic Reactions and Mechanisms	3	6				Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
246	CHEM 550	Selected Topics in Chemistry	3	6				Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
247	CHEM 560	Directed research in chemistry	0	0				Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	

248	CHEM 592	Chemistry Seminar	3	6				Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
249	CHEM 692	MSc Thesis in Chemistry	18	36	CHEM 691 Thesis Proposal (5858) (C- and above)			Chemistry			
Communication and Composition											
250	WCS 101	Communication and Society	3	6				1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
251	WCS 200	Introduction to Public Speaking	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			3 year UG SSH, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM	SEDS, SMG, SSH, SoM	
252	WCS 205	Intercultural Communication	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
253	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)	3 year UG SSH Biological Sciences, 3 year UG SSH Chemistry, 3 year UG SSH Mathematics, 3 year UG SSH Physics, 5 year UG SEDS, 5 year UG SSH	2 year UG SSH Biological Sciences, 2 year UG SSH Chemistry, 2 year UG SSH Mathematics, 2 year UG SSH Physics	SEDS, SMG, SSH, SoM	
254	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)			3 year UG SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SSH	3 year UG SEDS, 3 year UG SMG	
255	WCS 240	Writing for Digital Media	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH	
256	WCS 250	Advanced Rhetoric and Composition	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH	
257	WCS 302	Argumentation and Debate	3	6	WCS 200 Introduction to Public Speaking (175) (C- and above)			5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			

258	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 SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	
259	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)						
260	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)						
261	WCS 501	Science Communication	3	6				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
Communication and Composition, Languages, Literature and Linguistics											
262	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)			3 year UG SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
263	WLL 360/WCS 360	Poetry Writing Seminar	3	6							
History, Philosophy and Religious Studies											
264	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	
265	HST 105	Introduction to World Environmental History	3	6				5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		
266	HST 123	Introduction to the History of Science and Technology	3	6				5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		
267	HST 124	Introduction to the History of Medicine	3	6				5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		
268	HST 241	History of Sexuality	3	6				5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		

269	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, SSH	SEDS, SMG, SoM		
270	HST 499	History Capstone: Undergraduate Dissertation	4	8	HST 498 Directed Reading (1365) (C- and above)						
271	HST 533	Empire, Nation and Identity in Nineteenth-Century Eurasia	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
272	HST 590	History of Sexuality	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
273	PHIL 101	Introduction to Philosophy	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
274	PHIL 110	The Good Life in Practice	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
275	PHIL 124	Knowledge and Reality	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
276	PHIL 141	Critical Thinking	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
277	PHIL 210	Ethics	3	6				3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH		
278	PHIL 223	Philosophy of Science	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
279	PHIL 241	Beyond Common Sense: An Introduction to Paradox	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
280	PHIL 320	Truth, Knowledge and Belief	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
281	REL 212	Buddhist Religious Traditions	3	6				5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies											
282	HST 110/REL 110	Introduction to World Religions	3	6				5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		
283	HST 273/REL 273	History of Sufism in the Middle East and Central Asia	3	6	Subject "HST" BETWEEN 100 and 199			5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		
284	HST 462/REL 462	History of Islam Under Russian Rule	3	6				5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		

285	HST 562/REL 562	History of Islam under Russian Rule	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
286	HST 572/REL 572	History of Sufism in the Middle East and Central Asia	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
287	REL 265/PHIL 265	Becoming a Sage: Introduction to Daoism	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
History, Philosophy and Religious Studies, Kazakh Language and Turkic Studies											
288	HST 272	Modern Turkey: from the Ottoman Empire to the Turkish Republic	3	6				5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		
History, Philosophy and Religious Studies, Kazakh Language and Turkic Studies, Sociology and Anthropology, Sociology and Anthropology											
289	TUR 375	Topics in Turkic Studies	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
History, Philosophy and Religious Studies, Languages, Literature and Linguistics											
290	HST 274/WLL 274	Texts and Contexts	3	6				5 year UG SEDS, 5 year UG SSH, History, World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
Kazakh Language and Turkic Studies											
291	KAZ 001	Kazakh Language Placement Test	0	0							
292	KAZ 201	Academic Kazakh I	3	6	KAZ 150 Basic Kazakh (1215) (C- and above) OR KLL "[B1.2] Intermediate"			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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	

293	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 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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
294	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 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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
295	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 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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	

296	KAZ 313	Kazakh for Business	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
297	KAZ 356	Kazakh Music History	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
298	KAZ 357	Literature of Alash	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	

299	KAZ 363	Language and Globalization	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
300	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 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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
301	KAZ 365	Abai’s World	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	

302	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 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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
303	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 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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
304	KAZ 371	Contemporary Kazakh Literature	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	

305	KAZ 372	Language and ethnicity	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
306	KAZ 373	Kazakh Terminology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
307	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Political Science and International Relations, Undeclared SEDS	1 year UG SEDS, 3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
308	KAZ 377	Intercultural Communication through Film	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	

309	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 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, 1 year UG SOM, 5 year UG SEDS, 5 year UG SSH, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SMG, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
310	KFL 102	Elementary Kazakh as a Foreign Language II	4	8	KFL 101 Elementary Kazakh as a Foreign Language I (4889) (C- and above)						
311	TUR 100	Languages, Cultures, and Communities of the Turkic World	3	6				1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
312	TUR 230	Literatures of Central Asia	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
313	TUR 235	Turkish Poetry in Translation	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
314	TUR 455	Eurasian Environments	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
315	TUR 555	Eurasian Environments	4	8				GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			
Languages, Literature and Linguistics											
316	CHN 201	Intermediate Mandarin I	4	8	CHN 102 Beginning Mandarin II (1844) (C and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	
317	CHN 202	Intermediate Mandarin II	4	8	CHN 201 Intermediate Mandarin I (2181) (C and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	

318	FRE 101	Beginning French I	4	8				1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH, 3 year UG SEDS, 3 year UG SMG, 3 year UG SSH			
319	FRE 102	Beginning French II	4	8	FRE 101 Beginning French I (246) (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	Undeclared SSH	SEDS, SMG, SSH, SoM	
320	FRE 201	Intermediate French I	4	8	FRE 102 Beginning French II (454) (C- and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	
321	FRE 362	French Linguistics	3	6	FRE 102 Beginning French II (454) (C- and above) AND LING 131 Introduction to Linguistics (1394) (C- and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	
322	KOR 101	Beginning Korean I	4	8				1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH, 3 year UG SEDS, 3 year UG SMG, 3 year UG SSH			
323	KOR 102	Beginning Korean II	4	8	KOR 101 Beginning Korean I (4672) (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	Undeclared SSH	SEDS, SMG, SSH, SoM	
324	KOR 201	Intermediate Korean I	4	8	KOR 102 Beginning Korean II (4791) (C- and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	
325	KOR 202	Intermediate Korean II	4	8	KOR 201 Intermediate Korean I (5059) (C- and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	

326	KOR 301	Advanced Korean I	4	8	KOR 202 Intermediate Korean II (5060) (C- and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	
327	LING 130	Introduction to Language and Communication	3	6				1 year UG SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
328	LING 131	Introduction to Linguistics	3	6				1 year UG SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
329	LING 140	Language Variation and Change: the Story of English	3	6				1 year UG SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
330	LING 270	Languages of Eurasia	3	6				5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
331	LING 272	Language and the Mind	3	6				5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
332	LING 278	Sounds of the World’s Languages	3	6				5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
333	LING 374	Language Contact in Central Asia	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
334	LING 472	Language Ideologies	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
335	LING 572	Language Ideologies	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
336	LING 772	Language Ideologies	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
337	RFL 404	Intensive Advanced and Superior Composition and Conversation Russian II	4	8							
338	SPA 101	Beginning Spanish I	4	8				1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH, 3 year UG SEDS, 3 year UG SMG, 3 year UG SSH			

339	SPA 102	Beginning Spanish II	4	8	SPA 101 Beginning Spanish I (685) (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	Undeclared SSH	SEDS, SMG, SSH, SoM	
340	SPA 202	Intermediate Spanish II	4	8	SPA 201 Intermediate Spanish I (1475) (C- and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	
341	SPA 320	The Hispanic Short Story	3	6	Subject "WLL" BETWEEN 100 and 199 AND SPA 202 Intermediate Spanish II (1842) (C- and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	
342	WLL 110	Introduction to Literary Studies	3	6				1 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SSH	SEDS, SMG, SoM	
343	WLL 209	Introduction to Translation Studies	3	6				5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
344	WLL 211	World Literature II: from the 18th to the 20th century	3	6				5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
345	WLL 241	Survey of Folk Tales	3	6				5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
346	WLL 314	Petersburg Text in Russian Literature	3	6	Subject "WLL" BETWEEN 100 and 499 OR Subject "HST" BETWEEN 100 and 499			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
347	WLL 440	Oral Epic in Central Asia	3	6	Subject "WLL" BETWEEN 100 and 499			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
348	WLL 499	Languages, Linguistics, and Literatures Capstone II	3	6	WLL 498 Languages, Linguistics, and Literatures Capstone I (3048) (C- and above)			4 year UG SSH World Languages, Literatures and Cultures, 5 year UG SEDS, 5 year UG SSH			

349	WLL 740	Oral Epic in Central Asian	4	8			WLL 440 Oral Epic in Central Asia (4016) (C- and above) OR WLL 540 Oral Epic in Central Asia (4017) (C- and above)				
Languages, Literature and Linguistics, Languages, Literature and Linguistics											
350	SPA 254/WLL 254	Superstition, Magical Realism, and Horror in Hispanic Culture	3	6	Subject "WLL" BETWEEN 100 and 499 OR Subject "HST" BETWEEN 100 and 499			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	
351	WLL 361/FRE 361	Topics in French and Francophone film	3	6	FRE 101 Beginning French I (246) (C- and above) OR FRE 102 Beginning French II (454) (C- and above) OR FRE 201 Intermediate French I (667) (C- and above) OR FRE 202 Intermediate French II (1122) (C- and above)			2 year UG SSH World Languages, Literatures and Cultures, 3 year UG SSH World Languages, Literatures and Cultures, 4 year UG SSH World Languages, Literatures and Cultures, 5 year UG SEDS, 5 year UG SSH	2 year UG SSH, 3 year UG SSH, 4 year UG SSH	SEDS, SMG, SSH, SoM	
Languages, Literature and Linguistics, Sociology and Anthropology											
352	WLL 385/ANT 385	Postcolonial Theory and its Applications in Eurasia	3	6	ANT 110 Introduction to Sociocultural Anthropology (501) (C- and above) OR SOC 101 Introduction to Sociology (508) (C- and above) OR WLL 121 Introduction to Cultural Studies (243) (C- and above) OR WLL 102 /PHIL 102 Language, Experience, Culture (2481) (C- and above)			5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
Physics											
353	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)	5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			

354	PHYS 162	Physics II for Scientists and Engineers with Laboratory	4	8	PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C- and above) OR PHYS 151 Introductory Physics I with Lab (649) (C- and above)		PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above)	5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
355	PHYS 202	Introductory Astrophysics	3	6	PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		
356	PHYS 222	Classical Mechanics II	3	6	PHYS 221 Classical Mechanics I (652) (C- and above)	MATH 274 Introduction to Differential Equations (484) (D and above)		5 year UG SEDS, 5 year UG SSH, Physics	SSH	SEDS, SMG, SoM	
357	PHYS 270	Computational Physics with Laboratory	3	6	(CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR CSCI 115 Programming Fundamentals (5257) (C- and above)) AND MATH 162 Calculus II (170) (C- and above)	MATH 273 Linear Algebra with Applications (84) (D and above)		5 year UG SEDS, 5 year UG SSH, Physics	SSH	SEDS, SMG, SoM	
358	PHYS 280	Thermodynamics and Statistical Physics	3	6	MATH 263 Calculus III (81) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			5 year UG SEDS, 5 year UG SSH, Physics	SSH	SEDS, SMG, SoM	
359	PHYS 362	Classical Electrodynamics II	3	6	PHYS 361 Classical Electrodynamics I (651) (C- and above)			5 year UG SEDS, 5 year UG SSH, Physics	SSH	SEDS, SMG, SoM	
360	PHYS 370	Optics with Laboratory	4	8	PHYS 361 Classical Electrodynamics I (651) (C- and above)			5 year UG SEDS, 5 year UG SSH, Physics	SSH	SEDS, SMG, SoM	

361	PHYS 451	Quantum Mechanics I	3	6	PHYS 221 Classical Mechanics I (652) (C- and above) AND PHYS 361 Classical Electrodynamics I (651) (C- and above)			5 year UG SEDS, 5 year UG SSH, Physics	SSH	SEDS, SMG, SoM	
362	PHYS 463	Astrophysics and General Relativity	3	6	MATH 162 Calculus II (170) (C- and above) AND PHYS 221 Classical Mechanics I (652) (C- and above) AND MATH 274 Introduction to Differential Equations (484) (C- and above)			5 year UG SEDS, 5 year UG SSH, Physics	SSH	SEDS, SMG, SoM	
363	PHYS 474	Lasers and Photonics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)			5 year UG SEDS, 5 year UG SSH, Physics	SSH	SEDS, SMG, SoM	
364	PHYS 483	Statistical Mechanics	3	6	PHYS 280 Thermodynamics and Statistical Physics (1179) (C- and above)			5 year UG SEDS, 5 year UG SSH, Physics	SSH	SEDS, SMG, SoM	
365	PHYS 499	Honors Thesis	3	6							
366	PHYS 510	Quantum Mechanics	3	6				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
367	PHYS 520	Statistical Physics	3	6				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
368	PHYS 574	Lasers and Photonics	3	6				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
369	PHYS 692	Thesis	21	42							
370	PHYS 700-0	Thesis Research	0	0				Physics			
371	PHYS 701	Current Research Literature	3	6				Physics			
372	PHYS 710	Quantum Mechanics	4	8				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
373	PHYS 720	Statistical Physics	4	8				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
374	PHYS 774	Lasers and Photonics	4	8				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
Political Science and International Relations											

375	PLS 100	Introduction to the Politics of Central Asia	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	SSH	SEDS, SMG, SoM	
376	PLS 101	Introduction to Political Science	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SoM	Biological Sciences, Chemistry, Mathematics, Physics	SSH	
377	PLS 102	The Political Challenges of Technologies and Science: An Introduction	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SoM	Biological Sciences, Chemistry, Mathematics, Physics	SSH	
378	PLS 120	Introduction to Political Theory	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	Political Science and International Relations	SEDS, SMG, SSH, SoM	
379	PLS 140	Introduction to Comparative Politics	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	Political Science and International Relations	SEDS, SMG, SSH, SoM	
380	PLS 150	Introduction to International Relations	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	Political Science and International Relations	SEDS, SMG, SSH, SoM	
381	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		
382	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		
383	PLS 315	Political Game Theory	3	6	PLS 211 Quantitative Methods (221) (C- and above) OR ECON 101 Introduction to Microeconomics (379) (C and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
384	PLS 329	Anarchy	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		
385	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		
386	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		

387	PLS 343	Politics of Sub-Saharan Africa	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		
388	PLS 352	International Relations Theory	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		
389	PLS 355	European Union: Institutions and Policies	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		
390	PLS 356	International Politics of the Korean Peninsula	3	6	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 150 Introduction to International Relations (511) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
391	PLS 360	Foreign Policy Analysis	3	6	PLS 150 Introduction to International Relations (511) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
392	PLS 374	Public Choice and Public Policy	3	6	PLS 140 Introduction to Comparative Politics (223) (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		
393	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)						
394	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		

395	PLS 426	Hannah Arendt on Power, Violence, and Revolution	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		
396	PLS 431	Politics and Governance of the Russian Federation	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		
397	PLS 457	International Security and Conflict	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
398	PLS 465	Politics of International Finance	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
399	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)						
400	PLS 510	Advanced Research II	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
401	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		
402	PLS 526	Hannah Arendt on Power, Violence, and Revolution	4	8			PLS 426 Hannah Arendt on Power, Violence, and Revolution (5398) (C- and above)	Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
403	PLS 531	Politics and Governance of the Russian Federation	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		

404	PLS 557	International Security and Conflict	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
405	PLS 565	Politics of International Finance	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
406	PLS 596	Thesis Preparation	2	4	Subject "PLS" BETWEEN 500 and 599			Political Science and International Relations			
407	PLS 598	MA Thesis I	6	12							
408	PLS 599	MA Thesis II	10	20							
SSH											
409	SSH 300	School of Sciences and Humanities Internship	3	6							
410	SSH 301	School of Sciences and Humanities Internship: Second Experience	3	6							
411	SSH 398	Independent Study	1	2							
Sociology and Anthropology											
412	ANT 110	Introduction to Sociocultural Anthropology	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	
413	ANT 160	Introduction to Biological Anthropology	3	6			ANT 361 Human Evolution: Bones, Stones and Genomes (160) (C- and above)	5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
414	ANT 286	Nomads: Around the world and through time	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	
415	ANT 314	Politics of Identity in Eurasia	3	6	Subject "HST" BETWEEN 100 and 499 OR Subject "SOC" BETWEEN 100 and 499 OR Subject "ANT" BETWEEN 100 and 499 OR Subject "PLS" BETWEEN 100 and 499 OR Subject "SOC" BETWEEN 100 and 499 OR Subject "ANT" BETWEEN 100 and 499			5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
416	ANT 331	Archaeology of Power and Inequality	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	

417	ANT 410	Ethnography, Fiction, Memoir	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
418	ANT 421	Sport and Construction of Identity	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
419	ANT 499	Capstone Seminar II	3	6	ANT 498 Capstone Seminar I (2965) (C- and above)						
420	SOC 101	Introduction to Sociology	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, SoM, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	1 year UG SSH, 2 year UG SSH, 3 year UG SSH Biological Sciences	SEDS, SMG, SSH	
421	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	
422	SOC 203	Quantitative Methods in Sociology	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
423	SOC 213	Work and Society	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
424	SOC 215	Sociology of Race and Ethnicity	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
425	SOC 227	Economy and Society	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR Subject "SOC" BETWEEN 200 and 299 OR Subject "SOC" BETWEEN 200 and 299 OR ECON 102 Introduction to Macroeconomics (503) (C- and above) OR PLS 120 Introduction to Political Theory (512) (C- and above) OR PLS 150 Introduction to International Relations (511) (C- and above)			5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
426	SOC 320	Organized Crime and Corruption	3	6	SOC 101 Introduction to Sociology (508) (C- and above)			5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
427	SOC 325	COVID-19: The sociocultural aspects of a pandemic	3	6	SOC 101 Introduction to Sociology (508) (C- and above)			5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	

428	SOC 400	Research Assistance in Sociology	1	2							
429	SOC 401	Research Assistance in Sociology	1	2							
430	SOC 403	Research Assistance in Sociology	2	4							
431	SOC 499	Capstone Seminar II	3	6	SOC 498 Capstone Seminar Part I (3043) (C- and above)						
432	SOC 525	COVID-19: The sociocultural aspects of a pandemic	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
433	SOC 725	COVID-19: The sociocultural aspects of a pandemic	4	8				GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			
Sociology and Anthropology, Sociology and Anthropology											
434	ANT 214/SOC 214	Qualitative Methods	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	
435	ANT 216/SOC 216	Marriage and Kinship	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	
436	ANT 285/SOC 212	Food and Society	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	
SEDS											
Computer Science											
437	SEDS 502	Teaching Practicum	3	6				Computer Science, Data Science, Robotics			
SoE											
Chemical and Materials Engineering											
438	CHME 202	Fluid Mechanics	3	6				2 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Chemical Engineering, 3 year UG SEDS Chemical and Materials Engineering, 4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering		

439	CHME 203	Organic and Polymer Chemistry	3	6	CHME 222 Inorganic and Analytical Chemistry (5039) (D and above)			2 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Chemical Engineering, 3 year UG SEDS Chemical and Materials Engineering, 4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering		
440	CHME 303	Separation Processes	3	6	CHME 200 Basic Principles and Calculations in Chemical Engineering (5038) (D and above) AND CHME 201 Chemical Engineering Thermodynamics (5007) (D and above)			3 year UG SEDS Chemical Engineering, 3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering		
441	CHME 304	Chemical Reaction Engineering	3	6	CHME 200 Basic Principles and Calculations in Chemical Engineering (5038) (D and above)			3 year UG SEDS Chemical Engineering, 3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering		
442	CHME 305L	Chemical Engineering Laboratory I	3	6	CHME 201 Chemical Engineering Thermodynamics (5007) (D and above) AND CHME 202 Fluid Mechanics (5543) (D and above) AND CHME 300 Heat and Mass Transfer (5952) (D and above)			3 year UG SEDS Chemical Engineering, 3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering		
443	CHME 352	Research Practice	3	6				3 year UG SEDS Chemical Engineering, 3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering		
444	CHME 454	Transport Phenomena and Operations	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		

445	DCHME 700-0	Thesis Research	0	0				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
446	DCHME 701	Current Research Literature	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
447	DCHME 751	Advanced Safety, Reliability and Risk Engineering in Process Industries	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
448	DCHME 752	Polymer Melt Fluid Mechanics and Processing	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

449	DCHME 757	Advanced Chemical Engineering Thermodynamics	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
450	DCHME 763	Advanced Heat and Mass Transfer	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
451	DCHME 766	Advanced Energy Materials and Their Application	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
452	ECHE 420	Polymer Processing and Rheology	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH			
453	ECHE 421	Tissue Engineering	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH			
454	ECHE 479	Capstone Project II	9	18	ECHE 418 Capstone project 1 (1278) (D and above)						

455	ECHE 485	Introduction to Biochemical Engineering	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH			
456	MBME 600	Research Seminar	3	6				Biomedical Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
457	MBME 602	Master Thesis II	12	24	MBME 601 Master Thesis I (5953) (P)			Biomedical Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
458	MBME 607	Advanced Tissue Engineering	3	6				Biomedical Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		

459	MBME 700	Strategies for Controlled Topical Delivery of Drugs	3	6				Biomedical Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
460	MBME 705	Infectious Diseases and Antimicrobial Strategies	3	6				Biomedical Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
461	MBME 708	Biomedical Imaging	3	6				Biomedical Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		

462	MCHME 600	Research Seminar	3	6				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
463	MCHME 602	MSc Thesis II	12	24				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
464	MCHME 606	Advanced Heat and Mass Transfer	3	6				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		

465	MCHME 701	Advanced Chemical Thermodynamics	3	6				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
466	MCHME 704	Advanced Safety, Reliability and Risk Engineering in Process Industries	3	6				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
467	MCHME 707	Polymer Melt Fluid Mechanics and Processing	3	6				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		

468	MCHME 713	Advanced Energy Materials and their Applications	3	6				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
Civil Engineering											
469	MSC 600	Research Methods and Ethics	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		
Civil Engineering, Communication and Composition											
470	MSC 601	Technical Communication	3	6				2 year Gr SEDS Biomedical Engineering, 2 year Gr SEDS Chemical and Materials Engineering, 2 year Gr SEDS Civil and Environmental Engineering, 2 year Gr SEDS Computer Science, 2 year Gr SEDS Electrical and Computer Engineering, 2 year Gr SEDS Mechanical and Aerospace Engineering, 2 year Gr SEDS Robotics and Mechatronics	1 year Gr SEDS Biomedical Engineering, 1 year Gr SEDS Chemical and Materials Engineering, 1 year Gr SEDS Civil and Environmental Engineering, 1 year Gr SEDS Computer Science, 1 year Gr SEDS Electrical and Computer Engineering, 1 year Gr SEDS Mechanical and Aerospace Engineering, 1 year Gr SEDS Robotics		
Civil and Environmental Engineering											

471	CEE 202	Environmental Engineering	3	6	CEE 201 Environmental Chemistry (4999) (D and above)			2 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering, 4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
472	CEE 203	Structural Analysis	3	6	MAE 200 Structural Mechanics I (5010) (D and above) OR CEE 200 Structural Mechanics I (5005) (D and above)			2 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering, 4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
473	CEE 301	Structural Design – Steel	3	6	CEE 203 Structural Analysis (5500) (D and above)			3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
474	CEE 303	Geotechnical Design	3	6	CEE 302 Geotechnical Engineering (5896) (D and above)			3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
475	CEE 305	Hydraulics and Hydrology	3	6	MAE 300 Fluid Mechanics I (5926) (D and above) OR EME 275 Fluid Mechanics I (1988) (D and above) OR CEE 304 Fluid Mechanics (6348) (D and above)			3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
476	CEE 350	Water and Wastewater Treatment Processes	3	6	CEE 201 Environmental Chemistry (4999) (D and above) AND CEE 202 Environmental Engineering (5499) (D and above)			3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
477	CEE 352	Engineering geology	3	6				3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		

478	CEE 454	Foundation Engineering	3	6	ECE 306 Geotechnical Design (1043) (D and above) OR CEE 303 Geotechnical Design (6158) (D and above)			4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering		
479	CEE 458	Modern Information Technology in Construction	3	6	CEE 204 Civil Engineering CAD and Surveying (5002) (D and above)			3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
480	DCEE 700-0	Thesis Research	0	0				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
481	DCEE 701	Current Research Literature	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
482	DCEE 755	Contaminated Site Management and Soil Treatment Technologies	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

483	DCEE 762	Advanced Project Management	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
484	DCEE 765	Concrete Repair and Maintenance	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
485	DCEE 770	Green Building - Concept, Design, Construction, and Operation	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
486	DCEE 771	Soil Improvement and Stabilization	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

487	ECE 427	Individual Research Projects in Civil Engineering (II)	3	6	CEE 463 Individual Research Project in Civil & Environmental Engineering 1 (6594) (C and above)			4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering		
488	ECE 428	Introduction to Finite Element Methods	3	6				4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering		
489	ECE 478	Capstone Project II	9	18	ECE 401 Capstone Project 1 (1270) (D and above)						
490	ECE 481	Individual Research Projects in Civil Engineering	3	6				4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering		
491	EMEM 510	Managerial Accounting	2	4				Engineering Management			
492	EMEM 511	Business Strategy	2	4				Engineering Management			
493	EMEM 513	Entrepreneurship	2	4				Engineering Management			
494	EMEM 514	Finance	2	4				Engineering Management			
495	EMEM 516	Management of Organizations	2	4				Engineering Management			
496	EMEM 517	Marketing	2	4				Engineering Management			
497	EMEM 527	Globalization and Engineering	3	6				Engineering Management			
498	EMEM 529	Capstone Project	8	16				Engineering Management			
499	EMEM 535	Managing Product and Service Development	3	6				Engineering Management			
500	EMEM 545	Business Communication	2	4				Engineering Management			
501	EMEM 548	Understanding and Predicting Consumer Behavior	2	4				Engineering Management			

502	MCEE 600	Research Seminar	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
503	MCEE 602	MSc Thesis II	12	24				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
504	MCEE 606	Advanced Project Management	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		

505	MCEE 701	Advanced Concrete Technology	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
506	MCEE 704	Contaminated Site Management and Soil Treatment Technologies	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
507	MCEE 706	Concrete Repair and Maintenance	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		

508	MCEE 710	Green Building - Concept, Design, Construction, and Operation	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
509	MCEE 711	Soil Improvement and Stabilization	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
Economics, SMG											
510	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)	SEDS, SMG, SSH, SoM			
Electrical and Computer Engineering											

511	DELCE 700-0	Thesis Research	0	0				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
512	DELCE 701	Current Research Literature	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
513	DELCE 758	Advanced Industrial and Commercial Energy Systems	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
514	DELCE 759	Advanced Pattern Recognition and Machine Learning	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

515	DELCE 762	Fundamentals of Signal Processing	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
516	DELCE 763	Advanced Electronic Circuits	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
517	EEE 480	Capstone Project II	9	18							
518	EEE 484	Electric Power Generation	3	6				4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Electrical and Electronic Engineering		
519	EEE 485	Power System Operation and Control	3	6	EEE 379 Power Systems Analysis (1956) (D and above) OR ELCE 355 Power Systems Protection (2652) (D and above)			4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Electrical and Electronic Engineering		
520	EEE 486	Photonics for Engineering	3	6	EEE 342 Electromagnetics (533) (D and above)			4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Electrical and Electronic Engineering		
521	EEE 488	Numerical Optimization Techniques and Computer Applications	3	6				4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Electrical and Electronic Engineering		

522	EEE 489	Analog Circuit Design	3	6				4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering			
523	ELCE 201	Circuits Theory II	3	6	ELCE 200 Introduction to Electrical Circuits (4991) (C- and above)			2 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Electrical and Electronic Engineering, 4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
524	ELCE 201L	Circuit Theory Laboratory	1	2		ELCE 201 Circuit Theory (5507) (D and above)		2 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Electrical and Electronic Engineering, 4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
525	ELCE 202L	Digital Logic Design Laboratory	1	2		ELCE 202 Digital Logic Design (4992) (D and above)		2 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Electrical and Electronic Engineering, 4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		

526	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	3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Electrical and Electronic Engineering, 4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
527	ELCE 205	Discrete Mathematics	3	6	MATH 162 Calculus II (170) (C- and above)			2 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH			
528	ELCE 300	Microprocessor Systems	3	6	ELCE 202 Digital Logic Design (4992) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
529	ELCE 302	Electric Machines	3	6	ELCE 201 Circuit Theory (5507) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Electrical and Electronic Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
530	ELCE 303	Power System Analysis	3	6	ELCE 200 Introduction to Electrical Circuits (4991) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
531	ELCE 305	Data Structures and Algorithms	3	6	CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR 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	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		

532	ELCE 308	Communication Systems	3	6	ELCE 203 Signals and Systems (4993) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 3 year UG SEDS Electrical and Electronic Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
533	ELCE 451	Electric Drives and Motion Control Systems	3	6	ELCE 302 Electric Machines (5919) (C- and above) OR EEE 381 Electrical Machines and Drives (1952) (C- and above) OR ROBT 304 Electromechanical Systems with lab (1171) (C- and above)			4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Electrical and Computer Engineering		
534	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)	5 year UG SEDS, 5 year UG SSH, SEDS, SMG			
535	MECE 602	Master Thesis II	12	24				Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Engineering Management, Mechanical and Aerospace Engineering, Robotics		

536	MECE 606	Embedded Systems and Applications	3	6				Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
537	MECE 700	Industrial and Commercial Power System	3	6				Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
538	MECE 701	Internet of Things	3	6				Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Engineering Management, Mechanical and Aerospace Engineering, Robotics		

539	MECE 704	Fundamentals of Signal Processing	3	6				Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
540	MECE 707	Advanced Electronic Circuits	3	6				Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
541	MECE 717	Pattern Recognition and Machine Learning	3	6				Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
Geosciences											
542	GEOL 101	Fundamentals of Geology	3	6				1 year UG SMG	SMG	SEDS, SSH, SoM	

543	GEOL 203	Sedimentary petrology	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 202 Geologic Maps and Cross-Sections (5123) (D and above)	GEOL 202 Geologic Maps and Cross-Sections (5123) (D and above)		SMG			
544	GEOL 204	Sedimentology and strartigraphy	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above) AND GEOL 202 Geologic Maps and Cross-Sections (5123) (D and above)			SMG			
545	GEOL 205	Paleontology	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			SMG			
546	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			
547	GEOL 307	Geographic Information Systems	3	6				SMG			
548	GEOL 308	Environmental Geochemistry	3	6				SMG			
549	GEOL 309	Hydrogeology	3	6				SMG			
Mechanical and Aerospace Engineering											
550	DMAE 700-0	Thesis Research	0	0				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		

551	DMAE 702	Current Research Literature	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
552	DMAE 703	Numerical Techniques for Engineers	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
553	DMAE 757	Design Optimization	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
554	DMAE 769	Advanced Computational Fluid Dynamics and Heat Transfer in Mechanical Engineering	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		

555	DMAE 770	Digital Transformation Concepts	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
556	EME 377	Mechanical Systems Design	3	6	EME 361 Machine Design (1051) (D and above)						
557	EME 414	Fire Engineering	3	6	BENG 226 Engineering Thermodynamics (1553) (D and above)			4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Mechanical Engineering, 3 year UG SEDS Mechanical and Aerospace Engineering		
558	EME 415	Flight Mechanics	3	6				4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Mechanical Engineering, 3 year UG SEDS Mechanical and Aerospace Engineering		
559	EME 477	Capstone Project II	9	18							
560	EME 489	Advanced Engineering Mathematics	3	6	BENG 228 Engineering Mathematics III (3154) (D and above)			4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Mechanical Engineering, 3 year UG SEDS Mechanical and Aerospace Engineering		
561	ENG 102	Engineering Materials I	3	6				1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SEDS Undeclared, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering, Mechanical and Aerospace Engineering		

562	ENG 103	Engineering Materials II	3	6				1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Undeclared, 5 year UG SEDS, 5 year UG SSH	Chemical Engineering, Chemical and Materials Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering		
563	ENG 201	Applied Probability and Statistics	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		SEDS	
564	ENG 202	Numerical Methods in Engineering	3	6	ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (D and above)			2 year UG SEDS Chemical and Materials Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH		SEDS	
565	ENG 300	Interdisciplinary Project	3	6				3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		

566	MAE 205	Material and Manufacturing I	3	6				2 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Mechanical Engineering, 3 year UG SEDS Mechanical and Aerospace Engineering, 4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
567	MAE 206	Engineering Dynamics I	3	6				2 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Mechanical Engineering, 3 year UG SEDS Mechanical and Aerospace Engineering, 4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
568	MAE 305	Fluid Mechanics II	3	6	MAE 300 Fluid Mechanics I (5926) (D and above) OR EME 275 Fluid Mechanics I (1988) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
569	MAE 306	Computer Aided Engineering	3	6	ENG 202 Numerical Methods in Engineering (5506) (D and above) AND MAE 201 Computer Aided Design (5011) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
570	MAE 307	Engineering Dynamics II	3	6	MAE 206 Engineering Dynamics I (5535) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		

571	MAE 350	Structural Mechanics II	3	6	MAE 200 Structural Mechanics I (5010) (D and above) OR CEE 200 Structural Mechanics I (5005) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
572	MAE 351	Vehicle Propulsion Systems	3	6	MAE 301 Engineering Thermodynamics (5927) (D and above) OR BENG 226 Engineering Thermodynamics (1553) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
573	MMAE 600	Research Seminar	3	6				Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Robotics		
574	MMAE 602	Master Thesis II	12	24	MMAE 601 Master Thesis I (5014) (P)			Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Robotics		

575	MMAE 604	Advanced Computational Fluid Dynamics and Heat Transfer in Mechanical Engineering	3	6				Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Robotics		
576	MMAE 700	Advanced Statistics and Probability	3	6				Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Robotics		
577	MMAE 701	Numerical Techniques for Engineers	3	6				Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Robotics		

578	MMAE 704	Design and Manufacturing with Environmental Concern	3	6				Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Robotics		
579	MMAE 705	Design Optimization	3	6				Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Robotics		
580	MMAE 716	Digital Transformation Concepts	3	6				Engineering Management, Mechanical and Aerospace Engineering			
Mining Engineering											
581	MINE 201	Mineral Processing	3	6	SMG 100 Introduction to Natural Resources Extraction (4773) (and above) AND MATH 162 Calculus II (170) (and above) AND CHEM 101 General Chemistry I (113) (C- and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			SMG	SEDS	SSH, SoM	
582	MINE 306	Underground Mining Systems and Design	3	6	MINE 302 Geomechanics (5878) (D and above)			SMG	SEDS	SSH, SoM	

583	MINE 307	Surface Mining System and Design	3	6	MINE 302 Geomechanics (5878) (D and above)			SMG	SEDS	SSH, SoM	
584	MINE 308	Mine Planning	3	6				SMG	SEDS	SSH, SoM	
585	MINE 309	Sustainability and Mining Environment	3	6	SMG 100 Introduction to Natural Resources Extraction (4773) (D and above)			SMG	SEDS	SSH, SoM	
586	MINE 310	Rock Breakage	3	6	MINE 302 Geomechanics (5878) (D and above)			SMG	SEDS	SSH, SoM	
587	MINE 507	Rock Excavation Methods	3	6				Mining Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Electrical and Electronic Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

588	MINE 508	Advanced Rock Mechanics	3	6				Mining Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Electrical and Electronic Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
589	MINE 509	Advanced Surface Mine Design	3	6				Mining Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Electrical and Electronic Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

590	MINE 510	Advanced Underground Mine Design	3	6				Mining Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Electrical and Electronic Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
591	MINE 691	Thesis II	15	30	MINE 690 Thesis I (4531) (P)			Mining Engineering			
592	MINE 702	Current Research Literature	4	8				Mining Engineering			
593	MINE 703	Advanced Mining Systems	4	8				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

594	MINE 803	Advanced Geometallurgy	4	8				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
595	MINE 806	Advanced Numerical Methods	4	8				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Petroleum Engineering, Robotics Engineering, Science, Engineering and Technology		
596	MINE 890-0	Thesis Research	0	0				Mining Engineering			
Petroleum Engineering											
597	PETE 202	Transport Phenomena	3	6	ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (C- and above)			Petroleum Engineering	SEDS		
598	PETE 205	Drilling Engineering with Laboratories	4	8	PETE 201 Fluid Mechanics and Thermodynamics (5120) (C- and above)			Petroleum Engineering	SEDS		
599	PETE 206	Reservoir Rock and Fluid Properties with Lab	4	8				Petroleum Engineering	SEDS		
600	PETE 305	Well Test Analysis	3	6	PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above)			Petroleum Engineering	SEDS		
601	PETE 306	Reservoir Engineering II	3	6	PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above)			Petroleum Engineering	SEDS		

602	PETE 307	Production Engineering	3	6	PETE 201 Fluid Mechanics and Thermodynamics (5120) (C- and above) OR PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above)			Petroleum Engineering	SEDS		
603	PETE 308	Enhanced Oil Recovery	3	6	PETE 204 Reservoir Rock and Fluid Properties with Lab (5487) (C- and above)			Petroleum Engineering	SEDS		
604	PETE 506	Advanced Reservoir Simulation	3	6				1 year Gr SMG Petroleum Engineering			
605	PETE 507	Advanced Reservoir Engineering	3	6				1 year Gr SMG Petroleum Engineering			
606	PETE 508	Advanced Production Engineering	3	6				1 year Gr SMG Petroleum Engineering			
607	PETE 600	MSc Thesis	12	24				2 year Gr SMG Petroleum Engineering			
608	PETE 606	Advanced Enhanced Oil Recovery	3	6				Petroleum Engineering			
609	PETE 613	Unconventional resources drilling	3	6				Petroleum Engineering			
610	PETE 614	Introduction to Geospatial, Earth Observation and Surveying Technologies for Onshore and Marine Petroleum and Mining Industry	3	6				Petroleum Engineering			
611	PETE 702	Current Research Literature	4	8				Petroleum Engineering			
612	PETE 703	Advanced Reservoir Engineering	4	8				Petroleum Engineering	Mining Engineering, SEDS, SSH		
613	PETE 801	Advanced Reservoir Simulation	4	8				Petroleum Engineering	Mining Engineering, SEDS, SSH		
614	PETE 803	Advanced Enhanced Oil Recovery	4	8				Petroleum Engineering	Mining Engineering, SEDS, SSH		
615	PETE 890-0	Thesis Research	0	0				Petroleum Engineering			
616	PETE 899	Special topics in Petroleum Engineering: Unconventional Resources Drilling	4	8				Petroleum Engineering	Mining Engineering, SEDS, SSH		
SMG											
617	SMG 100	Introduction to Natural Resources Extraction	3	6				SMG	SEDS	SSH, SoM	

618	SMG 520	Research Methods	3	6				1 year Gr SMG Mining Engineering, 1 year Gr SMG Petroleum Engineering			
School of Engineering											
619	DENG 789	Doctoral Seminar I	3	6	DENG 785 PhD Proposal Oral Defence (2604) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
620	DENG 791	Doctoral Seminar III	3	6	DENG 790 Doctoral Seminar II (4599) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
621	DENG 792	Doctoral Seminar IV	3	6	DENG 791 Doctoral Seminar III (4600) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
622	DENG 793	Doctoral Seminar V	3	6	DENG 792 Doctoral Seminar IV (4601) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
623	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			

624	DENG 796	Thesis Completion	0	0				Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
625	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)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
626	DENG 798	Doctoral Seminar VI	3	6	DENG 793 Doctoral Seminar V (4602) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
SCAI											
Computer Science											
627	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			

628	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	SSH		
629	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, Robotics and Mechatronics	Physics	SEDS, SMG, SSH, SoM	
630	CSCI 152	Performance and Data Structures	4	8	CSCI 151 Programming for Scientists and Engineers (192) (C- and above)			5 year UG SEDS, 5 year UG SSH, Computer Science, Robotics and Mechatronics, Undeclared SEDS	SEDS, SSH	SMG, SoM	
631	CSCI 245	System Analysis and Design	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			5 year UG SEDS, 5 year UG SSH, Computer Science	SEDS	SMG, SSH, SoM	
632	CSCI 270	Algorithms	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)	MATH 251 Discrete Mathematics (85) (D and above)		5 year UG SEDS, 5 year UG SSH, Computer Science	SEDS	SMG, SSH, SoM	
633	CSCI 272	Formal Languages	3	6	CSCI 151 Programming for Scientists and Engineers (192) (C- and above)	MATH 251 Discrete Mathematics (85) (D and above)		5 year UG SEDS, 5 year UG SSH, Computer Science	SEDS	SMG, SSH, SoM	

634	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	SEDS	SMG, SSH, SoM	
635	CSCI 299	Internship I	3	6							
636	CSCI 307	Research Methods	3	6				3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS, 5 year UG SSH			
637	CSCI 325	Introduction to Parallel Systems and Graphics Processing Unit Programming	3	6	CSCI 332 Operating Systems (490) (C- and above)		PHYS 421 Parallel Computing (8532) (D and above)	5 year UG SEDS, 5 year UG SSH, Computer Science	SEDS	SMG, SSH, SoM	
638	CSCI 332	Operating Systems	3	6	CSCI 231 Computer Systems and Organization (194) (D and above)			5 year UG SEDS, 5 year UG SSH, Computer Science	SEDS	SMG, SSH, SoM	
639	CSCI 333	Computer Networks	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			5 year UG SEDS, 5 year UG SSH, Computer Science	SEDS	SMG, SSH, SoM	
640	CSCI 399	Internship II	3	6							
641	CSCI 409	Senior Project II	3	6	CSCI 408 Senior Project I (1481) (C- and above)			4 year UG SEDS Computer Science, 5 year UG SEDS, 5 year UG SSH			
642	CSCI 447	Machine Learning: Theory and Practice	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 321 Probability (482) (C and above)			5 year UG SEDS, 5 year UG SSH, Computer Science	SEDS	SMG, SSH, SoM	
643	CSCI 462	Open Source Software	3	6	CSCI 361 Software Engineering (640) (C- and above)			5 year UG SEDS, 5 year UG SSH, Computer Science	SEDS	SMG, SSH, SoM	
644	CSCI 502	Hardware Software Co-Design	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above)			Computer Science, Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering		

645	CSCI 545	Big Data Analytics	3	6				Data Science	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
646	CSCI 547	Algorithmic Trading	3	6				Computer Science, Data Science	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
647	CSCI 581	Acquisition and Analysis of Biomedical Data	3	6				Computer Science, Data Science	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		

648	CSCI 591	Advanced Artificial Intelligence	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above) OR DS 501 Fundamentals of Data Science (5218) (C- and above)			Computer Science	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
649	CSCI 694	Thesis	15	30				Computer Science			
650	CSCI 700-0	Thesis Research	0	0				Computer Science			
651	CSCI 702	Advanced Hardware/Software Co-Design	4	8				Computer Science , Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology		
652	CSCI 722	Current Research Literature	4	8				Computer Science			
653	CSCI 745	Advanced Big Data Analytics	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

654	CSCI 747	Advanced Algorithmic Trading	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
655	CSCI 781	Advanced Acquisition and Analysis of Biomedical Data	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
656	DS 504	Data Mining and Decision Support	3	6				Data Science	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
657	DS 694	Thesis	15	30	DS 693 Thesis Proposal (5915) (P)			Data Science			
658	SEDS 592	Research Seminar	3	6				Computer Science, Data Science, Robotics			
Mathematics											

659	MATH 109	Mathematical Discovery	3	6			MATH 161 Calculus I (118) (C- and above)	5 year UG SEDS, 5 year UG SSH, Anthropology, History, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literature and Culture			
660	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, 5 year UG SEDS, 5 year UG SSH, Medical Sciences	Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM	
661	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			1 year UG SEDS, 1 year UG SMG, 1 year UG SSH Biological Sciences, 1 year UG SSH Chemistry, 1 year UG SSH Mathematics, 1 year UG SSH Physics, 5 year UG SEDS, 5 year UG SSH	Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM	
662	MATH 251	Discrete Mathematics	3	6	MATH 161 Calculus I (118) (C and above)			5 year UG SEDS, 5 year UG SSH, Computer Science, Mathematics	SEDS, SMG, SSH, SoM		
663	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics, Physics	SEDS, SMG, SSH, SoM		
664	MATH 273	Linear Algebra with Applications	4	8	MATH 161 Calculus I (118) (C and above)	MATH 162 Calculus II (170) (C and above)		1 year UG SSH Physics, 2 year UG SSH Undeclared, 5 year UG SEDS, 5 year UG SSH	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
665	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			2 year UG SEDS Robotics and Mechatronics, 2 year UG SSH Mathematics, 2 year UG SSH Undeclared, 5 year UG SEDS, 5 year UG SSH	Chemistry, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
666	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		

667	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 SSH Biological Sciences, 2 year UG SSH Undeclared, 5 year UG SEDS, 5 year UG SSH	Biological Sciences	SEDS, SMG, SSH, SoM	
668	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)	2 year UG SEDS Computer Science, 2 year UG SSH Mathematics, 2 year UG SSH Undeclared, 3 year UG SEDS Robotics and Mechatronics, 5 year UG SEDS, 5 year UG SSH	Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
669	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	SEDS, SMG, SSH, SoM		
670	MATH 350	Research Methods	3	6	MATH 321 Probability (482) (C and above)			3 year UG SSH Mathematics, 5 year UG SEDS, 5 year UG SSH			
671	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		
672	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		
673	MATH 407	Graph Theory	3	6	(MATH 301 Introduction to Number Theory (613) (C and above) OR MATH 251 Discrete Mathematics (85) (C and above)) AND MATH 273 Linear Algebra with Applications (84) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
674	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		

675	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))			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
676	MATH 423	Actuarial Mathematics II	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			4 year UG SSH Mathematics, 5 year UG SEDS, 5 year UG SSH	3 year UG SSH Mathematics, 4 year UG SSH Economics	SEDS, SMG, SSH, SoM	
677	MATH 424	Mathematical Models of Actuarial Financial Economics	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			4 year UG SSH Mathematics, 5 year UG SEDS, 5 year UG SSH	3 year UG SSH Mathematics, 4 year UG SSH Economics	SEDS, SMG, SSH, SoM	
678	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		
679	MATH 460	Topology	3	6	MATH 361 Real Analysis I (483) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
680	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		
681	MATH 490	Special Topics in Mathematics I	3	6				5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
682	MATH 491	Special Topics in Mathematics II	3	6							
683	MATH 497	Directed Study in Mathematics I	3	6							
684	MATH 499	Capstone Project	3	6							
685	MATH 512	Optimization Methods and Techniques	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	

686	MATH 541	Data Analysis and Statistical Learning	3	6	MATH 540 Statistical Learning (2340) (B- and above)			Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
687	MATH 582	Mathematical Biology	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
688	MATH 601	Analytic Number Theory	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
689	MATH 691	Thesis Proposal	3	6	MATH 592 Research Seminar (5760) (C- and above)			Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
690	MATH 692	Thesis	15	30	MATH 691 Thesis Proposal (5769) (P)						
691	MATH 700-0	Thesis Research	0	0				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
692	MATH 702	Functional Analysis with Applications	4	8				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
693	MATH 722	Advanced Partial Differential Equations	4	8	MATH 701 Real Analysis (5489) (B and above)			Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
694	MATH 751	Probability Theory	4	8				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
695	MATH 791	Topics in Mathematics	4	8				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
Robotics and Mechatronics											
696	ROBT 202	System Dynamics and Modeling	3	6	MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	SEDS		
697	ROBT 204	Electrical and Electronic Circuits II with Lab	4	8	ROBT 203 Electrical and Electronic Circuits I with Lab (62) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	SEDS		

698	ROBT 206	Microcontrollers with Lab	4	8	CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR ENG 101 Programming for Engineers (4517) (C- and above)			5 year UG SEDS, 5 year UG SSH, Computer Science, Robotics and Mechatronics	SEDS		
699	ROBT 304	Electromechanical Systems with lab	4	8	ROBT 203 Electrical and Electronic Circuits I with Lab (62) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	SEDS		
700	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 and Mechatronics	SEDS		
701	ROBT 312	Robotics I: Kinematics and Dynamics	3	6	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	SEDS		
702	ROBT 402	Robotic/Mechatronic System Design	3	6	ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above) AND ROBT 206 Microcontrollers with Lab (476) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	SEDS		
703	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 and Mechatronics	SEDS		
704	ROBT 491	Graduation Project	3	6	ROBT 391 Research methods (7418) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	SEDS		

705	ROBT 502	Robot Perception & Vision	3	6	ROBT 501 Advanced Robot Kinematics (2263) (C- and above)			Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering		
706	ROBT 692	Thesis	15	30	ROBT 691 Thesis Proposal (5930) (P)			Robotics			
707	ROBT 700-0	Thesis Research	0	0				Robotics Engineering			
708	ROBT 702	Advanced Robot Perception and Vision	4	8				Robotics Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology		
709	ROBT 722	Current Research Literature	4	8				Robotics Engineering			