Course Requirements and Registration Priorities
Fall 2021

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
CPS											
NUFYP											
1	FEAP 010	Foundation English for Academic Purposes 1	0	0							
2	FLDP 090	Leadership 1	0	0							
3	FMAT 010	Foundation Mathematics 1	0	0							
NUZYP											
4	ZCOM 040	Academic Communications for Graduate Studies I	0	0							
5	ZRDG 030	Academic Reading for Graduate Studies I	0	0							
6	ZSTA 060	Foundational Statistics	0	0							
7	ZWRT 020	Academic Writing for Graduate Studies I	0	0							
GSB											
Economics											
8	ECON 101	Introduction to Microeconomics	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	1 year UG SSH Mathematics, 2 year UG SSH Mathematics	2 year UG SSH, Medical Sciences, SEDS	
9	ECON 102	Introduction to Macroeconomics	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	1 year UG SSH Mathematics, 2 year UG SSH Mathematics	2 year UG SSH, Medical Sciences, SEDS	
10	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, 4 year UG SEDS Electrical and Computer Engineering	Anthropology, Biological Sciences, Chemistry, History, Mathematics, Physics, Political Science and International Relations, SEDS, SMG, SoM, Sociology, Undeclared SSH, World Languages, Literature and Culture	

11	ECON 201	Intermediate Microeconomics	3	6	ECON 101 Introduction to Microeconomics (379) (B- and above) AND (MATH 161 Calculus I (118) (B- and above) OR MATH 162 Calculus II (170) (B- and above))			5 year UG SEDS, 5 year UG SSH, Economics	2 year UG SSH Undeclared, Mathematics	SEDS, SMG, SSH, SoM	
12	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	SEDS, SMG, SSH, SoM	
13	ECON 300	Research Assistance in Economics	1	2	ECON 101 Introduction to Microeconomics (379) (C- and above) AND ECON 102 Introduction to Macroeconomics (503) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR CSCI 235 Programming Languages (638) (C- and above) OR CSCI 390 Artificial Intelligence (643) (C- and above) OR MATH 321 Probability (482) (C- and above) OR MATH 322 Mathematical Statistics (1165) (C- and above)			Instructor's Permission Required. Registration through Add Course form only!			

14	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		SEDS, SMG, SSH, SoM	
15	ECON 325	International Trade	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics, 5 year UG SEDS, 5 year UG SSH	Economics	SEDS, SMG, SSH, SoM	
16	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	Economics	SEDS, SMG, SSH, SoM	
17	ECON 333	Political Economy	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics, 5 year UG SEDS, 5 year UG SSH	Economics	SEDS, SMG, SSH, SoM	
18	ECON 345	The Economics of Family	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics, 5 year UG SEDS, 5 year UG SSH	Economics	SEDS, SMG, SSH, SoM	
19	ECON 403	Introduction to Contract Theory and Auctions	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			5 year UG SEDS, 5 year UG SSH, Economics		SEDS, SMG, SSH, SoM	
20	ECON 405	Behavioral and Experimental Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			5 year UG SEDS, 5 year UG SSH, Economics		SEDS, SMG, SSH, SoM	
21	ECON 413	Econometrics II	3	6	ECON 301 Econometrics I (664) (C- and above)			5 year UG SEDS, 5 year UG SSH, Economics		SEDS, SMG, SSH, SoM	
22	ECON 415	Industrial Organization	3	6	ECON 301 Econometrics I (664) (C- and above)			5 year UG SEDS, 5 year UG SSH, Economics		SEDS, SMG, SSH, SoM	
23	ECON 501	Microeconomics I	4	8				Economics	SEDS, SMG, SSH, SoM		

24	ECON 502	Macroeconomics I	4	8				Economics	SEDS, SMG, SSH, SoM		
25	ECON 503	Introduction to Contract Theory and Auctions	4	8				Economics	SEDS, SMG, SSH, SoM		
26	ECON 511	Statistics	4	8				Economics	SEDS, SMG, SSH, SoM		
27	ECON 512	Mathematical Economics	4	8				Economics	SEDS, SMG, SSH, SoM		
28	ECON 515	Industrial Organization	4	8	ECON 531 Econometrics (2505) (C- and above)			Economics	SEDS, SMG, SSH, SoM		
29	ECON 532	Applied Econometrics	4	8				Economics	SEDS, SMG, SSH, SoM		
30	ECON 589	Thesis I	4	8				2 year Gr SSH Economics			
GSB											
31	BUS 101	Core Course in Business	3	6				4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH	SEDS, SMG, SSH, SoM	
32	GSBF 501	Team Building and Business Communications	1	2				For GSB programs only! Registration by School admin.			
33	GSBF 511	Statistical Methods	2	4				For GSB programs only! Registration by School admin.			
34	GSBF 512	Principles of Finance	2	4				For GSB programs only! Registration by School admin.			
35	GSBF 513	Financial Econometrics	2	4				For GSB programs only! Registration by School admin.			
36	GSBF 516	Financial Markets and Institutions	2	4							
37	GSBF 517	Financial Economics	2	4				For GSB programs only! Registration by School admin.			
38	GSBF 523	Special Topics in Corporate Finance	2	4							
39	GSBF 533	Islamic Banking and Finance	2	4				For GSB programs only! Registration by School admin.			
40	GSBF 535	Insurance and Actuarial Science	2	4				For GSB programs only! Registration by School admin.			
41	GSBF 542	Global Finance Experience Residency (II)	3	6				For GSB programs only! Registration by School admin.			

42	GSBF 550A	Master’s Thesis	3	6				For GSB programs only! Registration by School admin.			
43	GSBF 661	Corporate Finance	2.5	5				For GSB programs only! Registration by School admin.			
44	MBA 01	Consequential Leadership	1	2				For GSB programs only! Registration by School admin.			
45	MBA 02	Business Mathematics and Business Computer Application	1	2				For GSB programs only! Registration by School admin.			
46	MBA 03	Financial Accounting	2	4				For GSB programs only! Registration by School admin.			
47	MBA 04	Probability and Statistics	2	4				For GSB programs only! Registration by School admin.			
48	MBA 05	Business Communication	2	4				For GSB programs only! Registration by School admin.			
49	MBA 07	Managerial Effectiveness	2	4				For GSB programs only! Registration by School admin.			
50	MBA 08	Managerial Economics	2	4				For GSB programs only! Registration by School admin.			
51	MBA 11	Managerial Accounting	2	4				For GSB programs only! Registration by School admin.			
52	MBA 13	Macroeconomics	2	4							
53	MBA 16	Entrepreneurship	2	4				1 year Gr SOM Molecular Medicine			
54	MBA 17	Negotiations	2	4				For GSB programs only! Registration by School admin.			
55	MBA 19	Distinguished Speaker Series	0	1				For GSB programs only! Registration by School admin.			
56	MBA 20	Practicum Project	2.5	5				For GSB programs only! Registration by School admin.			
57	MBAE 1	Investments	2	4				For GSB programs only! Registration by School admin.			
58	MBAE 13	Raising Capital	2	4				For GSB programs only! Registration by School admin.			

59	MBAE 14	Innovation Process	2	4							
60	MBAE 16	Project Management	2	4				For GSB programs only! Registration by School admin.			
61	MBAE 17	China Business Environment	2	4				For GSB programs only! Registration by School admin.			
62	MBAE 18	Consumer Behavior	2	4				For GSB programs only! Registration by School admin.			
63	MBAE 19	Global Economics for Managers	2	4	MBA 08 Managerial Economics (1722) (C and above)			For GSB programs only! Registration by School admin.			
64	MBAE 20	Marketing Research	2	4				For GSB programs only! Registration by School admin.			
65	MBAE 21	Project Finance	2	4							
66	MBAE 8	Leadership	2	4				For GSB programs only! Registration by School admin.			
67	MBAE 9	Marketing Strategy	2	4							
68	MHRM 09	Talent Management	2	4				For GSB programs only! Registration by School admin.			
69	MSF 02	Thesis Preparation Seminar	2	4				For GSB programs only! Registration by School admin.			
70	MSF 03	Advanced Econometrics	2	4				For GSB programs only! Registration by School admin.			
71	MSF 04	Private Equity	2	4				For GSB programs only! Registration by School admin.			
72	MSF 06	Credit Risk Modeling	2	4				For GSB programs only! Registration by School admin.			
73	MSF 07	Economic Policy in Global Markets	2	4				For GSB programs only! Registration by School admin.			
74	MSF 08	Microeconomic Foundations of Finance	1	2				For GSB programs only! Registration by School admin.			
75	MSF 09	Corporate Governance	2	4				For GSB programs only! Registration by School admin.			
76	MSF 10	Independent Research	2	4							

GSPP											
Master in Public Administration											
77	MPA 602	Public Administration in Theory and Practice	4	8				1 year GSPP Public Administration			
78	MPA 603	Economic Applications for Public Managers	4	8				1 year GSPP Public Administration			
79	MPA 605	Research Methods for Public Managers	4	8				1 year GSPP Public Administration			
80	MPA 699	Master's Project with Overseas Component	6	12				2 year GSPP Public Administration			
81	MPE 617	Institutions and development policies	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	Public Administration, Public Policy	
82	MPE 625	Ethics and Public Policy	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	Public Administration, Public Policy	
83	MPE 626	Open Governance	4	8				2 year GSPP Public Administration, 2 year GSPP Public Policy	Public Administration, Public Policy		
84	MPE 627	Public Policy and Health Issues	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	Public Administration, Public Policy	
85	MPE 628	Good Governance and Corruption	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	Public Administration, Public Policy	
86	MPE 629	Political Economy of State-Building	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	Public Administration, Public Policy	
87	MPE 639	International Financial Policy	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	Public Administration, Public Policy	
88	MPE 640	International Political Economy	4	8				2 year GSPP Public Administration, 2 year GSPP Public Policy	Public Administration, Public Policy		
89	MPE 643	Marketing Public Policy	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	Public Administration, Public Policy	
90	MPE 650	Science and Technology Policy	4	8				2 year GSPP Public Administration, 2 year GSPP Public Policy	Public Administration, Public Policy		
91	MPE 671	Game Theory and Public Policy	4	8				2 year GSPP Public Administration, 2 year GSPP Public Policy	Public Administration, Public Policy		
92	MPE 685	Water Resources Policy and Management	4	8				2 year GSPP Public Administration	2 year GSPP Public Policy	Public Administration, Public Policy	
Master in Public Policy											

93	MPP 601	Microeconomics and Public Policy	4	8				1 year GSPP Public Policy			
94	MPP 611	Statistics for Public Policy	4	8				1 year GSPP Public Policy			
95	MPP 613	Policy Research Design and Methods	4	8				1 year GSPP Public Policy			
96	MPP 621	Public Policy and Analysis	4	8				1 year GSPP Public Policy			
97	MPP 631	Politics and Public Policy	4	8				2 year GSPP Public Policy			
98	MPP 699-0	Policy Analysis Exercise with Overseas Component	0	0	MPP 613 Policy Research Design and Methods (1301) (C- and above)			2 year GSPP Public Policy			
PhD in Public Policy												
99	DPE 617	Institutions and Development Policies	4	8				2 year GSPP PhD Public Policy			
100	DPE 623	International Political Economy	4	8				2 year GSPP PhD Public Policy			
101	DPE 625	Ethics and Public Policy	4	8				2 year GSPP PhD Public Policy			
102	DPE 626	Open Governance	4	8				2 year GSPP PhD Public Policy			
103	DPE 627	Public Policy and Health Issues	4	8				2 year GSPP PhD Public Policy			
104	DPE 628	Good Governance and Corruption	4	8				2 year GSPP PhD Public Policy			
105	DPE 629	Political Economy of State-Building	4	8				2 year GSPP PhD Public Policy			
106	DPE 639	International Financial Policy	4	8				2 year GSPP PhD Public Policy			
107	DPE 643	Marketing Public Policy	4	8				2 year GSPP PhD Public Policy			
108	DPE 650	Science and Technology Policy	4	8				2 year GSPP PhD Public Policy			
109	DPE 671	Game Theory and Public Policy	4	8				2 year GSPP PhD Public Policy			
110	DPP 600	Developing Dissertation Research	0	0				Public Policy			
111	DPP 601	Microeconomics in the Public Sector	4	8				1 year GSPP PhD Public Policy			
112	DPP 603	Public Administration and Management	4	8				1 year GSPP PhD Public Policy			
113	DPP 611	Statistics in Public Policy	4	8				1 year GSPP PhD Public Policy			
114	DPP 614	Advanced Quantitative Methods	4	8				2 year GSPP PhD Public Policy			

115	DPP 616	Advanced Qualitative Methods	4	8				2 year GSPP PhD Public Policy			
116	DPP 621	Public Policy and Analysis	4	8				1 year GSPP PhD Public Policy			
117	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)			Special permission required			
118	DPP 690-0	Thesis Preparation and Writing	0	0				3 year GSPP PhD Public Policy, 4 year GSPP PhD Public Policy			
GSE											
MA in Multilingual Education											
119	EDML 601	Introduction to Linguistics	3	6				1 year GSE MA in Multil.Education			
120	EDML 610	Foundations of Multilingual Education	3	6				1 year GSE MA in Multil.Education			
121	EDML 613	The Multilingual School	3	6				2 year GSE MA in Multil.Education			
122	EDML 614	Multilingual curriculum development and assessment	3	6				2 year GSE MA in Multil.Education			
123	EDML 627	Application of CLIL in Teaching	3	6				2 year GSE MA in Multil.Education			
124	EDML 629	Multiliteracies: Teaching Language and Literacy for a Multilingual Context	3	6				2 year GSE MA in Multil.Education			
125	EDML 690	Thesis Research I	3	6				2 year GSE MA in Multil.Education			
MSc Educational Leadership HE											
126	EDHE 625	Fundamentals of Higher Education	3	6				1 year GSE Educ.Leadership			
127	EDHE 691	Thesis Seminar II	3	6				2 year GSE Educ.Leadership			
128	EDUC 507	Academic English III	1.5	3				2 year GSE Educ.Leadership			
129	EDUC 510	Advanced English for Education Professionals I	3	6				1 year GSE MA in Multil.Education			
130	EDUC 512	English for Thesis Writing I	3	6				2 year GSE MA in Multil.Education			
131	EDUC 535	Academic English I	2	4				1 year GSE Educ.Leadership			

132	EDUC 590	Academic English Writing for Doctoral Students I	3	6				1 year GSE PhD Education				
133	EDUC 600	Research Methods I	3	6								
134	EDUC 602	Educational Context and Reform in Kazakhstan	3	6				1 year GSE MA in Multil.Education				
135	EDUC 606	Introduction to Education Research	2	4				1 year GSE Educ.Leadership				
136	EDUC 617	Contextualizing Education Reform in Kazakhstan and Beyond	3	6				1 year GSE Educ.Leadership				
137	EDUC 701	Education Research Methods	3	6				1 year GSE PhD Education				
138	EDUC 709	Introduction to Scholarship in Education	3	6				1 year GSE PhD Education				
139	EDUC 712	Educational Policy and Reform	3	6				1 year GSE PhD Education				
140	EDUC 727	Exploring the Research Topic 1	0	0				1 year GSE PhD Education				
141	EDUC 730	Preparation for Proposal Defence	0	0				2 year GSE PhD Education				
142	EDUC 740	Doctoral Seminar	3	6				3 year GSE PhD Education				
143	EDUC 750	Dissertation Research	9	18				3 year GSE PhD Education, 4 year GSE PhD Education				
144	EDUC 800	International Study	12	24				2 year GSE PhD Education				
MSc Educational Leadership IE												
145	EDIE 625	Fundamentals of Inclusive Education	3	6				1 year GSE Educ.Leadership				
146	EDIE 691	Thesis Seminar II	3	6				2 year GSE Educ.Leadership				
MSc Educational Leadership SE												
147	EDSE 625	Fundamentals of School Education	3	6				1 year GSE Educ.Leadership				
148	EDSE 691	Thesis Seminar II	3	6				2 year GSE Educ.Leadership				
149	EDSE 692	Thesis Seminar III	4.5	9				2 year GSE Educ.Leadership				
150	EDSE 693	Thesis Seminar IV	9	18				2 year GSE Educ.Leadership				
Other												
Other												

151	STUMOB 001	Student Mobility Course	0	0							
152	T-MSE 076	Topics in Political Economy and Development	4	8							
153	T-MSE 082	Democracy, Political Mobilization and Economic Development: Korea’s Experience	4	8							
154	T-MSN 011	Dispute Resolution and Negotiation	4	8							
155	T-MSN 039	Industrial Policy and International Trade Regulation	4	8							
SoM											
Biological Science											
156	BIOL 101	Biology for non-Science majors	3	6			BIOL 110 Modern Biology I (1070) (C- and above)	5 year UG SEDS, 5 year UG SSH, Anthropology, Economics, History, Nursing, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literature and Culture			
157	BIOL 105	General Biology	3	6				5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
158	BIOL 110	Modern Biology I	3	6				1 year UG SOM Medical Sciences, 2 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Chemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
159	BIOL 110L	Modern Biology I Laboratory	1	2		BIOL 110 Modern Biology I (1070) (C and above)		1 year UG SOM Medical Sciences, 2 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Chemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
160	BIOL 120	Modern Biology II	3	6	BIOL 110 Modern Biology I (1070) (C and above)			2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SSH, Biological Sciences, Undeclared SSH	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	

161	BIOL 120L	Modern Biology II Laboratory	1	2	BIOL 110 Modern Biology I (1070) (C and above) OR BIOL 110L Modern Biology I Laboratory (5448) (C and above)	BIOL 120 Modern Biology II (1195) (C and above)		2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SSH, Biological Sciences, Undeclared SSH	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
162	BIOL 230	Human Anatomy and Physiology I	3	6	BIOL 110 Modern Biology I (107) (C and above) OR BIOL 110 Modern Biology I (1070) (C and above)						
163	BIOL 301	Molecular Cell Biology	3	6	BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Biological Sciences	SEDS, SMG, SSH, SoM	
164	BIOL 301L	Molecular Cell Biology Laboratory	1	2	BIOL 120 Modern Biology II (1195) (C and above) OR BIOL 120L Modern Biology II Laboratory (5443) (C and above)	BIOL 301 Molecular Cell Biology (5809) (C and above)		2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Biological Sciences	SEDS, SMG, SSH, SoM	
165	BIOL 305	Introduction to Microbiology	3	6	(BIOL 120 Modern Biology II (1195) (C and above) AND BIOL 120L Modern Biology II Laboratory (5443) (C and above)) OR BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
166	BIOL 305L	Introduction to Microbiology Laboratory	1	2	BIOL 120 Modern Biology II (1195) (C and above) OR BIOL 120L Modern Biology II Laboratory (5443) (C and above)	BIOL 305 Introduction to Microbiology (5789) (C and above)		2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
167	BIOL 320	Developmental Biology	3	6	BIOL 230 Human Anatomy and Physiology I (72) (C and above) OR BIOL 230 Human Anatomy and Physiology I (6217) (C and above)			2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	

168	BIOL 340	Introduction to Bioinformatics with Lab	4	8	(BIOL 120 Modern Biology II (1195) (C and above) OR (BIOL 120 Modern Biology II (1195) (C and above) AND BIOL 120L Modern Biology II Laboratory (5443) (C and above))) AND MATH 310 Applied Statistical Methods (82) (C and above)			2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
169	BIOL 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
170	BIOL 350	Human Parasitology	3	6	BIOL 305 Introduction to Microbiology with Lab (1642) (C and above) OR BIOL 305 Introduction to Microbiology (5789) (C and above)			2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
171	BIOL 355	Critical Research Reasoning	3	6	BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Biological Sciences	SEDS, SMG, SSH, SoM	
172	BIOL 370	Genetics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Biological Sciences	SEDS, SMG, SSH, SoM	
173	BIOL 380	Biology of Behavior	3	6	BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
174	BIOL 385	Cell signaling: principles and mechanisms	3	6	BIOL 120 Modern Biology II (1195) (C and above)			2 year UG SOM Medical Sciences, 5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	

175	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)			3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Biological Sciences	SEDS, SMG, SSH, SoM	
176	BIOL 420	Bioethics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Biological Sciences, Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
177	BIOL 456	Biology Research Design	3	6		BIOL 355 Critical Research Reasoning (1000) (C and above)		4 year UG SSH Biological Sciences, 5 year UG SEDS, 5 year UG SSH	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
178	BIOL 470	Advanced Cell Biology	3	6	BIOL 120 Modern Biology II (1195) (C and above) AND BIOL 110L Modern Biology I Laboratory (5448) (C and above) AND (BIOL 341 Biochemistry I (2002) (C and above) OR CHEM 341 Biochemistry I (1058) (C and above))			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
179	BIOL 490	Graduation Project 1	4	8	BIOL 355 Critical Research Reasoning (1000) (B and above)			Instructor's Permission Required. Registration through Add Course form only!			
180	BIOL 520	Statistical Methods in Life Sciences	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
181	BIOL 550	Structural and Molecular Biology in Health and Disease	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
182	BIOL 560	Molecular Biology of Prokaryotic Cells	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
183	BIOL 592	Research Seminar	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	

184	BIOL 599	Master's Thesis Research	0	0				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
185	BIOL 631	Synthetic Biology	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
186	BIOL 632	Drug Discovery and Design	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
187	BIOL 634	Advanced Cancer Biology	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
188	BIOL 670	Gene Therapy	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
189	BIOL 691	Master's Thesis Research Proposal	3	6				2 year Gr SSH Biological Sciences and Technologies			
190	BIOL 720	Statistical Methods in Life Sciences	3	6				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
191	BIOL 731	Synthetic Biology	4	8				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
192	BIOL 732	Drug Discovery and Design	4	8				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
193	BIOL 750	Structural and Molecular Biology in Health and Disease	4	8				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
194	BIOL 760	Molecular Biology of Prokaryotic Cells	4	8				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
195	BIOL 775	Gene Therapy	4	8				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
196	BIOL 800-0	Thesis Research	0	0				Life Sciences			
197	BIOL 834	Advanced Cancer Biology	4	8				Biomedical Sciences, Life Sciences	GSB, GSE, GSPP, SEDS, SMG, SoM		
MMM											
198	MMMM 501	Molecular Basis of Infection	3	6				1 year Gr SOM Molecular Medicine			
199	MMMM 503	Bioethics in Research: Principles and Practice	3	6				2 year Gr SOM Molecular Medicine			
200	MMMM 506	Biocomputing	1	2				1 year Gr SOM Molecular Medicine			
201	MMMM 513	Molecular Basis of Neurological Disorders	3	6				2 year Gr SOM Molecular Medicine			
MPTOX											

202	MPTX 501	Organ system and common diseases	3	6				1 year Gr SOM Pharmacology and Toxicology			
203	MPTX 502	Cellular Communications	3	6				1 year Gr SOM Pharmacology and Toxicology			
204	MPTX 503	Principles of Pharmacology and Toxicology	3	6		MPTX 501 Organ system and common diseases (5841) (C and above)		1 year Gr SOM Pharmacology and Toxicology			
205	MPTX 505	Drug Discovery I	3	6		MPTX 503 Principles of Pharmacology and Toxicology (5843) (C and above)		1 year Gr SOM Pharmacology and Toxicology			
206	MPTX 506	Systemic Pharmacology II	3	6	MPTX 503 Principles of Pharmacology and Toxicology (5843) (C- and above) AND MSBM 604 Systemic Pharmacology (5844) (C- and above)			2 year Gr SOM Pharmacology and Toxicology			
207	MPTX 601	Biostatistics and Critical Appraisal	3	6	MPTX 503 Principles of Pharmacology and Toxicology (5843) (C- and above) AND MPTX 505 Drug Discovery I (5845) (C- and above)			2 year Gr SOM Pharmacology and Toxicology			
208	MPTX 602	Current Topics in Pharmacology and Toxicology	3	6	MPTX 503 Principles of Pharmacology and Toxicology (5843) (C- and above) AND MPTX 505 Drug Discovery I (5845) (C- and above)	MSBM 504 Biostatistics and Critical Appraisal (8517) (C- and above)		2 year Gr SOM Pharmacology and Toxicology			
209	MPTX 604E	Scientific Writing	3	6				1 year Gr SOM Pharmacology and Toxicology, 2 year Gr SOM Molecular Medicine			
MSMR											
210	MSMR 501	Musculoskeletal System	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
211	MSMR 503	Exercise Genetics, Physiology and Endocrinology	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			

212	MSMR 504	Pharmacology in Sports and Rehabilitation	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
213	MSMR 505	Exercise and Biomechanics	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
214	MSMR 507	Management and Rehabilitation of Injury	4	8				2 year Gr SOM Sports Medicine and Rehabilitation			
215	MSMR 510	Biostatistics and Epidemiology	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
216	MSMR 603	Master Research Project	8	16				2 year Gr SOM Sports Medicine and Rehabilitation			
217	MSMR 701	Ethics and Professionalism	3	6				2 year Gr SOM Sports Medicine and Rehabilitation			
Master of Sciences in Biomedicine											
218	MMMM 502	Molecular Basis of Cancer	3	6				1 year Gr SOM Molecular Medicine			
219	MMMM 504	Molecular Basis of Genetic Disease	3	6				1 year Gr SOM Molecular Medicine			
220	MMMM 603	Recombinant Drugs	3	6				2 year Gr SOM Molecular Medicine			
221	MMMM 605	Developmental Biology	3	6				2 year Gr SOM Molecular Medicine			
222	MPTX 603	Introduction to Research Project	6	12				2 year Gr SOM Pharmacology and Toxicology			
Medical Sciences											
223	NUSM 101	Introduction to Medicine	2	4				Medical Sciences	SSH	SEDS, SMG, SoM	
Nursing											
224	NUR 103L	Microbiology for Nurses with Lab	4	8				1 year UG SOM Nursing			
225	NUR 112	Introduction to Professional Nursing	2	4				1 year UG SOM Nursing			
226	NUR 121	Introduction to Basic Statistics for Evidence-Based Practice	3	6				2 year UG SOM Nursing			
227	NUR 201	Pathophysiologic Foundations of Nursing Care	3	6				2 year UG SOM Nursing			
228	NUR 203	Pharmacology and Therapeutics	3	6				2 year UG SOM Nursing			

229	NUR 205	Psychology for the Health Practitioner	2	4				3 year UG SOM Nursing			
230	NUR 211	Foundations of Nursing Practice I	3	6				2 year UG SOM Nursing			
231	NUR 301	Nutrition for Clinical Practice	3	6				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
232	NUR 302	Physical Assessment Across the Lifespan	4	8				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
233	NUR 303	Nursing Care of Older Adults	4	8				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
234	NUR 304	Introduction to Basic Statistics for Evidence Based Practice	3	6				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
235	NUR 313C	Medical-Surgical Nursing II: Complex Surgical Management and Clinical	7	14				3 year UG SOM Nursing			
236	NUR 314C	Psychiatric Nursing and Clinical	4	8				3 year UG SOM Nursing			
237	NUR 322	Nursing Clinical Informatics	2	4				3 year UG SOM Nursing			
238	NUR 401	Education: Principles and Practice for Teaching in Nursing	4	8				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
239	NUR 403	Data Analytics for Quality Improvement in Healthcare	3	6				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
240	NUR 404	Community and Home Health Nursing	4	8				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
241	NUR 406.1	Medical-Surgical Nursing: Complex Surgical Management	4	8				For Bachelor of Nursing (2-year program) only! Registration by School admin.			
PHD												
242	PHDBS 701-0	Thesis Research	0	0				Biomedical Sciences			
243	PHDBS 702	Molecular Basis of Health and Disease	0	0				Biomedical Sciences	Life Sciences		

244	PHDBS 703	Biomedical Research Analysis and Design of Experimentation	0	0				Biomedical Sciences	Life Sciences		
245	PHDBS 704-0	NUSOM seminar	0	0				Biomedical Sciences			
246	PHDBS 705	Biosafety, Animal Welfare and Ethics	4	8				Biomedical Sciences	Life Sciences		
247	PHDBS 706	Advanced Biomedical Research Analysis and Design of Experimentation	0	0				Biomedical Sciences			
248	PHDBS 707	Publication Analysis	0	0				Biomedical Sciences			
249	PHDBS 708	Writing for Biomedical Sciences	0	0				Biomedical Sciences	Life Sciences		
250	PHDBS 709	Molecular Basis of Infection	3	6				Biomedical Sciences	Life Sciences		
251	PHDBS 710	Molecular Pathology of Cancer	3	6				Biomedical Sciences	Life Sciences		
252	PHDBS 711	Molecular Basis of Genetic Disease	3	6				Biomedical Sciences	Life Sciences		
253	PHDBS 715	Molecular Basis of Neurological Disorders	3	6				Biomedical Sciences	Life Sciences		
254	PHDBS 716	Recombinant Drugs	3	6				Biomedical Sciences	Life Sciences		
255	PHDBS 717	Organ System and Common Diseases	3	6				Biomedical Sciences			
256	PHDBS 718	Principles of Pharmacology and Toxicology	3	6				Biomedical Sciences			
257	PHDBS 721	Drug Discovery I	3	6				Biomedical Sciences			
Public Health											
258	PUBH 501	Principles of Public Health Problem Solving	3	6				1 year Gr SOM Public Health			
259	PUBH 511	Inferential Biostatistics	3	6				1 year Gr SOM Molecular Medicine, 1 year Gr SOM Public Health			
260	PUBH 521	Principles of Analytical Epidemiology	3	6				1 year Gr SOM Public Health, 2 year Gr SOM Molecular Medicine			
261	PUBH 528	Qualitative Research Methods	3	6				1 year Gr SOM Public Health			

262	PUBH 552	Principles of Heath Economics and Policy	3	6	PUBH 551 Health Services Management, Health Economic and Health Policy (3696) (C and above)			2 year Gr SOM Public Health			
263	PUBH 561	Graduate Research Seminar I	3	6				2 year Gr SOM Public Health			
264	PUBH 599	Global Nutrition and Sustainability	3	6				1 year Gr SOM Public Health			
265	PUBH 601	Health Education and Promotion	3	6				2 year Gr SOM Public Health			
266	PUBH 633	Methods in Public Health	3	6				2 year Gr SOM Public Health			
267	PUBH 681	Master’s Project Planning	3	6				2 year Gr SOM Public Health			
SSH											
Academic Success Centre, Communication and Composition											
268	WCS 150	Rhetoric and Composition	3	6				SEDS, SMG, SSH, SoM			

269	WCS 210	Technical and Professional Writing	3	6	ASC 100 Advanced English for Academic Purposes (9234) (C- and above) OR Test "IELTS" BETWEEN 6.5 and 9 OR WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)		WCS 200 Introduction to Public Speaking (175) (D and above) OR WCS 220 Science Writing (5686) (D and above) OR WCS 230 Say What you Mean: Clarity, Precision, and Style in Academic Writing (3026) (D and above) OR WCS 240 Writing for Digital Media (4421) (D and above) OR WCS 250 Advanced Rhetoric and Composition (3027) (D and above) OR WCS 260/WLL 235 Creative Writing: Introduction to Fiction Writing I (4000) (D and above) OR WCS 270 Academic and Professional Presentations (8409) (D and above)	5 year UG SEDS, 5 year UG SSH, SEDS, SMG		SSH, SoM	
Area Studies											
270	EAS 500	Introduction to Eurasia	4	8				Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
271	EAS 501	General Methodology	4	8				Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
272	EAS 502	Disciplinary Methodology	4	8				Instructor's Permission Required. Registration through Add Course form only!			

273	EAS 503	Thesis I	7.5	15	EAS 500 Introduction to Eurasia (1632) (C- and above) AND EAS 501 General Methodology (1633) (C- and above) AND EAS 502 Disciplinary Methodology (1379) (C- and above)			2 year Gr SSH Eurasian Studies			
274	EAS 512	Topics in Eurasian Studies	4	8							
275	EAS 513	Critical Issues in Eurasian Studies	4	8							
276	EAS 514	Topics in Eurasian Social Sciences	4	8							
277	EAS 700	Introduction to Eurasia	4	8				Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
278	EAS 701	Critical Issues in Eurasian Studies	2	4				Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
279	EAS 702	Elective in Eurasian Humanities	4	8				Instructor's Permission Required. Registration through Add Course form only!			
280	EAS 703	Elective in Eurasian Social Sciences	4	8				Instructor's Permission Required. Registration through Add Course form only!			
281	EAS 704	Elective 2 in Eurasian Humanities	4	8				Instructor's Permission Required. Registration through Add Course form only!			
282	EAS 705	Elective 2 in Social Sciences	4	8				Instructor's Permission Required. Registration through Add Course form only!			
283	EAS 710	Independent Study in Eurasian Studies	4	8							
284	EAS 711	Doctoral Seminar in Eurasian Studies I	4	8				Eurasian Studies			
285	EAS 800-0	Dissertation Research in Eurasian Studies	0	0				Eurasian Studies			
Area Studies, Political Science and International Relations, Sociology and Anthropology											
286	PLS 514/EAS 506/SOC 514	Qualitative Research Methods	4	8				Eurasian Studies	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
Chemistry											

287	CHEM 090	Chemistry for Non-Science majors	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Economics, History, Nursing, Political Science and International Relations, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH, World Languages, Literature and Culture			
288	CHEM 091	Survey of Physical Science	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Economics, History, Nursing, Political Science and International Relations, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH, World Languages, Literature and Culture			
289	CHEM 101	General Chemistry I	3	6				1 year UG SMG, 5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, SoM	Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Robotics and Mechatronics, SMG	SEDS, SSH	
290	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, Undeclared SSH	Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Robotics and Mechatronics, SMG	SEDS, SSH, SoM	
291	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, Undeclared SSH	SEDS, SMG, SSH, SoM		
292	CHEM 211L	Organic Chemistry I Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 211 Organic Chemistry I (154) (C and above)		2 year UG SSH, 3 year UG SSH, 4 year UG SSH			
293	CHEM 220	Quantitative Chemical Analysis	3	6	CHEM 102 General Chemistry II (232) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry, Undeclared SSH	Biological Sciences	SEDS, SMG, SSH, SoM	

294	CHEM 220L	Quantitative Chemical Analysis Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 220 Quantitative Chemical Analysis (555) (C and above)		5 year UG SEDS, 5 year UG SSH, Chemistry, Undeclared SSH	Biological Sciences	SEDS, SMG, SSH, SoM	
295	CHEM 331	Physical Chemistry I	3	6	CHEM 220 Quantitative Chemical Analysis (555) (C and above) AND PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
296	CHEM 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
297	CHEM 350	Advanced Inorganic Chemistry	3	6	CHEM 212 Organic Chemistry II (443) (C and above) AND CHEM 212L Organic Chemistry II Lab (444) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
298	CHEM 350L	Advanced Inorganic Chemistry Laboratory	1	2	CHEM 212 Organic Chemistry II (443) (C and above) AND CHEM 212L Organic Chemistry II Lab (444) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)	CHEM 350 Advanced Inorganic Chemistry (1905) (C and above)		4 year UG SSH			
299	CHEM 400	Chemistry Seminar	3	6	CHEM 380 Research Methods (636) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
300	CHEM 410	Structural Spectroscopy	4	8	CHEM 212 Organic Chemistry II (443) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
301	CHEM 471	Environmental Chemistry	3	6	CHEM 102 General Chemistry II (232) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	

302	CHEM 490	Nanochemistry	3	6	CHEM 331 Physical Chemistry I (634) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
303	CHEM 510	Principles of Physical Chemistry	3	6				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
304	CHEM 518	Applied Polymer Science	4	8				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
305	CHEM 520	Applied Analytical Chemistry	3	6				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
306	CHEM 522	Analytical Environmental Chemistry	3	6	CHEM 520 Applied Analytical Chemistry (5267) (C and above)			Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
307	CHEM 530	Inorganic Structures and Reaction Mechanisms	3	6				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
308	CHEM 531	Nanochemistry and Functional Nanomaterials	3	6				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
309	CHEM 541	Medicinal Chemistry and Drug Design	3	6	CHEM 540 Organic Reactions and Mechanisms (5460) (C and above)			Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
310	CHEM 543	Structural Identification of Organic Compounds	3	6				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
311	CHEM 591	Scientific Methods in Chemistry	3	6				Chemistry	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
312	CHEM 691	Thesis Proposal	3	6				Chemistry			
Communication and Composition											
313	WCS 101	Communication and Society	3	6				SEDS, SMG, SSH, SoM			
314	WCS 200	Introduction to Public Speaking	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SOM Medical Sciences, 2 year UG SSH, 3 year UG SOM Nursing, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS	SEDS, SMG, SSH, SoM	

315	WCS 203	Interpersonal Communication	3	6	WCS 101 Communication and Society (199) (C- and above) OR WCS 200 Introduction to Public Speaking (175) (C- and above)			SEDS, SMG, SSH, SoM			
316	WCS 204	Gender and Communication	3	6	WCS 101 Communication and Society (199) (C- and above) OR WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (B- and above)			SEDS, SMG, SSH, SoM			
317	WCS 206	Health Communication	3	6	WCS 101 Communication and Society (199) (C- and above)			SEDS, SMG, SSH, SoM			
318	WCS 220	Science Writing	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)		WCS 210/ASC 200 Academic Writing, Science Communication, and Media Literacy (4881) (C- and above)	SEDS, SMG, SSH, SoM			
319	WCS 230	Say What you Mean: Clarity, Precision, and Style in Academic Writing	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS	SEDS, SMG, SSH, SoM	
320	WCS 240	Writing for Digital Media	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS	SEDS, SMG, SSH, SoM	
321	WCS 250	Advanced Rhetoric and Composition	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS	SEDS, SMG, SSH, SoM	
322	WCS 361	Advanced Fiction Writing	3	6	WCS 260/WLL 235 Creative Writing: Introduction to Fiction Writing I (4000) (C- and above)			SSH		SEDS, SMG, SoM	

323	WCS 390	Writing Fellows I – Composition and Collaboration in Theory and Practice	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (B and above) AND (WCS 220 Science Writing (5686) (B+ and above) OR WCS 230 Say What you Mean: Clarity, Precision, and Style in Academic Writing (3026) (B+ and above) OR WCS 250 Advanced Rhetoric and Composition (3027) (B+ and above))			3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 5 year UG SEDS, 5 year UG SSH	4 year UG SEDS, 4 year UG SMG, 4 year UG SOM, 4 year UG SSH		
324	WCS 391	Writing Fellows II – Practicum in Composition & Collaboration	3	6	WCS 390 Writing Fellows I – Composition and Collaboration in Theory and Practice (1969) (B and above)			Instructor's Permission Required. Registration through Add Course form only!			
325	WCS 501	Science Communication	3	6				SMG, SSH, SoM			
326	WCS 730	From Genre to Style and Back: Writing for PhD Students	4	8				Instructor's Permission Required. Registration through Add Course form only!			
Communication and Composition, Languages, Literature and Linguistics											
327	WLL 235/WCS 260	Creative Writing: Introduction to Fiction Writing I	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SSH		SEDS, SMG, SSH, SoM	
History, Philosophy and Religious Studies											
328	HST 100	History of Kazakhstan	3	6				4 year UG SEDS, 4 year UG SEDS (pending graduation), 4 year UG SMG, 4 year UG SSH, 4 year UG SSH (pending graduation), 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	
329	HST 124	Introduction to the History of Medicine	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
330	HST 125	History of Magic	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		

331	HST 132	European History II (from 1700)	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
332	HST 232	Russian History from Riurik to Catherine the Great	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
333	HST 242	History of the Soviet Union: Politics, Society, Culture	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
334	HST 331	The Eurasian Enlightenment	3	6	HST 100 History of Kazakhstan (172) (C- and above) OR Subject "HST" BETWEEN 100 and 199			5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
335	HST 399	Independent Study	3	6				Instructor's Permission Required. Registration through Add Course form only!			
336	HST 498	Directed Reading	3	6				5 year UG SSH, History			
337	PHIL 101	Introduction to Philosophy	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
338	PHIL 124	Knowledge and Reality	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
339	PHIL 141	Critical Thinking	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
340	PHIL 210	Ethics	3	6				5 year UG SEDS, 5 year UG SSH, Chemical Engineering, Chemical and Materials Engineering, Civil Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Mechanical and Aerospace Engineering, SMG	SEDS, SSH, SoM		

341	PHIL 361	Philosophy of Language	3	6				SEDS, SMG, SSH, SoM			
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies												
342	HST 110/REL 110	Introduction to World Religions	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
343	HST 261/REL 261	History of Islam (570s to 1258)	3	6	Subject "HST" BETWEEN 100 and 199 OR Subject "REL" BETWEEN 100 and 199			5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
344	HST 329/REL 329	Women in Islamic History	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH, World Languages, Literature and Culture	SEDS, SMG, SSH, SoM		
History, Philosophy and Religious Studies, Kazakh Language and Turkic Studies												
345	HST 271/TUR 271	History of the Ottoman Empire	3	6	HST 100 History of Kazakhstan (172) (C- and above)			5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
History, Philosophy and Religious Studies, Languages, Literature and Linguistics												
346	HST 274/WLL 274	Texts and Contexts	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH, World Languages, Literature and Culture	SEDS, SMG, SSH, SoM		
History, Philosophy and Religious Studies, Political Science and International Relations												
347	HST 213/PLS 241	Public Health, Society, and the State	3	6				5 year UG SEDS, 5 year UG SSH, History, Political Science and International Relations, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
History, Philosophy and Religious Studies, Political Science and International Relations, Sociology and Anthropology												
348	REL 332/ANT 313	Islam and Politics in Eurasia	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
Kazakh Language and Turkic Studies												
349	KAZ 001	Kazakh Language Placement Test	0	0							

350	KAZ 201	Academic Kazakh I	3	6	KAZ 150 Basic Kazakh (1215) (C- and above) OR KLL "[B1.2] Intermediate"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
351	KAZ 202	Academic Kazakh II	3	6	KAZ 201 Academic Kazakh I (4561) (C- and above) OR KLL "[B2.2] Upper-Interm."			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
352	KAZ 211	Academic Speaking in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"		KAZ 303 Academic Speaking in Kazakh (702) (C- and above) OR KAZ 304 Academic Writing in Kazakh (703) (C- and above)	1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
353	KAZ 313	Kazakh for Business	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
354	KAZ 349	Kazakh Mythology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
355	KAZ 356	Kazakh Music History	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
356	KAZ 357	Literature of Alash	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
357	KAZ 363	Language and Globalization	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		

358	KAZ 364	Kazakh for Civil Service	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
359	KAZ 365	Abai’s World	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
360	KAZ 366	Kazakh Language for Engineers	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
361	KAZ 368	Onomastics: History and Function of Names	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
362	KAZ 371	Contemporary Kazakh Literature	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
363	KAZ 373	Kazakh Terminology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
364	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SMG, 1 year UG SOM, 2 year UG SEDS Undeclared, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
365	KFL 201	Intermediate Kazakh as a Foreign Language I	4	8				1 year UG SMG, 1 year UG SOM, 4 year UG SEDS, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
366	TUR 100	Languages, Cultures, and Communities of the Turkic World	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			

367	TUR 231	Istanbul in Literature and Culture	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
368	TUR 235	Turkish Poetry in Translation	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
Languages, Literature and Linguistics											
369	CHN 101	Beginning Mandarin I	4	8				2 year UG SSH World Languages, Literatures and Cultures, 3 year UG SSH World Languages, Literatures and Cultures, 5 year UG SEDS, 5 year UG SSH	1 year UG SEDS Undeclared, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	
370	CHN 202	Intermediate Mandarin II	4	8	CHN 201 Intermediate Mandarin I (2181) (C and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
371	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 SOM, 3 year UG SSH			
372	FRE 102	Beginning French II	4	8	FRE 101 Beginning French I (246) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
373	FRE 201	Intermediate French I	4	8	FRE 102 Beginning French II (454) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
374	GER 101	Beginning German	4	8				2 year UG SSH World Languages, Literatures and Cultures, 3 year UG SSH World Languages, Literatures and Cultures	2 year UG SSH, 3 year UG SSH, Undeclared SSH	SEDS, SMG, SSH, SoM	
375	KOR 101	Beginning Korean I	4	8				2 year UG SSH World Languages, Literatures and Cultures, 3 year UG SSH World Languages, Literatures and Cultures	2 year UG SSH, 3 year UG SSH, Undeclared SSH	SEDS, SMG, SSH, SoM	
376	KOR 201	Intermediate Korean I	4	8	KOR 102 Beginning Korean II (4791) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
377	LING 131	Introduction to Linguistics	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH, World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	

378	LING 277	Language Diversity and Language Universals	3	6	LING 131 Introduction to Linguistics (1394) (C and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
379	LING 278	Sounds of the World’s Languages	3	6				5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
380	LING 372	Discourse Analysis	3	6	Subject "LLL" BETWEEN 100 and 199 OR Subject "WLL" BETWEEN 100 and 199 OR WLL 171/ANT 175 Introduction to Linguistic Anthropology (4417) (C- and above) OR Subject "LING" BETWEEN 100 and 199 OR Subject "LING" BETWEEN 100 and 199			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
381	LING 375	The Art and Science of Analyzing Languages: Morphosyntax of the World's Languages	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
382	LING 473	Advanced Empirical Methods in Linguistics	3	6	LING 131 Introduction to Linguistics (1394) (C and above)			5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
383	SPA 101	Beginning Spanish I	4	8				2 year UG SSH World Languages, Literatures and Cultures, 3 year UG SSH World Languages, Literatures and Cultures	2 year UG SSH, 3 year UG SSH, Undeclared SSH	SEDS, SMG, SSH, SoM	
384	SPA 201	Intermediate Spanish I	4	8	SPA 102 Beginning Spanish II (1128) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
385	SPA 314	Advanced Spanish Grammar and Composition	3	6	SPA 202 Intermediate Spanish II (1842) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
386	WLL 110	Introduction to Literary Studies	3	6				5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	Undeclared SSH	SEDS, SMG, SSH, SoM	
387	WLL 121	Introduction to Cultural Studies	3	6				5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	Undeclared SSH	SEDS, SMG, SSH, SoM	

388	WLL 201	World Literature I	3	6				World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
389	WLL 244	Survey of Nineteenth-Century Russian Literature	3	6				World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
390	WLL 248	Survey of Soviet Literature and Culture	3	6				World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
391	WLL 314	Petersburg Text in Russian Literature	3	6	Subject "WLL" BETWEEN 100 and 499 OR Subject "HST" BETWEEN 100 and 499			World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
392	WLL 333	Literary Modernism: Writing the Futility and Anarchy of Contemporary History	3	6	Subject "WLL" BETWEEN 200 and 299			World Languages, Literature and Culture	2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
393	WLL 498	Languages, Linguistics, and Literatures Capstone I	3	6				4 year UG SSH World Languages, Literatures and Cultures			
Languages, Literature and Linguistics, Languages, Literature and Linguistics											
394	SPA 351/WLL 351	Literature and Film of the Postcolonial World	3	6	Subject "WLL" BETWEEN 200 and 299			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
Languages, Literature and Linguistics, Sociology and Anthropology											
395	WLL 171/ANT 175	Introduction to Linguistic Anthropology	3	6			ANT 277/WLL 271 Language and Society (1027) (C- and above)	5 year UG SEDS, 5 year UG SSH, World Languages, Literature and Culture	Undeclared SSH	SEDS, SMG, SSH, SoM	
Physics											
396	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			
397	PHYS 201	Introductory Astronomy I	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			

398	PHYS 221	Classical Mechanics I	3	6	(PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above)) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			5 year UG SEDS, 5 year UG SSH, Physics, Undeclared SSH	SEDS, SMG, SSH, SoM		
399	PHYS 261	Modern Physics with laboratory	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 152 Introductory Physics II with Lab (1176) (C- and above) OR PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			5 year UG SEDS, 5 year UG SSH, Physics, Undeclared SSH	SEDS, SMG, SSH, SoM		
400	PHYS 291	Introduction to Quantum Technologies	3	6				5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		
401	PHYS 315	Mathematical Methods of Physics	3	6	(PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above) OR PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)) AND MATH 274 Introduction to Differential Equations (484) (C- and above)			5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		
402	PHYS 361	Classical Electrodynamics I	3	6		PHYS 315 Applied Mathematical Methods (653) (D and above) OR PHYS 411 Advanced Mathematical Physics (3142) (D and above)		5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		

403	PHYS 395	Research Methods	3	6				5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		
404	PHYS 452	Quantum Mechanics II	3	6	PHYS 451 Quantum Mechanics I (1415) (C- and above)			5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		
405	PHYS 473	Introduction to Solid State Physics	4	8	PHYS 261 Modern Physics with laboratory (125) (C- and above) OR CHEM 331 Physical Chemistry I (634) (C- and above) OR MAE 301 Engineering Thermodynamics (5927) (C- and above) OR CHME 201 Chemical Engineering Thermodynamics (5007) (C- and above) OR ELCE 204 Solid State Devices (5508) (C- and above)			5 year UG SEDS, 5 year UG SSH, Physics	SEDS, SMG, SSH, SoM		
406	PHYS 491	Directed Study of Advanced Physics Topics	3	6				Instructor's Permission Required. Registration through Add Course form only!			
407	PHYS 498	Honors Thesis Research	0	0				4 year UG SSH Physics, 5 year UG SSH			
408	PHYS 505	Classical Mechanics	3	6				Physics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
409	PHYS 511	Computational Modeling and Simulation	3	6				Physics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
410	PHYS 515	Classical Electrodynamics	3	6				Physics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
411	PHYS 530	Solid State Physics	4	8				Physics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
412	PHYS 550	Advanced Mathematical Physics	3	6				Physics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
413	PHYS 591	Research Methods	3	6				Physics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
414	PHYS 600	Thesis Research	0	0				Physics			
415	PHYS 700-0	Thesis Research	0	0				Physics			

416	PHYS 705	Classical Mechanics	4	8				SEDS, SSH			
417	PHYS 711	Computational Modeling and Simulation	4	8				SEDS, SSH			
418	PHYS 730	Solid State Physics	4	8				SEDS, SSH			
419	PHYS 750	Advanced Mathematical Physics	4	8				SEDS, SSH			
Political Science and International Relations											
420	PLS 100	Introduction to the Politics of Central Asia	3	6				5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		
421	PLS 101	Introduction to Political Science	3	6				5 year UG SEDS, 5 year UG SSH, SEDS, SMG	Biological Sciences, Chemistry, Mathematics, Physics	SSH	
422	PLS 120	Introduction to Political Theory	3	6				5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	
423	PLS 140	Introduction to Comparative Politics	3	6				5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	
424	PLS 150	Introduction to International Relations	3	6				5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	
425	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		
426	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		
427	PLS 327	Contemporary Political Theory	3	6	PLS 120 Introduction to Political Theory (512) (C- and above)		PHIL 131 Introduction to Contemporary Political Philosophy (4032) (C- and above)	5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
428	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		
429	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		

430	PLS 351	International Political Economy	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
431	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		
432	PLS 433	Homeland Security	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		
433	PLS 448	Comparative Electoral System	3	6	PLS 140 Introduction to Comparative Politics (223) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
434	PLS 449	Politics and Governance of the Gulf	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		
435	PLS 458	International Organization	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
436	PLS 459	International Conflict Processes	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above) OR PLS 211 Quantitative Methods (221) (C- and above)			5 year UG SEDS, 5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		

437	PLS 495	Research Practicum in PSIR	1	2	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			Instructor's Permission Required. Registration through Add Course form only!			
438	PLS 511	Advanced Research I	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
439	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		
440	PLS 533	Homeland Security	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
441	PLS 540	Core Seminar in Comparative Politics	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
442	PLS 548	Comparative Electoral System	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
443	PLS 549	Politics and Governance of the Gulf	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
444	PLS 550	Core Seminar in IR	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
445	PLS 558	International Organization	4	8	PLS 550 Core Seminar in IR (1372) (C- and above)			Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
446	PLS 559	International Conflict Processes	4	8	PLS 550 Core Seminar in IR (1372) (C- and above) AND PLS 511 Qualitative Methods in Political Science (1631) (C- and above)			Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
447	PLS 598	MA Thesis I	6	12				Instructor's Permission Required. Registration through Add Course form only!			
SSH											
448	SSH 300	School of Sciences and Humanities Internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			

449	SSH 301	School of Sciences and Humanities Internship: Second Experience	3	6				Instructor's Permission Required. Registration through Add Course form only!			
Sociology and Anthropology											
450	ANT 140	World Prehistory	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
451	ANT 231	Frauds and Fallacies in Archaeology	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	
452	ANT 233	Cavemen, Mammoths, and Sabertooths: Stone Age Archaeology in Eurasia	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	
453	ANT 306	Anthropology of Performance	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	
454	ANT 333	Anthropology of Space	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	
455	ANT 421	Sport and Construction of Identity	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	
456	ANT 498	Capstone Seminar I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
457	ANT 506	Anthropology of Performance	4	8			ANT 306 Anthropology of Performance (1459) (D and above)	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			
458	ANT 521	Sport and Construction of Identity	4	8				GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			

459	SOC 101	Introduction to Sociology	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, SoM, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	2 year UG SSH, 3 year UG SSH Biological Sciences	SEDS, SMG, SSH	
460	SOC 201	Social Science Research Methods	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	2 year UG SSH, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM	
461	SOC 213	Work and Society	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
462	SOC 301	Classical Sociological Theory	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above) OR ANT 110 Introduction to Sociocultural Anthropology (501) (C- and above)			5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
463	SOC 310	Social Inequality	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above)			5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
464	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	
465	SOC 400	Research Assistance in Sociology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
466	SOC 402	Research Assistance in Sociology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
467	SOC 498	Capstone Seminar Part I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
Sociology and Anthropology, Sociology and Anthropology											
468	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	
SEDS											

Computer Science											
469	SEDS 504	Innovation and Entrepreneurship	3	6							
SoE											
Chemical and Materials Engineering											
470	CHME 200	Basic Principles and Calculations in Chemical Engineering	3	6				2 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
471	CHME 201	Chemical Engineering Thermodynamics	3	6				2 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
472	CHME 222	Inorganic and Analytical Chemistry	3	6				2 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
473	CHME 300	Heat and Mass Transfer	3	6				3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
474	CHME 301	Applied Mathematics for Process Design	3	6				3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
475	CHME 302	Instrumental Methods of Analysis for Engineers	3	6				3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
476	CHME 351	Environment and Development	3	6				3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
477	CHME 353	Electrochemical Engineering	3	6				3 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
478	CHME 400	Process Design and Simulation	3	6	CHME 300 Heat and Mass Transfer (5952) (D and above) AND CHME 304 Chemical Reaction Engineering (6168) (D and above)			4 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
479	CHME 401	Chemical Engineering Lab II	3	6				4 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		

480	CHME 450	Atmospheric Chemistry and Physics	3	6				4 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
481	CHME 453	Multiphase Systems	3	6	CHME 202 Fluid Mechanics (5543) (D and above)			4 year UG SEDS Chemical and Materials Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering		
482	DCHME 700-0	Thesis Research	0	0				1 year PhD SEDS Chemical Engineering	Chemical Engineering, Science, Engineering and Technology		
483	DCHME 755	Integrated Computational Materials Engineering	4	8				1 year PhD SEDS Chemical Engineering	Science, Engineering and Technology		
484	DCHME 761	Advanced Chemical Reaction Engineering	4	8				1 year PhD SEDS Chemical Engineering	Science, Engineering and Technology		
485	DCHME 762	Advanced Materials Processing	4	8				1 year PhD SEDS Chemical Engineering	Science, Engineering and Technology		
486	DCHME 765	Biofilms Science and Engineering	4	8				1 year PhD SEDS Chemical Engineering	Science, Engineering and Technology		
487	MBME 601	Master Thesis I	12	24				2 year Gr SEDS Biomedical Engineering			
488	MBME 603	Biomaterials Science & Engineering	3	6				1 year Gr SEDS Biomedical Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		

489	MBME 604	Biosensors	3	6				1 year Gr SEDS Biomedical Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		
490	MBME 610	Anatomy and Physiology for Biomedical Engineers	3	6				1 year Gr SEDS Biomedical Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		

491	MBME 703	Medical Device Technology	3	6				2 year Gr SEDS Biomedical Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		
492	MBME 709	Mechanics of Living Tissue	3	6				2 year Gr SEDS Biomedical Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		

493	MCHME 601	Master Thesis I	12	24				2 year Gr SEDS Chemical and Materials Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		
494	MCHME 603	Advanced Materials Processing	3	6				1 year Gr SEDS Chemical and Materials Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		

495	MCHME 604	Advanced Materials Characterization Methods	3	6				1 year Gr SEDS Chemical and Materials Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		
496	MCHME 605	Advanced Chemical Reaction Engineering	3	6				1 year Gr SEDS Chemical and Materials Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		

497	MCHME 702	Biofilms Science and Engineering	3	6				2 year Gr SEDS Chemical and Materials Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		
498	MCHME 714	Computational Materials Engineering	3	6				2 year Gr SEDS Chemical and Materials Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		
Civil Engineering											

499	MSC 600	Research Methods and Ethics	3	6				1 year Gr SEDS Engineering Management	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
500	MSC 602	Advanced Applied Mathematics	3	6				1 year Gr SEDS Biomedical Engineering, 1 year Gr SEDS Chemical and Materials Engineering, 1 year Gr SEDS Civil and Environmental Engineering, 1 year Gr SEDS Electrical and Computer Engineering, 1 year Gr SEDS Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering		
501	MSC 615	Advanced Statistics and Probability	3	6				1 year Gr SEDS Engineering Management	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
Civil Engineering, Communication and Composition											

502	MSC 601	Technical Communication	3	6				1 year Gr SEDS Biomedical Engineering, 1 year Gr SEDS Chemical and Materials Engineering, 1 year Gr SEDS Civil and Environmental Engineering, 1 year Gr SEDS Computer Science, 1 year Gr SEDS Mechanical and Aerospace Engineering, 1 year Gr SEDS Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Mechanical and Aerospace Engineering, Robotics	Electrical and Computer Engineering	
Civil and Environmental Engineering											
503	CEE 200	Structural Mechanics I	3	6				2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH, SMG	Civil and Environmental Engineering, Mechanical and Aerospace Engineering		
504	CEE 201	Environmental Chemistry	3	6				2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering, Mechanical and Aerospace Engineering		
505	CEE 204	Civil Engineering CAD and Surveying	3	6				2 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
506	CEE 300	Structural Design – Concrete	3	6	CEE 203 Structural Analysis (5500) (D and above)			3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
507	CEE 302	Geotechnical Engineering	3	6				3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
508	CEE 304	Fluid Mechanics	3	6				3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
509	CEE 306	Civil Engineering Materials	3	6	ENG 102 Engineering Materials I (4708) (D and above)			3 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		

510	CEE 401	Construction Technology and Management	3	6	CEE 306 Civil Engineering Materials (5897) (D and above)			4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
511	CEE 450	Behavior and Design of Structural System	3	6	CEE 300 Structural Design – Concrete (5895) (D and above) AND CEE 301 Structural Design – Steel (6157) (D and above)			4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
512	CEE 455	Solid and Hazardous Waste Management	3	6	CEE 202 Environmental Engineering (5499) (D and above)			4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
513	CEE 460	Water Supply and Distribution Management	3	6	CEE 305 Hydraulics and Hydrology (6177) (D and above)			4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
514	CEE 462	Pavement Design and Performance	3	6	CEE 306 Civil Engineering Materials (5897) (D and above) AND CEE 303 Geotechnical Design (6158) (D and above)			4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
515	CEE 465	Structure and Properties of Concrete Materials	3	6	CEE 306 Civil Engineering Materials (5897) (D and above)			4 year UG SEDS Civil and Environmental Engineering, 5 year UG SEDS, 5 year UG SSH	Civil and Environmental Engineering		
516	DCEE 700-0	Thesis Research	0	0				1 year PhD SEDS Civil Engineering	Civil Engineering, Science, Engineering and Technology		
517	DCEE 750	Finite Element Methods	4	8				Civil Engineering	Biomedical Sciences, Chemical Engineering, Computer Science , Education, Electrical Engineering, Eurasian Studies, Life Sciences, Mathematics, Mechanical Engineering, Mining Engineering, Petroleum Engineering, Physics, Public Policy, Robotics Engineering, Science, Engineering and Technology		

518	DCEE 757	Advanced Environmental Chemistry	4	8				1 year PhD SEDS Civil Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
519	DCEE 760	Advanced Foundation Engineering	4	8				1 year PhD SEDS Civil Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
520	DCEE 761	Advanced Soil Mechanics	4	8				1 year PhD SEDS Civil Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
521	DCEE 772	Engineering Management and Engineering Economy	4	8				1 year PhD SEDS Civil Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

522	EMEM 507	Project Management	3	6				1 year Gr SEDS Engineering Management	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
523	EMEM 509	Systems Engineering	3	6				2 year Gr SEDS Engineering Management, 2 year Gr SEDS Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

524	EMEM 523	Supply Chain Management	3	6				2 year Gr SEDS Engineering Management	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
525	EMEM 533	Engineering Management and Engineering Economy	3	6				1 year Gr SEDS Engineering Management	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

526	EMEM 537	Engineering Decision Tools	3	6				2 year Gr SEDS Engineering Management	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
527	EMEM 538	Knowledge and Innovation Management	3	6				1 year Gr SEDS Engineering Management	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

528	EMEM 539	Big Data and Information Management	3	6				2 year Gr SEDS Engineering Management	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
529	EMEM 542	Production and Service Operations Management	3	6				2 year Gr SEDS Engineering Management	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
530	MCEE 601	Master Thesis I	12	24	MCEE 600 Research Seminar (4692) (P)			2 year Gr SEDS Civil and Environmental Engineering			

531	MCEE 603	Finite Element Methods	3	6				1 year Gr SEDS Civil and Environmental Engineering, 1 year Gr SEDS Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
532	MCEE 604	Advanced Soil Mechanics	3	6				1 year Gr SEDS Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		

533	MCEE 605	Advanced Environmental Chemistry	3	6				1 year Gr SEDS Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		
534	MCEE 708	Advanced Foundation Engineering	3	6				2 year Gr SEDS Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		
Economics, SMG											

535	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)	5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, Robotics and Mechatronics, Undeclared SEDS	SSH	
Electrical and Computer Engineering											
536	DELCE 700-0	Thesis Research	0	0				1 year PhD SEDS Electrical Engineering	Electrical Engineering, Science, Engineering and Technology		
537	DELCE 753	Stochastic Processes	4	8				1 year PhD SEDS Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
538	DELCE 760	Advanced System Modelling and Control	4	8				1 year PhD SEDS Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
539	DELCE 761	Advanced Data Structures and Algorithms	4	8				1 year PhD SEDS Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

540	EEE 437	Capstone Project 1	3	6				Instructor's Permission Required. Registration through Add Course form only!			
541	ELCE 200	Circuits Theory I	3	6	MATH 162 Calculus II (170) (C- and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			2 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
542	ELCE 203	Signals and Systems	3	6	MATH 162 Calculus II (170) (C- and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			2 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
543	ELCE 203L	Signals and Systems Laboratory	1	2		ELCE 203 Signals and Systems (4993) (D and above)		2 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
544	ELCE 204	Solid State Devices	3	6	ENG 103 Engineering Materials II (4818) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
545	ELCE 205	Discrete Mathematics	3	6	MATH 162 Calculus II (170) (C- and above)			2 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
546	ELCE 301	Electronic Circuits	3	6	ELCE 201 Circuit Theory (5507) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
547	ELCE 301L	Electronic Circuits Laboratory	1	2	ELCE 201L Circuit Theory Laboratory (6179) (C- and above)	ELCE 301 Electronic Circuits (5918) (C- and above)		3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
548	ELCE 304	Computer Networks	3	6	ENG 101 Programming for Engineers (4517) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
549	ELCE 304L	Computer Networks Laboratory	1	2		ELCE 304 Computer Networks (5920) (D and above)		3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		

550	ELCE 306	Linear Control Theory	3	6	ELCE 203 Signals and Systems (4993) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
551	ELCE 307	Digital Signal Processing	3	6	ELCE 203 Signals and Systems (4993) (C- and above)			3 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
552	ELCE 450	Modern Characterizations for Semiconductor Industry	3	6		ELCE 204 Solid State Devices (5508) (and above)		4 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
553	ELCE 453	High Voltage, AC/DC, FACTS Devices	3	6	ELCE 201 Circuit Theory (5507) (C- and above)			4 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
554	ELCE 454	Power Transmission and Distribution Systems	3	6	ELCE 201 Circuit Theory (5507) (C- and above)			4 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
555	ELCE 455	Machine Learning with Python	3	6	ENG 101 Programming for Engineers (4517) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above)			4 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH	Electrical and Computer Engineering		
556	ELCE 456	Internet of Things	3	6	ELCE 304 Computer Networks (5920) (C- and above) OR CSCI 333 Computer Networks (1145) (C- and above)			4 year UG SEDS Electrical and Computer Engineering			
557	ELCE 457	Introduction to Image Processing and Computer Vision	3	6	ENG 101 Programming for Engineers (4517) (C- and above) AND ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (C- and above)			4 year UG SEDS Electrical and Computer Engineering			

558	ENG 101	Programming for Engineers	3	6			CSCI 151 Programming for Scientists and Engineers (192) (F) OR CSCI 111 Web Programming and Problem Solving (110) (F) OR CSCI 115 Programming Fundamentals (5257) (F) OR CSCI 152 Performance and Data Structures (489) (F) OR CSCI 408 Senior Project I (1481) (F) OR CSCI 409 Senior Project II (1483) (F)	1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SEDS Undeclared, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering	SMG	
559	MECE 600	Research Seminar	3	6				2 year Gr SEDS Electrical and Computer Engineering			
560	MECE 601	Master Thesis I	12	24				2 year Gr SEDS Electrical and Computer Engineering			

561	MECE 603	Advanced Data Structures and Algorithms	3	6				1 year Gr SEDS Electrical and Computer Engineering	Applied Mathematics, Biological Sciences, Biomedical Engineering, Chemical and Materials Engineering, Chemistry, Civil and Environmental Engineering, Computer Science, Data Science, Economics, Electrical and Computer Engineering, Engineering Management, Eurasian Studies, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Physics, Political Science and International Relations, Robotics		

562	MECE 605	Statistics and Probability for Electrical and Computer Engineers	3	6				1 year Gr SEDS Electrical and Computer Engineering	Applied Mathematics, Biological Sciences, Biomedical Engineering, Chemical and Materials Engineering, Chemistry, Civil and Environmental Engineering, Computer Science, Data Science, Economics, Electrical and Computer Engineering, Engineering Management, Eurasian Studies, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Physics, Political Science and International Relations, Robotics		

563	MECE 606	Embedded Systems and Applications	3	6				1 year Gr SEDS Electrical and Computer Engineering	Applied Mathematics, Biological Sciences, Biomedical Engineering, Chemical and Materials Engineering, Chemistry, Civil and Environmental Engineering, Computer Science, Data Science, Economics, Electrical and Computer Engineering, Engineering Management, Eurasian Studies, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Physics, Political Science and International Relations, Robotics		

564	MECE 724	System Modelling and Control	3	6				1 year Gr SEDS Electrical and Computer Engineering	Applied Mathematics, Biological Sciences, Biomedical Engineering, Chemical and Materials Engineering, Chemistry, Civil and Environmental Engineering, Computer Science, Data Science, Economics, Electrical and Computer Engineering, Engineering Management, Eurasian Studies, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Physics, Political Science and International Relations, Robotics		
Geosciences											
565	GEOL 201	Mineralogy	3	6	GEOL 101 Fundamentals of Geology (4774) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
566	GEOL 202	Geologic Maps and Cross-Sections	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, Robotics and Mechatronics, Undeclared SEDS		

567	GEOL 301	Igneous and metamorphic petrology	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
568	GEOL 302	Thermodynamics and Geochemistry	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
569	GEOL 303	Structural Geology	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)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
570	GEOL 305	Geology of ore deposits	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above) OR GEOL 201 Mineralogy (5122) (D and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
571	GEOL 310	Field Geology 2	3	6	GEOL 303 Structural Geology and Tectonics (5874) (D and above) OR GEOL 301 Igneous and metamorphic petrology (5886) (D and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
572	GEOL 401	Petroleum Geology and Geochemistry	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
573	GEOL 402	Water Resource Management	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			

574	GEOL 404	Research Project I	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
Mechanical and Aerospace Engineering											
575	DMAE 700-0	Thesis Research	0	0				1 year PhD SEDS Mechanical Engineering	Mechanical Engineering, Science, Engineering and Technology		
576	DMAE 701	Advanced Applied Mathematics	4	8				1 year PhD SEDS Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
577	DMAE 750	Advanced Statistics and Probability	4	8			MSC 615 Advanced Statistics and Probability (2394) (B- and above)	1 year PhD SEDS Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
578	DMAE 751	Modern Control Engineering	4	8				1 year PhD SEDS Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

579	DMAE 765	Advanced Manufacturing Processes and Strategies	4	8				1 year PhD SEDS Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
580	EME 451	Capstone Project 1	3	6				Instructor's Permission Required. Registration through Add Course form only!			
581	ENG 100	Introduction to Engineering	3	6				1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SEDS Undeclared, 1 year UG SMG, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, SMG		
582	ENG 200	Engineering Mathematics III (Differential Equations and Linear Algebra)	3	6	MATH 162 Calculus II (170) (C and above)			2 year UG SEDS Chemical and Materials Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, SMG		
583	ENG 400	Capstone Project	3	6				4 year UG SEDS Chemical and Materials Engineering, 4 year UG SEDS Civil and Environmental Engineering, 4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH			

584	MAE 201	Computer Aided Design	3	6				2 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
585	MAE 300	Fluid Mechanics I	3	6	PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
586	MAE 301	Engineering Thermodynamics	3	6				3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
587	MAE 302	Machine Elements Design	3	6	MAE 205 Material and Manufacturing I (5534) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
588	MAE 303	Control Systems	3	6				3 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
589	MAE 400	Heat Transfer	3	6	MAE 300 Fluid Mechanics I (5926) (D and above) AND MAE 301 Engineering Thermodynamics (5927) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
590	MAE 401	Mechanical Systems Design	3	6	MAE 302 Machine Elements Design (5928) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
591	MAE 452	Computer Aided Geometric Design	3	6	MAE 201 Computer Aided Design (5011) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
592	MAE 453	Fire Engineering	3	6	MAE 305 Fluid Mechanics II (6173) (D and above) AND MAE 301 Engineering Thermodynamics (5927) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		

593	MAE 462	Multiphase Systems	3	6	MAE 300 Fluid Mechanics I (5926) (D and above) AND MAE 305 Fluid Mechanics II (6173) (D and above)			4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS, 5 year UG SSH	Mechanical and Aerospace Engineering		
594	MMAE 601	Master Thesis I	12	24	MMAE 600 Research Seminar (4703) (P)			2 year Gr SEDS Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		
595	MMAE 603	Modern Control Engineering	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		

596	MMAE 605	Advanced Manufacturing Processes and Strategies	3	6				1 year Gr SEDS Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		
597	MMAE 702	Sustainable Vehicle Transportation Systems	3	6				2 year Gr SEDS Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Mining Engineering, Petroleum Engineering, Robotics		
Mining Engineering											
598	MINE 301	Mine Surveying and Geographic Information Systems	3	6	SMG 100 Introduction to Natural Resources Extraction (4773) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			

599	MINE 302	Geomechanics	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
600	MINE 303	Mine Ventilation	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
601	MINE 304	Resource Estimation	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
602	MINE 401	Mining Geotechnical Engineering	3	6	MINE 302 Geomechanics (5878) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
603	MINE 402	Coal Mining	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
604	MINE 406	Mine Robotics and Automation	3	6	SMG 100 Introduction to Natural Resources Extraction (4773) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
605	MINE 489	Research Project I	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
606	MINE 501	Foundations of Mining	3	6				Mining Engineering			
607	MINE 502	Geology for Mining Engineers	3	6				Mining Engineering			
608	MINE 503	Applied Geostatistics	3	6				Mining Engineering			
609	MINE 504	Mine Geomechanics	3	6				Mining Engineering			
610	MINE 505	Advanced Mine Ventilation	3	6				Mining Engineering			
611	MINE 601	Mine Management and Sustainability	3	6				Mining Engineering			
612	MINE 602	Mine Maintenance and Services	3	6	MINE 502 Geology for Mining Engineers (3691) (C- and above)			Mining Engineering			

613	MINE 605	Mechanized Excavation and Tunnelling	3	6				Mining Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
614	MINE 606	Underground Hard Rock Geotechnical Engineering	3	6				Mining Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Mechanical and Aerospace Engineering, Robotics		
615	MINE 690	Thesis I	6	12				Mining Engineering			
616	MINE 701	Advanced Mine Geomechanics	4	8				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

617	MINE 801	Advanced Mechanized Excavation and Tunneling	4	8				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
618	MINE 805	Mine Robotics and Automation	4	8				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
619	MINE 890-0	Thesis Research	0	0				Mining Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
Petroleum Engineering											
620	PETE 201	Fluid Mechanics and Thermodynamics	3	6	MATH 161 Calculus I (118) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, Robotics and Mechatronics, Undeclared SEDS		

621	PETE 301	Numerical Methods for Petroleum Engineers	3	6	ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (C- and above) OR ENG 101 Programming for Engineers (4517) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
622	PETE 302	Reservoir Engineering I with Laboratory works	4	8	PETE 204 Reservoir Rock and Fluid Properties with Lab (5487) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
623	PETE 303	Well Logging and Formation Evaluation	3	6	GEOL 101 Fundamentals of Geology (4774) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
624	PETE 304	Well Completion and Stimulation	3	6	PETE 203 Drilling Engineering with Laboratories (5486) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
625	PETE 400	Capstone Design Project I	3	6	PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above) AND PETE 203 Drilling Engineering with Laboratories (5486) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
626	PETE 401	Production Enhancement	3	6	PETE 307 Production Engineering (6146) (C- and above)			5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
627	PETE 501	Foundations of Petroleum Engineering	3	6				Petroleum Engineering			
628	PETE 502	Petroleum Geology	3	6				Petroleum Engineering			
629	PETE 503	Fluid Flow Through Porous Media	3	6				Petroleum Engineering			
630	PETE 504	Advanced Formation Evaluation	3	6				Petroleum Engineering			
631	PETE 505	Advanced Drilling Engineering	3	6				Petroleum Engineering			
632	PETE 509	Advanced Well Testing and Evaluation	3	6				Petroleum Engineering			

633	PETE 600	MSc Thesis	6	12				Petroleum Engineering			
634	PETE 601	Petroleum Data Analytics	3	6				Petroleum Engineering			
635	PETE 602	Research Seminar	3	6				Petroleum Engineering			
636	PETE 802	Fluid Flow Through Porous Media	4	8				Petroleum Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
637	PETE 805	Special Topics in Petroleum Engineering: Data Analytics	4	8				Petroleum Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
638	PETE 890-0	Thesis Research	0	0				Petroleum Engineering			
SMG											
639	SMG 100	Introduction to Natural Resources Extraction	3	6				5 year UG SEDS, 5 year UG SSH, Geology, Mining Engineering, Petroleum Engineering, Undeclared SMG			
640	SMG 710	Advanced Statistics	3	6				Mining Engineering, Petroleum Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
School of Engineering											
641	DENG 700-0	Thesis Research	0	0				Science, Engineering and Technology			

642	DENG 782	Research Methods and Ethics	3	6				1 year PhD SEDS Chemical Engineering, 1 year PhD SEDS Civil Engineering, 1 year PhD SEDS Computer Science, 1 year PhD SEDS Electrical Engineering, 1 year PhD SEDS Mechanical Engineering, 1 year PhD SEDS Robotics Engineering, 1 year PhD SEDS Science, Engineering and Technology, 1 year PhD SSH Eurasian Studies, 1 year PhD SSH Life Sciences, 1 year PhD SSH Mathematics, 1 year PhD SSH Physics	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology	1 year PhD SMG Mining Engineering, 1 year PhD SMG Petroleum Engineering, 2 year PhD SSH Physics	
643	DENG 790	Doctoral Seminar II	3	6	DENG 789 Doctoral Seminar I (4598) (P)			Science, Engineering and Technology			
644	DENG 792	Doctoral Seminar IV	3	6	DENG 791 Doctoral Seminar III (4600) (P)			Science, Engineering and Technology			
645	DENG 793	Doctoral Seminar V	3	6	DENG 792 Doctoral Seminar IV (4601) (P)			Science, Engineering and Technology			
646	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)			Science, Engineering and Technology			
647	DENG 796	Thesis Completion	0	0				Science, Engineering and Technology			
648	DENG 797	Oral Defence of PhD Dissertation	0	0	DENG 785 PhD Proposal Oral Defence (2604) (P) AND DENG 789 Doctoral Seminar I (4598) (P) AND DENG 790 Doctoral Seminar II (4599) (P)			Science, Engineering and Technology			
649	DENG 798	Doctoral Seminar VI	3	6	DENG 793 Doctoral Seminar V (4602) (P)			Science, Engineering and Technology			
650	DENG 799	Doctoral Seminar VII	3	6	DENG 798 Doctoral Seminar VI (4607) (P)			Science, Engineering and Technology			
SCAI											
Computer Science											

651	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	Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering, Robotics and Mechatronics, SMG, SoM, Undeclared SEDS		
652	CSCI 115	Programming Fundamentals	4	8			CSCI 101 Introduction to Computational Sciences (147) (D and above) OR CSCI 111 Web Programming and Problem Solving (110) (D and above) OR CSCI 151 Programming for Scientists and Engineers (192) (D and above) OR ENG 101 Programming for Engineers (4517) (D and above)	5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, Mathematics	Undeclared SEDS, Undeclared SMG, Undeclared SSH	SSH	
653	CSCI 151	Programming for Scientists and Engineers	4	8			CSCI 111 Web Programming and Problem Solving (110) (D and above) OR CSCI 115 Programming Fundamentals (5257) (D and above) OR ENG 101 Programming for Engineers (4517) (B- and above)	1 year UG SEDS Computer Science, 1 year UG SEDS Robotics and Mechatronics, 1 year UG SEDS Undeclared, 1 year UG SSH Physics, 5 year UG SEDS, 5 year UG SSH	Computer Science, Mathematics, Physics, Robotics and Mechatronics, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SSH	

654	CSCI 231	Computer Systems and Organization	3	6	CSCI 151 Programming for Scientists and Engineers (192) (C- and above)			5 year UG SEDS, 5 year UG SSH, Computer Science			
655	CSCI 235	Programming Languages	4	8	CSCI 152 Performance and Data Structures (489) (C- and above)			5 year UG SEDS, 5 year UG SSH, Computer Science			
656	CSCI 262	Software Project Management	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	
657	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, SEDS	SMG, SSH, SoM		
658	CSCI 299	Internship I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
659	CSCI 341	Database Systems	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS, 5 year UG SSH			
660	CSCI 344	Data Mining and Decision Support	3	6	CSCI 341 Database Systems (195) (C- and above) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			5 year UG SEDS, 5 year UG SSH, SEDS	SMG, SSH, SoM		
661	CSCI 361	Software Engineering	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS, 5 year UG SSH			
662	CSCI 371	Algorithmic Problem Solving	3	6	CSCI 270 Algorithms (648) (B and above)			5 year UG SEDS, 5 year UG SSH, Computer Science			
663	CSCI 390	Artificial Intelligence	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS, 5 year UG SSH			
664	CSCI 399	Internship II	3	6				Instructor's Permission Required. Registration through Add Course form only!			

665	CSCI 399F	Internship II - F	6	12				Instructor's Permission Required. Registration through Add Course form only!			
666	CSCI 408	Senior Project I	3	6				4 year UG SEDS Computer Science, 5 year UG SEDS, 5 year UG SSH			
667	CSCI 434	Information Security	3	6		CSCI 333 Computer Networks (1145) (D and above)		5 year UG SEDS, 5 year UG SSH, Computer Science	SEDS	SMG, SSH, SoM	
668	CSCI 494	Deep Learning	3	6	CSCI 390 Artificial Intelligence (643) (C and above) AND MATH 273 Linear Algebra with Applications (84) (C and above)			5 year UG SEDS, 5 year UG SSH, Computer Science	SEDS	SMG, SSH, SoM	
669	CSCI 501	Software Principles and Practice	3	6				Computer Science, Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering	SSH	
670	CSCI 511	CS Track Core-Theory	3	6				Computer Science, Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering	SSH	

671	CSCI 515	Modeling and Simulation for Computer Science	3	6				Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics	Applied Mathematics, Biological Sciences, Chemistry, Economics, Eurasian Studies, Physics, Political Science and International Relations	SSH	
672	CSCI 585	Computer Vision	3	6				Computer Science, Data Science, Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, SEDS	SSH	
673	CSCI 594	Deep Learning	3	6				Computer Science, Data Science, Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, SEDS	SSH	
674	CSCI 693	Thesis Proposal	3	6	SEDS 591 Research Methods (3184) (C- and above)			2 year Gr SEDS Computer Science			
675	CSCI 700-0	Thesis Research	0	0				1 year PhD SEDS Computer Science	Computer Science , Science, Engineering and Technology		

676	CSCI 701	Advanced Software Principles and Practice	4	8				Computer Science , Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology	SSH	
677	CSCI 711	Advanced Theory of Computation	4	8				Computer Science , Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology	SSH	
678	CSCI 785	Advanced Computer Vision	4	8				Computer Science , Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology	SSH	
679	CSCI 794	Advanced Deep Learning	4	8				Computer Science , Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology	SSH	
680	DS 501	Fundamentals of Data Science	3	6				Data Science			
681	DS 502	Probability and Statistics for Data Science	3	6				Data Science	Computer Science	SEDS, SSH	
682	DS 507	Database Management Systems	3	6				Data Science	Computer Science	SEDS, SSH	
683	DS 551	Process and Project Management	3	6				Data Science	Computer Science	SEDS, SSH	
684	DS 552	Data-Driven Innovation	3	6				Data Science	Computer Science	SEDS, SSH	
685	DS 693	Thesis Proposal	3	6	SEDS 591 Research Methods (3184) (C- and above)			2 year Gr SEDS Data Science			

686	SEDS 503	Laboratory Practicum	3	6	SEDS 502 Teaching Practicum (2824) (P)			2 year Gr SEDS Computer Science, 2 year Gr SEDS Data Science, 2 year Gr SEDS Robotics and Mechatronics			
687	SEDS 591	Research Methods	3	6				1 year Gr SEDS Computer Science, 1 year Gr SEDS Data Science, 1 year Gr SEDS Robotics	Computer Science, Data Science, Robotics		
Mathematics											
688	MATH 161	Calculus I	4	8				1 year UG SEDS, 1 year UG SMG, 1 year UG SSH Biological Sciences, 1 year UG SSH Chemistry, 1 year UG SSH Mathematics, 1 year UG SSH Physics	Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM	
689	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			2 year UG SEDS Undeclared, 5 year UG SEDS, 5 year UG SSH, Undeclared SSH	2 year UG SSH Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM	
690	MATH 251	Discrete Mathematics	3	6	MATH 161 Calculus I (118) (C and above)			2 year UG SEDS Computer Science, 2 year UG SEDS Electrical and Computer Engineering, 5 year UG SEDS, 5 year UG SSH, Undeclared SSH	Computer Science, Mathematics	SEDS, SMG, SSH, SoM	
691	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			2 year UG SSH Mathematics, 2 year UG SSH Physics, 5 year UG SEDS, 5 year UG SSH, Undeclared SSH	Mathematics, Physics	SEDS, SMG, SSH, SoM	
692	MATH 273	Linear Algebra with Applications	4	8	MATH 161 Calculus I (118) (C and above)	MATH 162 Calculus II (170) (C and above)		2 year UG SEDS Computer Science, 2 year UG SEDS Robotics and Mechatronics, 2 year UG SSH Mathematics, 2 year UG SSH Physics, 3 year UG SSH Chemistry, 5 year UG SEDS, 5 year UG SSH, Undeclared SSH	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
693	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			3 year UG SSH Chemistry, 5 year UG SEDS, 5 year UG SSH, Physics, Undeclared SSH	Chemistry, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	

694	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		
695	MATH 310	Applied Statistical Methods	3	6	MATH 161 Calculus I (118) (C and above)		MATH 321 Probability (482) (C and above)	5 year UG SEDS, 5 year UG SSH, Biological Sciences, Mining Engineering	SEDS, SMG, SSH, SoM		
696	MATH 321	Probability	3	6	MATH 162 Calculus II (170) (C and above)		ECON 211 Economic Statistics (2280) (C- and above) OR PLS 211 Quantitative Methods (221) (C- and above)	5 year UG SEDS, 5 year UG SSH, Mathematics	Computer Science, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
697	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		
698	MATH 323	Actuarial Mathematics I	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above) OR (MATH 162 Calculus II (170) (C and above) AND MATH 310 Applied Statistical Methods (82) (C and above))			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
699	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		
700	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		

701	MATH 371	Introduction to Mathematical Biology	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
702	MATH 399	Internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			
703	MATH 411	Linear Programming	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		
704	MATH 425	Stochastic Processes	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
705	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		
706	MATH 455	Stochastic Calculus	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		
707	MATH 471	Nonlinear Differential Equations	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
708	MATH 480	Complex Analysis	3	6	MATH 263 Calculus III (81) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		

709	MATH 490	Special Topics in Mathematics I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
710	MATH 491	Special Topics in Mathematics II	3	6				Instructor's Permission Required. Registration through Add Course form only!			
711	MATH 498	Directed Study in Mathematics II	3	6				Instructor's Permission Required. Registration through Add Course form only!			
712	MATH 510	Measure Theory and Applications	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
713	MATH 517	Scientific Modeling and Simulation with Mathematics	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
714	MATH 519	Scientific Computing	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
715	MATH 540	Statistical Learning	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
716	MATH 551	Advanced Numerical Methods	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
717	MATH 571	Advanced Nonlinear Differential Equations	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
718	MATH 592	Research Seminar	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
719	MATH 680	Potential Theory and Polynomial Approximation	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
720	MATH 682	Applied Functional Analysis	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
721	MATH 700-0	Thesis Research	0	0				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
722	MATH 701	Real Analysis	4	8				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
723	MATH 721	Nonlinear Differential Equations with Applications	4	8				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	

724	MATH 751	Probability Theory	4	8				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
Robotics and Mechatronics											
725	ROBT 201	Mechanics: Statics and Dynamics	3	6	MATH 162 Calculus II (170) (C- and above) AND (PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C- and above) OR PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above))			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics, SMG	Biological Sciences, Chemical Engineering, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
726	ROBT 203	Electrical and Electronic Circuits I with Lab	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above) OR (PHYS 141 Physics I for non-majors with Lab (1437) (C- and above) AND PHYS 142 Physics II for non-majors with Lab (1438) (C- and above)))			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
727	ROBT 205	Signals and Sensing with Lab	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		

728	ROBT 301	Mechanical Design with CAD and Machining Laboratory	4	8	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
729	ROBT 303	Linear Control Theory with Lab	4	8	ROBT 202 System Dynamics and Modeling (68) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
730	ROBT 307	Power Electronics	3	6	ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Physics		
731	ROBT 308	Industrial Automation	3	6				5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Physics		
732	ROBT 403	Robotics II: Control, Modeling and Learning with Laboratory	4	8	ROBT 303 Linear Control Theory with Lab (623) (C- and above) AND ROBT 312 Robotics I: Kinematics and Dynamics (5263) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
733	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	Biological Sciences, Chemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Physics		
734	ROBT 414	Human-Robot Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			5 year UG SEDS, 5 year UG SSH, Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Electrical and Computer Engineering, Mathematics, Physics		

735	ROBT 501	Robot Manipulation and Mobility	3	6				Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering		
736	ROBT 503	Dynamic Systems and Control	3	6				Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering		

737	ROBT 613	Brain-Machine Interfaces	3	6				Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering		
738	ROBT 615	Optimal Control and Planning	3	6	ROBT 503 System Dynamics and Control (2264) (C- and above)			Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering		

739	ROBT 691	Thesis Proposal	6	12				Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering		
740	ROBT 700-0	Thesis Research	0	0				1 year PhD SEDS Robotics Engineering	Robotics Engineering, Science, Engineering and Technology		
741	ROBT 701	Advanced Robot Manipulation and Mobility	4	8				1 year PhD SEDS Robotics Engineering	Science, Engineering and Technology		
742	ROBT 703	Advanced Optimal Control and Planning	4	8				1 year PhD SEDS Robotics Engineering	Science, Engineering and Technology		
743	ROBT 709	Advanced Robot Dynamics and Control	4	8				1 year PhD SEDS Robotics Engineering	Science, Engineering and Technology		