Course Requirements and Registration Priorities
Spring 2022

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
CPS											
GSPP											
1	ZEST 061	Basic Economics and Statistics	0	0							
NUFYP											
2	FEAP 020	Foundation English for Academic Purposes 2	0	0							
3	FLDP 095	Leadership 2	0	0							
4	FMAT 041	Foundation Mathematics 2	0	0							
NUZYP											
5	ZCOM 041	Academic Communications for Graduate Studies II	0	0							
6	ZLIN 062	Linear Algebra for Graduate Studies	0	0							
7	ZRDG 031	Academic Reading for Graduate Studies II	0	0							
8	ZWRT 021	Academic Writing for Graduate Studies II	0	0							
Sociology and Anthropology											
9	SOC 201Z	Social Science Research Methods	0	0							
GSB											
Economics											
10	ECON 101	Introduction to Microeconomics	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	SSH	SEDS, SMG, SoM	
11	ECON 102	Introduction to Macroeconomics	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	SSH	SEDS, SMG, SoM	

12	ECON 120	Managerial Economics	3	6				SEDS		Anthropology, Biological Sciences, Chemistry, History, Mathematics, Physics, Political Science and International Relations, SMG, SoM, Sociology, Undeclared SSH, World Languages, Literature and Culture	
13	ECON 201	Intermediate Microeconomics	3	6	ECON 101 Introduction to Microeconomics (379) (B- and above) AND (MATH 161 Calculus I (118) (B- and above) OR MATH 162 Calculus II (170) (B- and above))			Economics	2 year UG SSH Undeclared	SSH	
14	ECON 202	Intermediate Macroeconomics	3	6	ECON 102 Introduction to Macroeconomics (503) (B- and above) AND (MATH 161 Calculus I (118) (B- and above) OR MATH 162 Calculus II (170) (B- and above))			Economics	2 year UG SSH Undeclared	SSH	
15	ECON 211	Economic Statistics	3	6	ECON 101 Introduction to Microeconomics (379) (C and above) OR ECON 102 Introduction to Macroeconomics (503) (C and above)			Economics	2 year UG SSH Undeclared	SSH	

16	ECON 301	Econometrics I	3	6	ECON 211 Economic Statistics (2280) (C- and above) OR (MATH 321 Probability (482) (C- and above) AND (MATH 322 Mathematical Statistics (1165) (C- and above) OR MATH 310 Applied Statistical Methods (82) (C- and above)))			Economics		SSH	
17	ECON 302	Game Theory and Economic Analysis	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) OR ECON 101 Introduction to Microeconomics (379) (C- and above) AND MATH 251 Discrete Mathematics (85) (C- and above)		PLS 315 Political Game Theory (704) (C- and above)	3 year UG SSH Economics	4 year UG SSH Economics	SSH	
18	ECON 305	Advanced Microeconomics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)	ECON 211 Economic Statistics (2280) (D and above)	ECON 398 General Special Topics in Economics (2184) (C- and above)	3 year UG SSH Economics	4 year UG SSH Economics	SSH	
19	ECON 319	Matching Theory and Applications	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics	4 year UG SSH Economics	SSH	
20	ECON 328	Labor Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics	4 year UG SSH Economics	SSH	
21	ECON 332	Urban Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics	4 year UG SSH Economics	SSH	
22	ECON 341	Economic Simulation Modeling	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			3 year UG SSH Economics	4 year UG SSH Economics	SSH	
23	ECON 413	Econometrics II Time Series	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	

24	ECON 416	Empirical Industrial Organization	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
25	ECON 428	Wages and the Labor Market	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
26	ECON 443	Topics in Macroeconomic Theory	3	6	ECON 202 Intermediate Macroeconomics (207) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
27	ECON 516	Empirical Industrial Organization	4	8	ECON 501 Microeconomics (2187) (C- and above) AND ECON 531 Econometrics (2505) (C- and above)			Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
28	ECON 521	Microeconomic Theory II	4	8	ECON 501 Microeconomics (2187) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)			Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
29	ECON 522	Macroeconomics II	4	8	() (and above)			Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
30	ECON 524	Research Methodology	4	8	ECON 501 Microeconomics (2187) (C- and above) AND ECON 502 Macroeconomics (2186) (C- and above) AND ECON 511 Mathematics and Statistics (2188) (C- and above)	ECON 531 Econometrics (2505) (D and above)		Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	

31	ECON 528	Wages and the Labor Market	4	8	ECON 521 Microeconomic Theory II (2506) (C- and above) AND ECON 531 Econometrics (2505) (C- and above)			Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
32	ECON 531	Econometrics	4	8	ECON 511 Mathematics and Statistics (2188) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)			Economics	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
33	ECON 590	Thesis II	8	16	ECON 589 Thesis I (3714) (P)			Economics			
GSB											
34	BUS 101	Core Course in Business	3	6				2 year UG SOM, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH	SEDS, SMG, SSH, SoM	
35	BUS 420	Business Law	3	6	BUS 101 Core Course in Business (5889) (C- and above)			4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH	SEDS, SMG, SSH, SoM	
36	GSBF 514	Corporate Finance	2	4							
37	GSBF 515a	Investments I	2	4				For GSB programs only! Registration by School admin.			
38	GSBF 515b	Investments II	2	4	GSBF 515a Investments I (4106) (C- and above)			For GSB programs only! Registration by School admin.			
39	GSBF 520	Empirical Asset Pricing	2	4				For GSB programs only! Registration by School admin.			
40	MBA 05	Business Communication	2	4				For GSB programs only! Registration by School admin.			
41	MBA 09	Marketing Management	2	4				For GSB programs only! Registration by School admin.			
42	MBA 10	Foundations of Strategy	2	4				For GSB programs only! Registration by School admin.			
43	MBA 12	Operations Management	2	4				For GSB programs only! Registration by School admin.			

44	MBA 15	Corporate Finance	2	4				For GSB programs only! Registration by School admin.			
45	MBA 16	Entrepreneurship	2	4				For GSB programs only! Registration by School admin.			
46	MBAE 1	Investments	2	4							
47	MBAE 16	Project Management	2	4							
48	MBAE 22	Business Law	2	4							
49	MBAE 6	International Finance	2	4							
50	MHRM 00	Orientation	1.5	3							
51	MHRM 17	Introduction to Statistics and Research Methods	2	4							
52	MSF 01	Financial Modeling	2	4				For GSB programs only! Registration by School admin.			
53	MSF 02	Thesis Preparation Seminar	2	4				For GSB programs only! Registration by School admin.			
GSPP											
Master in Public Administration											
54	MPA 608	Strategic Management and Leadership	4	8				1 year GSPP Public Administration			
55	MPA 610	Program Evaluation	4	8	MPA 602 Public Administration in Theory and Practice (2077) (C- and above) AND MPA 603 Economic Applications for Public Managers (2074) (C- and above) AND MPA 605 Research Methods for Public Managers (2108) (C- and above)			1 year GSPP Public Administration			
56	MPA 699	Master’s Project with Overseas Component	0	0				1 year GSPP Public Administration			
57	MPE 609	Organizational Behavior in the Public Sector	4	8				Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
58	MPE 610	National Identity and Public Policy	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
59	MPE 611	Benefit Cost Analysis	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
60	MPE 623	Law and Development	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		

61	MPE 638	Contemporary Security Challenges in Central Asia and Beyond	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
62	MPE 641	Globalisation and Public Policy	4	8			MPE 640 International Political Economy (1307) (C- and above) OR DPE 623 International Political Economy (6338) (C- and above)	Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
63	MPE 647	Macroeconomic Development and Human Capital	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
64	MPE 649	Public Sector Innovation	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
65	MPE 670	Behavioural Insights and Public Policy	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
66	MPE 681	Natural Resource Management and Policy	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
67	MPE 682	Sustainable Development and Environmental Governance	4	8				Public Administration, Public Policy	GSB, GSE, SEDS, SMG, SSH, SoM		
Master in Public Policy											
68	MPP 602	Macroeconomics and Public Policy	4	8				1 year GSPP Public Policy			
69	MPP 603	Data Analytics in Public Policy	4	8	MPP 611 Statistics for Public Policy (1450) (C- and above) AND MPP 601 Microeconomics and Public Policy (1449) (C- and above) AND MPP 621 Public Policy and Analysis (1451) (C- and above) AND MPP 613 Policy Research Design and Methods (1301) (C- and above)			1 year GSPP Public Policy			
70	MPP 641	Public Management and Leadership	4	8				1 year GSPP Public Policy			

71	MPP 699	Policy Analysis Exercise with Overseas Component	8	16	MPP 601 Microeconomics and Public Policy (1449) (C- and above) AND MPP 611 Statistics for Public Policy (1450) (C- and above) AND MPP 613 Policy Research Design and Methods (1301) (C- and above) AND MPP 621 Public Policy and Analysis (1451) (C- and above)			2 year GSPP Public Policy			
72	MPP 699-0	Policy Analysis Exercise with Overseas Component	0	0	MPP 613 Policy Research Design and Methods (1301) (C- and above)			1 year GSPP Public Policy			
PhD in Public Policy											
73	DPP 600	Developing Dissertation Research	0	0				Public Policy			
74	DPP 602	Macroeconomics in Public Sector	4	8				1 year GSPP PhD Public Policy			
75	DPP 613	Research Design (qualitative and quantitative)	4	8				1 year GSPP PhD Public Policy			
76	DPP 615	Law, Governance and Public Policy	4	8				1 year GSPP PhD Public Policy			
77	DPP 631	Politics of Public Policy	4	8				1 year GSPP PhD Public Policy			
78	DPP 689-0	PhD Qualifying Examination: Core Exam	0	0				2 year GSPP PhD Public Policy			
79	DPP 690	Thesis Preparation and Writing	66	132	DPP 689 PhD Qualifying Examinations (4830) (P) AND DPP 699 Thesis Design and Written Proposal (4831) (B- and above)						
80	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)			Instructor's Permission Required. Registration through Add Course form only!			

81	DPP 690-0	Thesis Preparation and Writing	0	0				3 year GSPP PhD Public Policy, 4 year GSPP PhD Public Policy			
82	DPP 699	Thesis Design and Written Proposal	6	12				2 year GSPP PhD Public Policy			
GSE											
MA in Multilingual Education											
83	EDML 612	Multilingual Society	3	6				1 year GSE MA in Multil.Education			
84	EDML 620	Language and Literacy Development	3	6				2 year GSE MA in Multil.Education			
85	EDML 630	Language Policy and Education Reform Across Contexts	3	6				1 year GSE MA in Multil.Education			
86	EDML 691	Thesis Research II	6	12				2 year GSE MA in Multil.Education			
MSc Educational Leadership HE											
87	EDHE 626	Organization and Governance in Higher Education	3	6				1 year GSE Educ.Leadership			
88	EDHE 692	Thesis Seminar III	4.5	9				2 year GSE Educ.Leadership			
89	EDHE 693	Thesis Seminar IV	9	18				2 year GSE Educ.Leadership			
90	EDUC 508	Academic English IV	1.5	3				2 year GSE Educ.Leadership			
91	EDUC 511	Advanced English for Education Professionals II	3	6				1 year GSE MA in Multil.Education			
92	EDUC 513	English for Thesis Writing II	3	6				2 year GSE MA in Multil.Education			
93	EDUC 531	Academic English 2	2	4				1 year GSE Educ.Leadership			
94	EDUC 572	Kazakh for Professional Purposes	3	6				1 year GSE MA in Multil.Education, 2 year GSE Educ.Leadership, Education			
95	EDUC 573	Academic Writing in Kazakh	3	6				1 year GSE MA in Multil.Education, Education			
96	EDUC 582	Kazakh for Professional Purposes (MSc)	2	4				1 year GSE Educ.Leadership			
97	EDUC 583	Academic Writing in Kazakh (MSc)	2	4				1 year GSE Educ.Leadership			

98	EDUC 585	Education in Kazakhstan for International Students	3	6				1 year GSE Educ.Leadership, 1 year GSE MA in Multil.Education, Education	2 year GSE Educ.Leadership		
99	EDUC 591	Academic English Writing for Doctoral Students II	3	6				2 year GSE PhD Education			
100	EDUC 592	Academic English Writing for Doctoral Students III	3	6				4 year GSE PhD Education			
101	EDUC 600	Research Methods (Part II)	4.5	9				1 year GSE MA in Multil.Education			
102	EDUC 608	Research Methods 2	3	6				1 year GSE Educ.Leadership			
103	EDUC 618	Educational Leadership	3	6				1 year GSE Educ.Leadership			
104	EDUC 675	Learning to Work	4.5	9				2 year GSE Educ.Leadership			
105	EDUC 704	Advanced Methods of Education Research	3	6				1 year GSE PhD Education			
106	EDUC 705	Advanced Methods of Education Research: Qualitative Methods	3	6				1 year GSE PhD Education			
107	EDUC 711	Globalisation and Education	3	6				1 year GSE PhD Education			
108	EDUC 720	Philosophy of Education	3	6				1 year GSE PhD Education			
109	EDUC 728	Exploring the Research Topic 2	0	0				1 year GSE PhD Education			
110	EDUC 730	Preparation for Proposal Defence	0	0				2 year GSE PhD Education, 4 year GSE PhD Education			
111	EDUC 740	Doctoral Seminar	3	6				2 year GSE PhD Education, 3 year GSE PhD Education			
112	EDUC 750	Dissertation Research	9	18				3 year GSE PhD Education, 4 year GSE PhD Education			
113	EDUC 760	Teaching and Learning in the University Context: Curriculum, Pedagogy and Assessment	3	6				3 year GSE PhD Education			
MSc Educational Leadership IE											
114	EDIE 626	Global Perspectives on Inclusive Education	3	6				1 year GSE Educ.Leadership			
115	EDIE 692	Thesis Seminar III	4.5	9				2 year GSE Educ.Leadership			

116	EDIE 693	Thesis Seminar IV	9	18				2 year GSE Educ.Leadership			
MSc Educational Leadership SE											
117	EDSE 626	Curriculum Development and Implementation	3	6				1 year GSE Educ.Leadership			
118	EDSE 692	Thesis Seminar III	4.5	9				2 year GSE Educ.Leadership			
119	EDSE 693	Thesis Seminar IV	9	18				2 year GSE Educ.Leadership			
Other											
Other											
120	STUMOB 001	Student Mobility Course	0	0							
121	T-MARKETNG 799	Strategic Brand Management	1.5	3							
SoM											
Biological Science											
122	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			
123	BIOL 110	Modern Biology I	3	6				5 year UG SEDS, 5 year UG SSH, Biological Sciences, Medical Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
124	BIOL 110L	Modern Biology I Laboratory	1	2		BIOL 110 Modern Biology I (1070) (C and above)		5 year UG SEDS, 5 year UG SSH, Biological Sciences, Medical Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
125	BIOL 120	Modern Biology II	3	6	BIOL 110 Modern Biology I (1070) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences, Medical Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
126	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)		5 year UG SEDS, 5 year UG SSH, Biological Sciences, Medical Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	

127	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)			Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
128	BIOL 301	Molecular Cell Biology	3	6	BIOL 120 Modern Biology II (1195) (C and above)			3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	2 year UG SSH Biological Sciences, Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
129	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)		3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	2 year UG SSH Biological Sciences, Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
130	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)			3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	2 year UG SSH Biological Sciences, Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
131	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)		3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	2 year UG SSH Biological Sciences, Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
132	BIOL 331	Human Anatomy and Physiology II	3	6	BIOL 230 Human Anatomy and Physiology I (72) (C and above) OR BIOL 230 Human Anatomy and Physiology I (6217) (C and above)			Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	

133	BIOL 331L	Human Anatomy and Physiology II Laboratory	1	2	BIOL 110 Modern Biology I Lab (1444) (C and above) OR BIOL 110L Modern Biology I Laboratory (5448) (C and above)	BIOL 331 Human Anatomy and Physiology II (6218) (C and above) OR BIOL 231 Human Anatomy and Physiology II (479) (C and above)		Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
134	BIOL 333	Environmental Biology	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
135	BIOL 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			2 year UG SOM Medical Sciences, 3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	2 year UG SSH Biological Sciences, Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
136	BIOL 341L	Biochemistry I Lab	1	2		BIOL 341 Biochemistry I (2002) (C and above)		Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
137	BIOL 355	Critical Research Reasoning	3	6	BIOL 120 Modern Biology II (1195) (C and above)			3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
138	BIOL 363	Structural Bioinformatics	4	8	BIOL 341 Biochemistry I (2002) (C and above) OR CHEM 341 Biochemistry I (1058) (C and above) OR CSCI 235 Programming Languages (638) (C and above)			Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
139	BIOL 370	Genetics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	2 year UG SSH Biological Sciences, Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	

140	BIOL 370L	Genetics Laboratory	1	2		BIOL 370 Genetics (1174) (C and above)		3 year UG SSH Biological Sciences, 4 year UG SSH Biological Sciences	2 year UG SSH Biological Sciences, Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
141	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	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
142	BIOL 420	Bioethics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			4 year UG SSH Biological Sciences, 4 year UG SSH Chemistry, 5 year UG SEDS, 5 year UG SSH	3 year UG SSH Biological Sciences, 3 year UG SSH Chemistry	SEDS, SMG, SSH, SoM	
143	BIOL 425	Biomedical Research Methods	3	6	BIOL 110 Modern Biology I Lab (1444) (C and above) OR BIOL 110 Modern Biology I (1070) (C and above) AND BIOL 341 Biochemistry I (2002) (C and above) OR CHEM 341 Biochemistry I (1058) (C and above)			Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
144	BIOL 430	Histology with Laboratory	4	8	BIOL 230 Human Anatomy and Physiology I (72) (C and above) OR BIOL 230 Human Anatomy and Physiology I (6217) (C and above)			Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
145	BIOL 440	Neuroscience	3	6	BIOL 230 Human Anatomy and Physiology I (72) (C and above) OR BIOL 230 Human Anatomy and Physiology I (6217) (C and above)			Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	

146	BIOL 445	Medical Microbiology	3	6	BIOL 305 Introduction to Microbiology (5789) (C and above) OR BIOL 305 Introduction to Microbiology with Lab (1642) (C and above)			Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
147	BIOL 450	Food Microbiology	3	6	BIOL 305 Introduction to Microbiology with Lab (1642) (C and above) OR BIOL 305 Introduction to Microbiology (5789) (C and above)			Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
148	BIOL 456	Biology Research Design	3	6		BIOL 355 Critical Research Reasoning (1000) (C and above)		4 year UG SSH Biological Sciences	3 year UG SSH Biological Sciences, Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
149	BIOL 468	Integrated Cell Biology	3	6	(BIOL 110 Modern Biology I (107) (C and above) OR BIOL 110 Modern Biology I (1070) (C and above)) AND BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
150	BIOL 471	Light and Electron microscopy concepts and techniques	3	6	BIOL 110 Modern Biology I (1070) (C and above) AND BIOL 120 Modern Biology II (1195) (C and above) AND CHEM 101 General Chemistry I (113) (C and above) AND PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C and above)			Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	

151	BIOL 471L	Light and Electron Microscopy Concepts and Techniques-Lab	1	2		BIOL 471 Light and Electron microscopy concepts and techniques (4686) (C and above)		Biological Sciences	Chemistry, Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
152	BIOL 491	Graduation Project 2	4	8	BIOL 490 Honors Thesis Research (1581) (C and above)			Biological Sciences			
153	BIOL 492	Directed Study in Biology	3	6				Instructor's Permission Required. Registration through Add Course form only!			
154	BIOL 502	Research Methods	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
155	BIOL 570	Advanced Biotechnology	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
156	BIOL 580	Applied Bioinformatics	3	6	BIOL 520 Statistical Methods in Life Sciences (1203) (C and above)			Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
157	BIOL 590	Research Analysis in Life Sciences	3	6				1 year Gr SSH Biological Sciences and Technologies			
158	BIOL 591	Cellular Biophysics	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
159	BIOL 599	Master’s Thesis Research	0	0				Biological Sciences			
160	BIOL 630	Advanced Neuroscience	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
161	BIOL 637	Fundamentals of Advanced Microscopy	3	6				Biological Sciences	SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
162	BIOL 692	Master’s Thesis	15	30	BIOL 691 Master’s Thesis Research Proposal (5676) (B- and above)			Biological Sciences			
163	BIOL 730	Advanced Neuroscience	4	8				Life Sciences	Biomedical Sciences, SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
164	BIOL 737	Advanced Optical and Electron Microscopy	4	8				Life Sciences	Biomedical Sciences, SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	

165	BIOL 770	Advanced Biotechnology	4	8				Life Sciences	Biomedical Sciences, SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
166	BIOL 780	Applied Bioinformatics	4	8				Life Sciences	Biomedical Sciences, SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
167	BIOL 791	Cellular Biophysics	4	8				Life Sciences	Biomedical Sciences, SSH	GSB, GSE, GSPP, SEDS, SMG, SoM	
168	BIOL 800-0	Thesis Research	0	0				Life Sciences			
MMM											
169	MMMM 508	Molecular Immunology	2	4				1 year Gr SOM Molecular Medicine			
170	MMMM 509	From the Bench to the Bedside: Drug Development and Clinical Trials	3	6				1 year Gr SOM Molecular Medicine			
171	MMMM 510	Natural Medicine	3	6				1 year Gr SOM Molecular Medicine			
172	MMMM 511	Research Methods in Molecular Biomedicine	3	6				1 year Gr SOM Molecular Medicine			
173	MMMM 512	Molecular Basis of Chronic Inflammation	1	2				1 year Gr SOM Molecular Medicine			
174	MMMM 690	Master Research Project	15	30				2 year Gr SOM Molecular Medicine			
MPTOX											
175	MPTX 508	Research Methods in Pharmacology	3	6	MPTX 502 Cellular Communications (5842) (C- and above) OR MPTX 503 Principles of Pharmacology and Toxicology (5843) (C- and above)			1 year Gr SOM Pharmacology and Toxicology			
176	MPTX 509	Drug Discovery and Development II	3	6	MPTX 505 Drug Discovery I (5845) (C- and above)			1 year Gr SOM Pharmacology and Toxicology			
177	MPTX 511E	Environmental Toxicology	3	6				1 year Gr SOM Pharmacology and Toxicology			
178	MPTX 701	Research Project and Thesis	15	30	MPTX 601 Biostatistics and Critical Appraisal (6342) (C and above) AND MSBM 601 Introduction to Research Project (6344) (P)			2 year Gr SOM Pharmacology and Toxicology			
MSMR											

179	MSMR 502	Nutrition in Sports and Exercise	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
180	MSMR 506	Seminar in Sports Medicine	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
181	MSMR 511	Introduction to Research Project	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
182	MSMR 601	Psychology of Sports and Rehabilitation	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
183	MSMR 602	Advances in Sports and Rehabilitation	4	8				2 year Gr SOM Sports Medicine and Rehabilitation			
184	MSMR 702	Master Research Project Thesis	12	24				2 year Gr SOM Sports Medicine and Rehabilitation			
Master of Sciences in Biomedicine											
185	MMMM 507	Critical Analysis of the Contemporary Concepts in Molecular Medicine	3	6				1 year Gr SOM Molecular Medicine			
186	MPTX 504	Systemic Pharmacology I	3	6	MSBM 512 Principles of Pharmacology and Toxicology (8727) (C- and above)			1 year Gr SOM Pharmacology and Toxicology			
187	MPTX 507	Drug Addiction and Toxicology	3	6	MSBM 512 Principles of Pharmacology and Toxicology (8727) (C- and above)			1 year Gr SOM Pharmacology and Toxicology			
188	MSMR 509	Robots for Rehabilitation	3	6				1 year Gr SOM Sports Medicine and Rehabilitation			
Nursing											
189	NUR 101	Human Anatomy and Physiology I and Lab	4	8				1 year UG SOM Nursing			
190	NUR 102L	Human Anatomy and Physiology II with Lab	4	8				1 year UG SOM Nursing			
191	NUR 122	English-Russian-Kazakh Medical Terminology	2	4				2 year UG SOM Nursing			
192	NUR 202	Introduction to Genetics & Molecular Therapeutics	3	6				3 year UG SOM Nursing			
193	NUR 204	Nutrition for Nursing Clinical Practice	2	4				2 year UG SOM Nursing			
194	NUR 212/L	Foundations of Nursing Practice II	2	4				2 year UG SOM Nursing			

195	NUR 213/C	Medical-Surgical Nursing I: Clinical	7	14				2 year UG SOM Nursing			
196	NUR 221	Nursing Research: Introduction to Critical Appraisal and Evidence-Based Practice	3	6				2 year UG SOM Nursing			
197	NUR 305	Research Methods for Nursing	3	6				Nursing (two year program)			
198	NUR 306	Medical-Surgical Nursing: Complex Medical Management for Acute and Chronic Patient	4	8				Nursing (two year program)			
199	NUR 307	Health Promotion and Disease Prevention in Culturally Diverse Populations	4	8				Nursing (two year program)			
200	NUR 308	Enhanced Communication in Professional Nursing	4	8				Nursing (two year program)			
201	NUR 311C	Obstetric Nursing + Clinical	5	10				3 year UG SOM Nursing			
202	NUR 312C	Pediatric Nursing: Nursing Care of Children & Families + Clinical	5	10				3 year UG SOM Nursing			
203	NUR 315	Health Promotion and Disease Prevention	2	4				3 year UG SOM Nursing			
204	NUR 321	Ethics in Nursing and Health	2	4				3 year UG SOM Nursing			
205	NUR 402	Principles of Healthcare Administration	4	8				Nursing (two year program)			
206	NUR 405	Issues and Trends in Nursing	4	8				Nursing (two year program)			
207	NUR 406.2	Medical-Surgical Nursing: Complex Management	4	8				Nursing (two year program)			
208	NUR 407	Capstone: Clinical and EBP Quality Improvement Research	4	8				Nursing (two year program)			
PHD											
209	PHDBS 701-0	Thesis Research	0	0				Biomedical Sciences			
210	PHDBS 702	Molecular Basis of Health and Disease	4	8				Biomedical Sciences	Life Sciences		
211	PHDBS 703	Biomedical Research Analysis and Design of Experimentation	4	8				Biomedical Sciences	Life Sciences		
212	PHDBS 704-0	NUSOM seminar	0	0				Biomedical Sciences	Life Sciences		
213	PHDBS 706	Advanced Biomedical Research Analysis and Design of Experimentation	4	8				Biomedical Sciences			

214	PHDBS 707	Publication Analysis	4	8				Biomedical Sciences			
215	PHDBS 708	Writing for Biomedical Sciences	3	6				Biomedical Sciences	Life Sciences		
216	PHDBS 712	Molecular Immunology	2	4				Biomedical Sciences	Life Sciences		
217	PHDBS 713	From the Bench to the Bedside: Drug Development and Clinical Trials	3	6				Biomedical Sciences	Life Sciences		
218	PHDBS 714	Molecular Basis of Chronic Inflammation	1	2	PHDBS 712 Molecular Immunology (6518) (C+ and above)			Biomedical Sciences	Life Sciences		
219	PHDBS 719	Systemic Pharmacology	3	6				Biomedical Sciences			
220	PHDBS 723	Drug addiction and toxicology	3	6				Biomedical Sciences			
Public Health											
221	PUBH 512	Biostatistical Modeling and Sampling	3	6				1 year Gr SOM Public Health			
222	PUBH 522	Advanced Analytical Epidemiology	3	6				1 year Gr SOM Public Health			
223	PUBH 551	Health Services Management, Health Economic and Health Policy	3	6				1 year Gr SOM Public Health			
224	PUBH 631	Social and Behavioral Sciences in Public Health	3	6				1 year Gr SOM Public Health			
225	PUBH 641	Problem Investigations in Environmental Health	3	6				1 year Gr SOM Public Health			
226	PUBH 651	Risk Management in Health Care	3	6				2 year Gr SOM Public Health			
227	PUBH 652	Applied Methods in Health Services Research	3	6				2 year Gr SOM Public Health			
228	PUBH 682	Master's Project Implementation	12	24				2 year Gr SOM Public Health			
SSH											
Academic Success Centre, Communication and Composition											
229	WCS 150	Rhetoric and Composition	3	6				1 year UG SEDS, 1 year UG SMG, 1 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, SoM	SEDS, SMG, SSH		

230	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)	2 year UG SEDS, 2 year UG SMG, 4 year UG SEDS, 4 year UG SMG, 5 year UG SEDS, 5 year UG SSH, SoM	SEDS, SMG	SSH	
Area Studies											
231	EAS 502	Disciplinary Methodology	4	8				Eurasian Studies			

232	EAS 504	Thesis II	12.5	25	EAS 500 Introduction to Eurasia (1632) (C- and above) AND EAS 501 General Methodology (1633) (C- and above) AND EAS 502 Disciplinary Methodology (1379) (C- and above) AND EAS 503 Thesis I (2141) (C- and above)			Eurasian Studies			
233	EAS 511	Independent Study in Eurasian Studies	4	8				Instructor's Permission Required. Registration through Add Course form only!			
234	EAS 702	Elective in Eurasian Humanities	4	8				Instructor's Permission Required. Registration through Add Course form only!			
235	EAS 703	Elective in Eurasian Social Sciences	4	8				Instructor's Permission Required. Registration through Add Course form only!			
236	EAS 704	Elective 2 in Eurasian Humanities	4	8				Instructor's Permission Required. Registration through Add Course form only!			
237	EAS 708	Proseminar in Eurasian Humanities	4	8				Instructor's Permission Required. Registration through Add Course form only!			
238	EAS 709	Proseminar in Eurasian Social Sciences	4	8				Instructor's Permission Required. Registration through Add Course form only!			
239	EAS 710	Independent Study in Eurasian Studies	4	8				Instructor's Permission Required. Registration through Add Course form only!			
240	EAS 712	Doctoral Seminar in Eurasian Studies II	4	8				Instructor's Permission Required. Registration through Add Course form only!			
241	EAS 713	Qualifying Examination	0	0				Instructor's Permission Required. Registration through Add Course form only!			

242	EAS 800-0	Dissertation Research in Eurasian Studies	0	0				Instructor's Permission Required. Registration through Add Course form only!			
Chemistry											
243	CHEM 092	Survey of Environmental Sciences 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 SSH, World Languages, Literature and Culture			
244	CHEM 101	General Chemistry I	3	6				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	
245	CHEM 101L	General Chemistry I lab	1	2		CHEM 101 General Chemistry I (113) (C and above)		5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, SoM	Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Robotics and Mechatronics, SMG	SEDS, SSH	
246	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, SoM	Computer Science, Electrical and Computer Engineering, Mathematics, Physics, Robotics and Mechatronics, SMG	SEDS, SSH	
247	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry, Undeclared SSH	Biological Sciences	SEDS, SMG, SSH, SoM	
248	CHEM 212	Organic Chemistry II	3	6	CHEM 211 Organic Chemistry I (154) (C and above) OR CHEM 191 Chemistry I for Engineers (1908) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	

249	CHEM 212L	Organic Chemistry II Lab	1	2	CHEM 211L Organic Chemistry I Lab (156) (C and above)	CHEM 212 Organic Chemistry II (443) (C and above) OR CHEM 292 Organic Chemistry for Biologists II (1901) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
250	CHEM 250	Descriptive Inorganic Chemistry	3	6	CHEM 101 General Chemistry I (113) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
251	CHEM 320	Instrumental Analysis	3	6	CHEM 220 Quantitative Chemical Analysis (555) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
252	CHEM 320L	Instrumental Analysis Lab	1	2	(CHEM 220 Quantitative Chemical Analysis (555) (C and above) AND CHEM 220L Quantitative Chemical Analysis Lab (5271) (C and above)) OR CHEM 220 Quantitative Chemical Analysis (555) (C and above)	CHEM 320 Instrumental Analysis (1055) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
253	CHEM 331L	Physical Chemistry Lab	1	2		CHEM 331 Physical Chemistry I (634) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
254	CHEM 332	Physical Chemistry II	3	6	CHEM 331 Physical Chemistry I (634) (C and above)	MATH 274 Introduction to Differential Equations (484) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
255	CHEM 332L	Physical Chemistry II Lab	1	2		CHEM 332 Physical Chemistry II (1056) (C and above) AND CHEM 331L Physical Chemistry Lab (1060) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	

256	CHEM 341L	Biochemistry I Lab	1	2	CHEM 212L Organic Chemistry II Lab (444) (C and above)	CHEM 341 Biochemistry I (1058) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
257	CHEM 380	Research Methods	3	6				Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
258	CHEM 411	Advanced Organic Chemistry I	3	6	CHEM 212 Organic Chemistry II (443) (C and above) AND MATH 161 Calculus I (118) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
259	CHEM 431	Computational Chemistry	3	6	CHEM 332 Physical Chemistry II (1056) (C and above) AND (CSCI 111 Web Programming and Problem Solving (110) (C- and above) OR CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above))			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
260	CHEM 433	Surfactants and Colloids	3	6	CHEM 102 General Chemistry II (232) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
261	CHEM 442	Biochemistry II with Lab-Metabolic Biochemistry	3	6	CHEM 341 Biochemistry I (1058) (C and above) AND CHEM 212 Organic Chemistry II (443) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
262	CHEM 451	Applied Homogenous Catalysis	3	6	CHEM 350 Advanced Inorganic Chemistry (1905) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
263	CHEM 500	Hot Research Topics in Chemistry	3	6				Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
264	CHEM 511	Theoretical Chemistry	3	6	CHEM 510 Principles of Physical Chemistry (5266) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
265	CHEM 515	Applied Colloid and Surfactant Science	3	6				Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
266	CHEM 540	Organic Reactions and Mechanisms	3	6				Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	

267	CHEM 550	Selected Topics in Chemistry	3	6				Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
268	CHEM 560	Directed research in chemistry	0	0				Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
269	CHEM 592	Chemistry Seminar	3	6				Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
270	CHEM 692	MSc Thesis in Chemistry	18	36	CHEM 691 Thesis Proposal (5858) (C- and above)			Chemistry			
Communication and Composition											
271	WCS 101	Communication and Society	3	6				1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
272	WCS 200	Introduction to Public Speaking	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SSH, 5 year UG SEDS, 5 year UG SSH, SoM	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS	SEDS, SMG, SSH	
273	WCS 201	Introduction to Journalism	3	6	WCS 101 Communication and Society (199) (C- and above) OR WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			SEDS, SMG, SSH, SoM			
274	WCS 205	Intercultural Communication	3	6				SEDS, SMG, SSH, SoM			
275	WCS 230	Say What you Mean: Clarity, Precision, and Style in Academic Writing	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SSH, 5 year UG SEDS, 5 year UG SSH, SoM	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS	SEDS, SMG, SSH	
276	WCS 240	Writing for Digital Media	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (C- and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SSH, 5 year UG SEDS, 5 year UG SSH, SoM	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS	SEDS, SMG, SSH	
277	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 SSH, 5 year UG SEDS, 5 year UG SSH, SoM	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH, 4 year UG SEDS	SEDS, SMG, SSH	
278	WCS 302	Argumentation and Debate	3	6	WCS 200 Introduction to Public Speaking (175) (C- and above)			SSH		SEDS, SMG, SoM	

279	WCS 390	Writing Fellows I – Composition and Collaboration in Theory and Practice	3	6	WCS 150/ASC 100 Advanced English for Academic Purposes (2183) (B and above) AND (WCS 220 Science Writing (5686) (B+ and above) OR WCS 230 Say What you Mean: Clarity, Precision, and Style in Academic Writing (3026) (B+ and above) OR WCS 250 Advanced Rhetoric and Composition (3027) (B+ and above))			3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH	SEDS, SMG, SSH, SoM		
280	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!			
281	WCS 392	Writing Fellows III - Research & Practice in Writing & Peer Mentorship	3	6	WCS 391 Writing Fellows II – Practicum in Composition & Collaboration (3425) (B and above)			Instructor's Permission Required. Registration through Add Course form only!			
282	WCS 501	Science Communication	3	6				SSH	SMG, SoM		
Communication and Composition, Languages, Literature and Linguistics											
283	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)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
284	WLL 360/WCS 360	Poetry Writing Seminar	3	6				Instructor's Permission Required. Registration through Add Course form only!			
285	WLL 365/WCS 365	Creative Writing: Autofiction	3	6	WCS 260/WLL 235 Creative Writing: Introduction to Fiction Writing I (4000) (C- and above)			Instructor's Permission Required. Registration through Add Course form only!			
286	WLL 462/WCS 462	Creative Nonfiction	3	6	WCS 260/WLL 235 Creative Writing: Introduction to Fiction Writing I (4000) (C and above)			Instructor's Permission Required. Registration through Add Course form only!			

287	WLL 562/WCS 562	Creative Nonfiction	4	8				Instructor's Permission Required. Registration through Add Course form only!			
History, Philosophy and Religious Studies											
288	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, 2 year UG SOM	SEDS, SMG, SSH, SoM	
289	HST 121	World History I (to 1500)	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
290	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		
291	HST 205	The Mongol Empire	3	6	Subject "HST" BETWEEN 100 and 199 OR Subject "" BETWEEN 100 and 199 OR Subject "" BETWEEN 100 and 199 OR Subject "" BETWEEN 100 and 199			5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
292	HST 238	Clash of Civilizations: Communities, Confessions and Empires in Central Europe, 1000-1890	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
293	HST 400	Research Assistance	1	2	HST 100 History of Kazakhstan (172) (B and above) AND Subject "HST" BETWEEN 100 and 499			Instructor's Permission Required. Registration through Add Course form only!			
294	HST 434	Neither Red, Nor White: 1917 Revolution as a National Moment	3	6	HST 100 History of Kazakhstan (172) (D and above) AND Subject "HST" BETWEEN 200 and 300			5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		

295	HST 499	History Capstone: Undergraduate Dissertation	4	8	HST 498 Directed Reading (1365) (C- and above)			Instructor's Permission Required. Registration through Add Course form only!			
296	HST 534	Neither Red, Nor White: 1917 Revolution as a National Moment	4	8				GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			
297	PHIL 101	Introduction to Philosophy	3	6				SEDS, SMG, SSH, SoM			
298	PHIL 124	Knowledge and Reality	3	6				SEDS, SMG, SSH, SoM			
299	PHIL 141	Critical Thinking	3	6				SEDS, SMG, SSH, SoM			
300	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		
301	PHIL 223	Philosophy of Science	3	6				SEDS, SMG, SSH, SoM			
302	PHIL 240	Formal Logic	3	6				SEDS, SMG, SSH, SoM			
303	PHIL 320	Truth, Knowledge and Belief	3	6				SEDS, SMG, SSH, SoM			
304	REL 212	Buddhist Religious Traditions	3	6				SEDS, SMG, SSH, SoM			
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies											
305	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		

306	HST 263/REL 263	The History of Islam II: Islam in the Modern World	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
307	HST 268/REL 268	Women and Islam in Central Eurasia	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
308	HST 440/REL 440	Religions in the Soviet and Post-Soviet Eras	3	6	Subject "REL" BETWEEN 100 and 200 OR Subject "REL" BETWEEN 100 and 200 OR Subject "HST" BETWEEN 100 and 200			5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
309	HST 540/REL 540	Religions in the Soviet and Post-Soviet Eras	4	8				GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			
310	HST 550/REL 550	Religion and Power in Islamic Central Asia	4	8				GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			
History, Philosophy and Religious Studies, Kazakh Language and Turkic Studies											
311	HST 224/TUR 224	WWI and the World: Causes, conduct and the consequences of WWI	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
312	HST 272	Modern Turkey: from the Ottoman Empire to the Turkish Republic	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
History, Philosophy and Religious Studies, Languages, Literature and Linguistics											
313	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, Languages, Literature and Linguistics, Political Science and International Relations											

314	HST 342/PLS 322/WLL 342	Russian Intellectual History (1762 - 1905)	3	6	Subject "HST" BETWEEN 100 and 199 OR Subject "WLL" BETWEEN 100 and 199 OR Subject "PLS" BETWEEN 100 and 199 OR Subject "REL" BETWEEN 100 and 199			5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
History, Philosophy and Religious Studies, Sociology and Anthropology											
315	HST 223/ANT 287	Cannibalism and Civilization	3	6				5 year UG SEDS, 5 year UG SSH, History, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH, SoM		
316	HST 381/SOC 319	AIDS and Society	3	6	Subject "HST" BETWEEN 101 and 199 OR HST 100 History of Kazakhstan (172) (B- and above)			5 year UG SEDS, 5 year UG SSH, History, SoM, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SEDS, SMG, SSH		
Kazakh Language and Turkic Studies											
317	KAZ 001	Kazakh Language Placement Test	0	0							
318	KAZ 201	Academic Kazakh I	3	6	KAZ 150 Basic Kazakh (1215) (C- and above) OR KLL "[B1.2] Intermediate"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	

319	KAZ 202	Academic Kazakh II	3	6	KAZ 201 Academic Kazakh I (4561) (C- and above) OR KLL "[B2.2] Upper-Interm."			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
320	KAZ 212	Academic Writing in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"		KAZ 304 Academic Writing in Kazakh (703) (C- and above) OR KAZ 303 Academic Speaking in Kazakh (702) (C- and above)	1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
321	KAZ 313	Kazakh for Business	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	

322	KAZ 356	Kazakh Music History	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
323	KAZ 357	Literature of Alash	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
324	KAZ 363	Language and Globalization	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	

325	KAZ 364	Kazakh for Civil Service	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
326	KAZ 365	Abai’s World	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
327	KAZ 366	Kazakh Language for Engineers	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	

328	KAZ 368	Onomastics: History and Function of Names	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
329	KAZ 371	Contemporary Kazakh Literature	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
330	KAZ 372	Language and ethnicity	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	

331	KAZ 373	Kazakh Terminology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
332	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Political Science and International Relations, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	
333	KAZ 410	Kazakh literature of the XV-XIX centuries	3	6	Subject "KAZ" BETWEEN 300 and 399 OR Subject "KAZ" BETWEEN 300 and 399			1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SMG, 1 year UG SOM, Undeclared SEDS	3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 4 year UG SEDS, 4 year UG SMG, 4 year UG SSH	1 year UG SEDS, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	

334	KFL 202	Intermediate Kazakh as a Foreign Language II	4	8	KFL 201 Intermediate Kazakh as a Foreign Language I (4887) (C- and above)			Instructor's Permission Required. Registration through Add Course form only!			
335	TUR 100	Languages, Cultures, and Communities of the Turkic World	3	6				1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
336	TUR 231	Istanbul in Literature and Culture	3	6				SEDS, SMG, SSH, SoM			
337	TUR 412	Advanced Turkish in Media and Politics	3	6				SEDS, SMG, SSH, SoM			
338	TUR 451	The Turkish Novel	3	6				SEDS, SMG, SSH, SoM			
339	TUR 575	Advanced Topics in Turkic Studies	4	8				GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			
340	TUR 775	Doctoral Topic in Turkic Studies	4	8				GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			
Languages, Literature and Linguistics											
341	CHN 101	Beginning Mandarin I	4	8				1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, 2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	3 year UG SEDS, 3 year UG SMG, 3 year UG SSH		
342	CHN 102	Beginning Mandarin II	4	8	CHN 101 Beginning Mandarin I (1384) (C and above)			World Languages, Literature and Culture	Undeclared SSH	SEDS, SMG, SSH, SoM	
343	CHN 301	Upper Intermediate Chinese I	4	8	CHN 202 Intermediate Mandarin II (2678) (C and above)			World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	
344	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			

345	GER 101	Beginning German	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			
346	GER 102	Beginning German II	4	8	GER 101 Beginning German (3173) (C- and above)			2 year UG SSH World Languages, Literatures and Cultures, 3 year UG SSH World Languages, Literatures and Cultures	Undeclared SSH	SEDS, SMG, SSH, SoM	
347	KOR 102	Beginning Korean II	4	8	KOR 101 Beginning Korean I (4672) (C- and above)			2 year UG SSH World Languages, Literatures and Cultures, 3 year UG SSH World Languages, Literatures and Cultures	Undeclared SSH	SEDS, SMG, SSH, SoM	
348	KOR 202	Intermediate Korean II	4	8	KOR 201 Intermediate Korean I (5059) (C- and above)			World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	
349	LING 130	Introduction to Language and Communication	3	6				1 year UG SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
350	LING 131	Introduction to Linguistics	3	6				1 year UG SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
351	LING 140	Language Variation and Change: the Story of English	3	6				1 year UG SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
352	LING 272	Language and the Mind	3	6				World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
353	LING 273	Survey of Research Methods in Linguistics	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
354	LING 374	Language Contact in Central Asia	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	

355	LING 376	Psycholinguistics	3	6	LING 131 Introduction to Linguistics (1394) (C- and above) OR LING 272 Language and the Mind (1847) (C- and above) OR LING 273 Survey of Research Methods in Linguistics (2158) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
356	LING 472	Language Ideologies	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
357	LING 572	Language Ideologies	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
358	LING 772	Language Ideologies	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
359	SPA 102	Beginning Spanish II	4	8	SPA 101 Beginning Spanish I (685) (C- and above)			2 year UG SSH World Languages, Literatures and Cultures, 3 year UG SSH World Languages, Literatures and Cultures, 5 year UG SEDS, 5 year UG SSH	Undeclared SSH	SEDS, SMG, SSH, SoM	
360	SPA 202	Intermediate Spanish II	4	8	SPA 201 Intermediate Spanish I (1475) (C- and above)			World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	
361	SPA 311	Colloquial Spanish	3	6	SPA 202 Intermediate Spanish II (1842) (C and above)			World Languages, Literature and Culture		SEDS, SMG, SSH, SoM	
362	WLL 110	Introduction to Literary Studies	3	6				1 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SSH	SEDS, SMG, SoM	
363	WLL 211	World Literature II: from the 18th to the 20th century	3	6				World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
364	WLL 218	Renaissance in Italy and Beyond	3	6				World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
365	WLL 240	Introduction to the Novel	3	6				World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
366	WLL 257	Fan Culture in the Age of Convergence	3	6				SEDS, SMG, SSH, SoM			
367	WLL 442	Contemporary Russian and Russophone Literature	3	6	Subject "WLL" BETWEEN 100 and 199			Sociology, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	

368	WLL 499	Languages, Linguistics, and Literatures Capstone II	3	6	WLL 498 Languages, Linguistics, and Literatures Capstone I (3048) (C- and above)			World Languages, Literature and Culture			
369	WLL 542	Contemporary Russian and Russophone Literature	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
Languages, Literature and Linguistics, Sociology and Anthropology											
370	WLL 385/ANT 385	Postcolonial Theory and its Applications in Eurasia	3	6	ANT 110 Introduction to Sociocultural Anthropology (501) (C- and above) OR SOC 101 Introduction to Sociology (508) (C- and above) OR WLL 121 Introduction to Cultural Studies (243) (C- and above) OR WLL 102 /PHIL 102 Language, Experience, Culture (2481) (C- and above)			Sociology, World Languages, Literature and Culture	SSH	SEDS, SMG, SoM	
Physics											
371	PHYS 161	Physics I for Scientists and Engineers with Laboratory	4	8		MATH 161 Calculus I (118) (C and above)	PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above)	SEDS, SMG, SSH, SoM			
372	PHYS 162	Physics II for Scientists and Engineers with Laboratory	4	8	PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C- and above) OR PHYS 151 Introductory Physics I with Lab (649) (C- and above)		PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above)	SEDS, SMG, SSH, SoM			
373	PHYS 202	Introductory Astrophysics	3	6	PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			SSH	SEDS, SMG, SoM		
374	PHYS 222	Classical Mechanics II	3	6	PHYS 221 Classical Mechanics I (652) (C- and above)	MATH 274 Introduction to Differential Equations (484) (D and above)		Physics	SSH	SEDS, SMG, SoM	

375	PHYS 270	Computational Physics with Laboratory	3	6	(CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR CSCI 115 Programming Fundamentals (5257) (C- and above)) AND MATH 162 Calculus II (170) (C- and above)	MATH 273 Linear Algebra with Applications (84) (D and above)		Physics	SSH	SEDS, SMG, SoM	
376	PHYS 280	Thermodynamics and Statistical Physics	3	6	MATH 263 Calculus III (81) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			Physics	SSH	SEDS, SMG, SoM	
377	PHYS 362	Classical Electrodynamics II	3	6	PHYS 361 Classical Electrodynamics I (651) (C- and above)			Physics	SSH	SEDS, SMG, SoM	
378	PHYS 370	Optics with Laboratory	4	8	PHYS 361 Classical Electrodynamics I (651) (C- and above)			Physics	SSH	SEDS, SMG, SoM	
379	PHYS 451	Quantum Mechanics I	3	6	PHYS 221 Classical Mechanics I (652) (C- and above) AND PHYS 361 Classical Electrodynamics I (651) (C- and above)			Physics	SSH	SEDS, SMG, SoM	
380	PHYS 463	Astrophysics and General Relativity	3	6	MATH 162 Calculus II (170) (C- and above) AND PHYS 221 Classical Mechanics I (652) (C- and above) AND MATH 274 Introduction to Differential Equations (484) (C- and above)			Physics	SSH	SEDS, SMG, SoM	

381	PHYS 465	Advanced Experimental Physics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)			Physics	SSH	SEDS, SMG, SoM	
382	PHYS 470	Introduction to Optoelectronics	4	8	PHYS 261 Modern Physics with laboratory (125) (C- and above) OR PHYS 473 Introduction to Solid State Physics (1423) (C- and above) OR CHEM 331 Physical Chemistry I (634) (C- and above) OR MAE 301 Engineering Thermodynamics (5927) (C- and above) OR CHME 201 Chemical Engineering Thermodynamics (5007) (C- and above) OR ELCE 204 Solid State Devices (5508) (C- and above)			Physics	SSH	SEDS, SMG, SoM	
383	PHYS 483	Statistical Mechanics	3	6	PHYS 280 Thermodynamics and Statistical Physics (1179) (C- and above)			Physics	SSH	SEDS, SMG, SoM	
384	PHYS 499	Honors Thesis	3	6				Instructor's Permission Required. Registration through Add Course form only!			
385	PHYS 510	Quantum Mechanics	3	6				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
386	PHYS 520	Statistical Physics	3	6				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
387	PHYS 563	General Relativity	3	6				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
388	PHYS 565	Advanced Physics Laboratory	4	8				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
389	PHYS 570	Introduction to Optoelectronics	4	8				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		

390	PHYS 600	Thesis Research	0	0				Physics			
391	PHYS 692	Thesis	21	42				Instructor's Permission Required. Registration through Add Course form only!			
392	PHYS 700-0	Thesis Research	0	0				Physics			
393	PHYS 701	Current Research Literature	3	6				Physics			
394	PHYS 710	Quantum Mechanics	4	8				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
395	PHYS 720	Statistical Physics	4	8				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
396	PHYS 763	General Relativity	4	8				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
397	PHYS 770	Introduction to Optoelectronics	4	8				Physics	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
Political Science and International Relations											
398	PLS 101	Introduction to Political Science	3	6				5 year UG SSH, SEDS, SMG, SoM	Biological Sciences, Chemistry, Mathematics, Physics	SSH	
399	PLS 102	The Political Challenges of Technologies and Science: An Introduction	3	6				5 year UG SSH, SEDS, SMG, SoM	Biological Sciences, Chemistry, Mathematics, Physics	SSH	
400	PLS 120	Introduction to Political Theory	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	Political Science and International Relations	SEDS, SMG, SSH, SoM	
401	PLS 140	Introduction to Comparative Politics	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	Political Science and International Relations	SEDS, SMG, SSH, SoM	
402	PLS 150	Introduction to International Relations	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	Political Science and International Relations	SEDS, SMG, SSH, SoM	
403	PLS 210	Political Science Research Methods	3	6				5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
404	PLS 315	Political Game Theory	3	6	PLS 211 Quantitative Methods (221) (C- and above) OR ECON 101 Introduction to Microeconomics (379) (C and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		

405	PLS 329	Anarchy	3	6	PLS 120 Introduction to Political Theory (512) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
406	PLS 331	Nationalism and Multi-Ethnic Governance	3	6	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 140 Introduction to Comparative Politics (223) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
407	PLS 338	U.S. Government and Politics	3	6	(PLS 140 Introduction to Comparative Politics (223) (C- and above) OR PLS 101 Introduction to Political Science (513) (C- and above)) AND PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
408	PLS 340	Politics of East Asia	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			3 year UG SSH Political Sciences and International Relations			
409	PLS 341	Politics of Development	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
410	PLS 352	International Relations Theory	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
411	PLS 355	European Union: Institutions and Policies	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
412	PLS 356	International Politics of the Korean Peninsula	3	6	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 150 Introduction to International Relations (511) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		

413	PLS 360	Foreign Policy Analysis	3	6	PLS 150 Introduction to International Relations (511) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
414	PLS 361	Memory Politics in East Asia	3	6				5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
415	PLS 391	Intermediate Special Topics in Comparative Politics	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
416	PLS 392	Politics of China	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
417	PLS 395	Independent Study	3	6	PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			Instructor's Permission Required. Registration through Add Course form only!			
418	PLS 426	Hannah Arendt on Power, Violence, and Revolution	3	6	PLS 120 Introduction to Political Theory (512) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
419	PLS 431	Politics and Governance of the Russian Federation	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
420	PLS 445	Political Violence	3	6	(PLS 140 Introduction to Comparative Politics (223) (C- and above) OR PLS 150 Introduction to International Relations (511) (C- and above)) AND PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		

421	PLS 446	The Politics of Immigration Control	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 SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
422	PLS 451	Advanced Topics in International Relations	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
423	PLS 460	Environmental Politics	3	6				5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
424	PLS 465	Politics of International Finance	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			5 year UG SSH, Political Science and International Relations	SEDS, SMG, SSH, SoM		
425	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!			
426	PLS 510	Advanced Research II	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
427	PLS 526	Hannah Arendt on Power, Violence, and Revolution	4	8			PLS 426 Hannah Arendt on Power, Violence, and Revolution (5398) (C- and above)	Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
428	PLS 531	Politics and Governance of the Russian Federation	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		

429	PLS 545	Political Violence	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
430	PLS 546	The Politics of Immigration Control	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
431	PLS 560	Environmental Politics	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
432	PLS 565	Politics of International Finance	4	8				Political Science and International Relations	GSB, GSE, GSPP, SEDS, SMG, SSH, SoM		
433	PLS 596	Thesis Preparation	2	4	Subject "PLS" BETWEEN 500 and 599			Political Science and International Relations			
434	PLS 599	MA Thesis II	10	20				Political Science and International Relations			
SSH											
435	SSH 300	School of Sciences and Humanities Internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			
436	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											
437	ANT 110	Introduction to Sociocultural Anthropology	3	6				5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Anthropology, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
438	ANT 160	Introduction to Biological Anthropology	3	6			ANT 361 Human Evolution: Bones, Stones and Genomes (160) (C- and above)	5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Anthropology, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	

439	ANT 231	Frauds and Fallacies in Archaeology	3	6				5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Anthropology, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
440	ANT 314	Politics of Identity in Eurasia	3	6	Subject "HST" BETWEEN 100 and 499 OR Subject "SOC" BETWEEN 100 and 499 OR Subject "ANT" BETWEEN 100 and 499 OR Subject "PLS" BETWEEN 100 and 499 OR Subject "SOC" BETWEEN 100 and 499 OR Subject "ANT" BETWEEN 100 and 499			Anthropology, Sociology	SSH	SEDS, SMG, SoM	
441	ANT 331	Archaeology of Power and Inequality	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
442	ANT 361	Human Evolution: Bones, Stones and Genomes	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
443	ANT 400	Research Assistance in Anthropology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
444	ANT 420	Materiality and Eurasian Society	3	6	Subject "ANT" BETWEEN 200 and 399 OR Subject "ANT" BETWEEN 200 and 399 OR Subject "SOC" BETWEEN 200 and 399 OR Subject "SOC" BETWEEN 200 and 399			Anthropology, Sociology	SSH	SEDS, SMG, SoM	
445	ANT 499	Capstone Seminar II	3	6	ANT 498 Capstone Seminar I (2965) (C- and above)			SSH			
446	ANT 520	Materiality and Eurasian Society	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		
447	ANT 585	Postcolonial Theory and Its Application in Eurasia	4	8				SSH	GSB, GSE, GSPP, SEDS, SMG, SoM		

448	SOC 101	Introduction to Sociology	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, SoM, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	1 year UG SSH, 2 year UG SSH, 3 year UG SSH Biological Sciences	SEDS, SMG, SSH	
449	SOC 115	Global Social Problems	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	1 year UG SSH, 2 year UG SSH, 3 year UG SSH	SEDS, SMG, SSH, SoM	
450	SOC 203	Quantitative Methods in Sociology	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
451	SOC 215	Sociology of Race and Ethnicity	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
452	SOC 221	International Migration	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
453	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	
454	SOC 320	Organized Crime and Corruption	3	6	SOC 101 Introduction to Sociology (508) (C- and above)			5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	
455	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	
456	SOC 400	Research Assistance in Sociology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
457	SOC 401	Research Assistance in Sociology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
458	SOC 415	Social Problems and Issues in Eurasia	3	6				5 year UG SEDS, 5 year UG SSH, Anthropology, Sociology	SSH	SEDS, SMG, SoM	

459	SOC 499	Capstone Seminar II	3	6	SOC 498 Capstone Seminar Part I (3043) (C- and above)			SSH			
460	SOC 515	Social Problems and Issues in Eurasia	4	8				GSB, GSE, GSPP, SEDS, SMG, SSH, SoM			
Sociology and Anthropology, Sociology and Anthropology											
461	ANT 216/SOC 216	Marriage and Kinship	3	6				5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Anthropology, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
462	ANT 285/SOC 212	Food and Society	3	6				5 year UG SEDS, 5 year UG SEDS (pending graduation), 5 year UG SSH, 5 year UG SSH (pending graduation), Anthropology, Sociology, Undeclared SEDS, Undeclared SMG, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
SEDS											
Computer Science											
463	SEDS 502	Teaching Practicum	3	6				Computer Science, Data Science, Robotics			
SoE											
Chemical and Materials Engineering											
464	CHME 202	Fluid Mechanics	3	6				2 year UG SEDS Chemical and Materials Engineering	3 year UG SEDS Chemical and Materials Engineering, 4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering		

465	CHME 203	Organic and Polymer Chemistry	3	6	CHME 222 Inorganic and Analytical Chemistry (5039) (D and above)			2 year UG SEDS Chemical and Materials Engineering	3 year UG SEDS Chemical and Materials Engineering, 4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering		
466	CHME 303	Separation Processes	3	6	CHME 200 Basic Principles and Calculations in Chemical Engineering (5038) (D and above) AND CHME 201 Chemical Engineering Thermodynamics (5007) (D and above)			3 year UG SEDS Chemical and Materials Engineering	4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering		
467	CHME 304	Chemical Reaction Engineering	3	6	CHME 200 Basic Principles and Calculations in Chemical Engineering (5038) (D and above)			3 year UG SEDS Chemical and Materials Engineering	4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering		
468	CHME 305L	Chemical Engineering Laboratory I	3	6	CHME 201 Chemical Engineering Thermodynamics (5007) (D and above) AND CHME 202 Fluid Mechanics (5543) (D and above) AND CHME 300 Heat and Mass Transfer (5952) (D and above)			3 year UG SEDS Chemical and Materials Engineering	4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering		
469	CHME 352	Research Practice	3	6				3 year UG SEDS Chemical and Materials Engineering	4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering		
470	CHME 402	Materials Chemistry	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering			
471	CHME 403	Chemical Process Control and Safety	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering			

472	CHME 421	Tissue Engineering	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering			
473	CHME 454	Transport Phenomena and Operations	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
474	CHME 459	Biomechanics	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
475	CHME 461	Powder technology	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering			
476	CHME 464	Directed Study	4	8				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering			
477	CHME 485	Introduction to Biochemical Engineering	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering			
478	DCHME 700-0	Thesis Research	0	0				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

479	DCHME 701	Current Research Literature	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
480	DCHME 715	Air Quality, Toxicity and Health	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
481	DCHME 752	Polymer Melt Fluid Mechanics and Processing	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
482	DCHME 757	Advanced Chemical Engineering Thermodynamics	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

483	DCHME 763	Advanced Heat and Mass Transfer	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
484	DCHME 766	Advanced Energy Materials and Their Application	4	8				Chemical Engineering	Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
485	ECHE 479	Capstone Project II	9	18	ECHE 418 Capstone project 1 (1278) (D and above)			Instructor's Permission Required. Registration through Add Course form only!			
486	MBME 600	Research Seminar	3	6				Biomedical Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

487	MBME 602	Master Thesis II	12	24	MBME 601 Master Thesis I (5953) (P)			Biomedical Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
488	MBME 607	Advanced Tissue Engineering	3	6				Biomedical Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

489	MBME 700	Strategies for Controlled Topical Delivery of Drugs	3	6				Biomedical Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
490	MBME 705	Infectious Diseases and Antimicrobial Strategies	3	6				Biomedical Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

491	MBME 708	Biomedical Imaging	3	6				Biomedical Engineering	Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
492	MCHME 600	Research Seminar	3	6				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

493	MCHME 602	MSc Thesis II	12	24				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
494	MCHME 606	Advanced Heat and Mass Transfer	3	6				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
495	MCHME 701	Advanced Chemical Thermodynamics	3	6				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

496	MCHME 707	Polymer Melt Fluid Mechanics and Processing	3	6				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
497	MCHME 713	Advanced Energy Materials and their Applications	3	6				Chemical and Materials Engineering	Biomedical Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
498	MCHME 715	Air Quality, Toxicity and Health	3	6				Chemical and Materials Engineering	Biomedical 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											
499	MSC 600	Research Methods and Ethics	3	6				1 year Gr SEDS Biomedical Engineering, 1 year Gr SEDS Chemical and Materials Engineering, 1 year Gr SEDS Civil and Environmental Engineering, 1 year Gr SEDS Electrical and Computer Engineering, 1 year Gr SEDS Mechanical and Aerospace Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical and Aerospace Engineering		
Civil Engineering, Communication and Composition											
500	MSC 601	Technical Communication	3	6				1 year Gr SEDS Electrical and Computer Engineering	SEDS, SMG		
Civil and Environmental Engineering											
501	CEE 202	Environmental Engineering	3	6	CEE 201 Environmental Chemistry (4999) (D and above)			2 year UG SEDS Civil and Environmental Engineering	3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering, 4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
502	CEE 203	Structural Analysis	3	6	MAE 200 Structural Mechanics I (5010) (D and above) OR CEE 200 Structural Mechanics I (5005) (D and above)			2 year UG SEDS Civil and Environmental Engineering	3 year UG SEDS Civil Engineering, 3 year UG SEDS Civil and Environmental Engineering, 4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
503	CEE 301	Structural Design – Steel	3	6	CEE 203 Structural Analysis (5500) (D and above)			3 year UG SEDS Civil and Environmental Engineering	4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
504	CEE 303	Geotechnical Design	3	6	CEE 302 Geotechnical Engineering (5896) (D and above)			3 year UG SEDS Civil and Environmental Engineering	4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		

505	CEE 305	Hydraulics and Hydrology	3	6	MAE 300 Fluid Mechanics I (5926) (D and above) OR EME 275 Fluid Mechanics I (1988) (D and above) OR CEE 304 Fluid Mechanics (6348) (D and above)			3 year UG SEDS Civil and Environmental Engineering	4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
506	CEE 350	Water and Wastewater Treatment Processes	3	6	CEE 201 Environmental Chemistry (4999) (D and above) AND CEE 202 Environmental Engineering (5499) (D and above)			3 year UG SEDS Civil and Environmental Engineering	4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
507	CEE 352	Engineering geology	3	6				3 year UG SEDS Civil and Environmental Engineering	4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering		
508	CEE 400	Transportation Engineering	3	6	CEE 204 Civil Engineering CAD and Surveying (5002) (D and above)			4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering	3 year UG SEDS Civil and Environmental Engineering		
509	CEE 454	Foundation Engineering	3	6	ECE 306 Geotechnical Design (1043) (D and above) OR CEE 303 Geotechnical Design (6158) (D and above)			4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering	3 year UG SEDS Civil and Environmental Engineering		
510	CEE 457	Air Quality Management	3	6				4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering	3 year UG SEDS Civil and Environmental Engineering		
511	CEE 463	Individual Research Project in Civil & Environmental Engineering 1	3	6				4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering	3 year UG SEDS Civil and Environmental Engineering		
512	CEE 466	Introduction to Finite Element Methods	3	6	CEE 200 Structural Mechanics I (5005) (D and above)			4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering	3 year UG SEDS Civil and Environmental Engineering		

513	DCEE 700-0	Thesis Research	0	0				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
514	DCEE 701	Current Research Literature	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
515	DCEE 755	Contaminated Site Management and Soil Treatment Technologies	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
516	DCEE 759	Geotechnical Earthquake Engineering	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

517	DCEE 762	Advanced Project Management	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
518	DCEE 765	Concrete Repair and Maintenance	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
519	DCEE 766	Advanced Pavement Design, Analysis, and Rehabilitation	4	8				Civil Engineering	Chemical Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
520	EMEM 510	Managerial Accounting	2	4				Engineering Management			
521	EMEM 511	Business Strategy	2	4				Engineering Management			
522	EMEM 513	Entrepreneurship	2	4				Engineering Management			
523	EMEM 514	Finance	2	4				Engineering Management			
524	EMEM 516	Management of Organizations	2	4				Engineering Management			
525	EMEM 517	Marketing	2	4				Engineering Management			
526	EMEM 527	Globalization and Engineering	3	6				Engineering Management			

527	EMEM 529	Capstone Project	8	16				Engineering Management			
528	EMEM 543	Quality and Lean Management	3	6				Engineering Management			
529	EMEM 545	Business Communication	2	4				Engineering Management			
530	EMEM 547	Applying Industry 4.0	3	6				Instructor's Permission Required. Registration through Add Course form only!			
531	EMEM 548	Understanding and Predicting Consumer Behavior	2	4				Engineering Management			
532	MCEE 600	Research Seminar	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
533	MCEE 602	MSc Thesis II	12	24				2 year Gr SEDS Civil and Environmental Engineering			

534	MCEE 606	Advanced Project Management	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
535	MCEE 704	Contaminated Site Management and Soil Treatment Technologies	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

536	MCEE 706	Concrete Repair and Maintenance	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
537	MCEE 707	Geotechnical Earthquake Engineering	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

538	MCEE 712	Advanced Pavement Design, Analysis, and Rehabilitation	3	6				Civil and Environmental Engineering	Biomedical Engineering, Chemical and Materials Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
Electrical and Computer Engineering											
539	DELCE 700-0	Thesis Research	0	0				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
540	DELCE 701	Current Research Literature	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
541	DELCE 758	Advanced Industrial and Commercial Energy Systems	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

542	DELCE 759	Advanced Pattern Recognition and Machine Learning	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
543	DELCE 762	Fundamentals of Signal Processing	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
544	DELCE 763	Advanced Electronic Circuits	4	8				Electrical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
545	ELCE 201	Circuits Theory II	3	6	ELCE 200 Introduction to Electrical Circuits (4991) (C- and above)			2 year UG SEDS Electrical and Computer Engineering	3 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
546	ELCE 201L	Circuit Theory Laboratory	1	2		ELCE 201 Circuit Theory (5507) (D and above)		2 year UG SEDS Electrical and Computer Engineering	3 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		

547	ELCE 202	Digital Logic Design	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) AND ENG 101 Programming for Engineers (4517) (C- and above)			2 year UG SEDS Electrical and Computer Engineering	3 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
548	ELCE 202L	Digital Logic Design Laboratory	1	2		ELCE 202 Digital Logic Design (4992) (D and above)		2 year UG SEDS Electrical and Computer Engineering	3 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
549	ELCE 300	Microprocessor Systems	3	6	ELCE 202 Digital Logic Design (4992) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
550	ELCE 300L	Microprocessor Systems Laboratory	1	2		ELCE 300 Microprocessor Systems (6183) (C- and above)		3 year UG SEDS Electrical and Computer Engineering	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
551	ELCE 302	Electric Machines	3	6	ELCE 201 Circuit Theory (5507) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
552	ELCE 302L	Electrical Machines Laboratory	1	2	ELCE 201 Circuit Theory (5507) (C- and above)	ELCE 302 Electric Machines (5919) (C- and above)		3 year UG SEDS Electrical and Computer Engineering	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		

553	ELCE 303	Power System Analysis	3	6	ELCE 200 Introduction to Electrical Circuits (4991) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
554	ELCE 305	Data Structures and Algorithms	3	6	CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR ENG 101 Programming for Engineers (4517) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
555	ELCE 308	Communication Systems	3	6	ELCE 203 Signals and Systems (4993) (C- and above)			3 year UG SEDS Electrical and Computer Engineering	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
556	ELCE 309	Individual Study	3	6				3 year UG SEDS Electrical and Computer Engineering	4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering		
557	ELCE 310L	Electronics Instrumentation and Measurement	1	2	ELCE 201 Circuit Theory (5507) (C- and above)	ELCE 301 Electronic Circuits (5918) (C- and above)		3 year UG SEDS Electrical and Computer Engineering			
558	ELCE 458	Numerical Optimization Techniques and Computer Applications	3	6	ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (C- and above)			4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering	3 year UG SEDS Electrical and Computer Engineering		
559	ELCE 459	Design of Application Specific Electronic Circuits	3	6	ELCE 301 Electronic Circuits (5918) (C- and above)			4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering	3 year UG SEDS Electrical and Computer Engineering		
560	ELCE 460	Introduction to Computer Architecture	3	6	ELCE 300 Microprocessor Systems (6183) (C- and above)			4 year UG SEDS Electrical and Computer Engineering			

561	ELCE 486	Photonics for Engineering	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)			4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering	3 year UG SEDS Electrical and Computer Engineering		
562	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)	SEDS, SMG			
563	MECE 600	Research Seminar	3	6				1 year Gr SEDS Electrical and Computer Engineering			
564	MECE 602	Master Thesis II	12	24				2 year Gr SEDS Electrical and Computer Engineering			
565	MECE 606	Embedded Systems and Applications	3	6							

566	MECE 700	Industrial and Commercial Power System	3	6				Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
567	MECE 704	Fundamentals of Signal Processing	3	6				Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
568	MECE 707	Advanced Electronic Circuits	3	6				Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

569	MECE 717	Pattern Recognition and Machine Learning	3	6				Electrical and Computer Engineering	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
Geosciences											
570	GEOL 101	Fundamentals of Geology	3	6				1 year UG SMG	SMG	SEDS, SSH	
571	GEOL 203	Sedimentary petrology	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 202 Geologic Maps and Cross-Sections (5123) (D and above)	GEOL 202 Geologic Maps and Cross-Sections (5123) (D and above)		2 year UG SMG Geology	SMG		
572	GEOL 204	Sedimentology and strartigraphy	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above) AND GEOL 202 Geologic Maps and Cross-Sections (5123) (D and above)			2 year UG SMG Geology	SMG		
573	GEOL 205	Paleontology	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			2 year UG SMG Geology	SMG		
574	GEOL 206	Field Geology 1	3	6	GEOL 202 Geologic Maps and Cross-Sections (5123) (C- and above)			2 year UG SMG Geology	SMG		

575	GEOL 304	Geophysics	3	6	GEOL 204 Sedimentology and strartigraphy (5475) (D and above)			3 year UG SMG Geology	SMG		
576	GEOL 306	Geodynamics	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			3 year UG SMG Geology	SMG		
577	GEOL 307	Geographic Information Systems	3	6				3 year UG SMG Geology	SMG		
578	GEOL 308	Environmental Geochemistry	3	6				3 year UG SMG Geology	SMG		
579	GEOL 309	Hydrogeology	3	6				3 year UG SMG Geology	SMG		
580	GEOL 403	Geostatistics	3	6	MATH 161 Calculus I (118) (C- and above)			4 year UG SMG Geology			
581	GEOL 405	Research Project II	3	6	GEOL 404 Research Project I (6423) (C- and above)			4 year UG SMG Geology			
Mechanical and Aerospace Engineering											
582	DMAE 700-0	Thesis Research	0	0				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
583	DMAE 702	Current Research Literature	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		

584	DMAE 703	Numerical Techniques for Engineers	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mining Engineering, Petroleum Engineering, Robotics Engineering, Science, Engineering and Technology		
585	DMAE 750	Advanced Statistics and Probability	4	8			MSC 615 Advanced Statistics and Probability (2394) (B- and above)	Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
586	DMAE 756	Design and Manufacturing with Environmental Concern	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
587	DMAE 757	Design Optimization	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
588	DMAE 759	Space Structure Design	4	8				Mechanical Engineering, Science, Engineering and Technology			

589	DMAE 769	Advanced Computational Fluid Dynamics and Heat Transfer in Mechanical Engineering	4	8				Mechanical Engineering	Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Robotics Engineering, Science, Engineering and Technology		
590	ENG 102	Engineering Materials I	3	6				1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SEDS Undeclared	Civil and Environmental Engineering, Mechanical and Aerospace Engineering		
591	ENG 103	Engineering Materials II	3	6				1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Electrical and Computer Engineering, Undeclared SEDS	Chemical and Materials Engineering, Electrical and Computer Engineering		
592	ENG 201	Applied Probability and Statistics	3	6	MATH 162 Calculus II (170) (C- and above)			2 year UG SEDS Chemical and Materials Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering		SEDS	
593	ENG 202	Numerical Methods in Engineering	3	6	ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (D and above)			2 year UG SEDS Chemical and Materials Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering		SEDS	

594	ENG 400	Capstone Project	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering, 4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering, 4 year UG SEDS Electrical and Computer Engineering, 4 year UG SEDS Electrical and Electronic Engineering, 4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering, 5 year UG SEDS			
595	MAE 205	Material and Manufacturing I	3	6				2 year UG SEDS Mechanical and Aerospace Engineering	3 year UG SEDS Mechanical and Aerospace Engineering, 4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
596	MAE 206	Engineering Dynamics I	3	6				2 year UG SEDS Mechanical and Aerospace Engineering	3 year UG SEDS Mechanical and Aerospace Engineering, 4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
597	MAE 305	Fluid Mechanics II	3	6	MAE 300 Fluid Mechanics I (5926) (D and above) OR EME 275 Fluid Mechanics I (1988) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		

598	MAE 306	Computer Aided Engineering	3	6	ENG 202 Numerical Methods in Engineering (5506) (D and above) AND MAE 201 Computer Aided Design (5011) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
599	MAE 307	Engineering Dynamics II	3	6	MAE 206 Engineering Dynamics I (5535) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
600	MAE 350	Structural Mechanics II	3	6	MAE 200 Structural Mechanics I (5010) (D and above) OR CEE 200 Structural Mechanics I (5005) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
601	MAE 351	Vehicle Propulsion Systems	3	6	MAE 301 Engineering Thermodynamics (5927) (D and above) OR BENG 226 Engineering Thermodynamics (1553) (D and above)			3 year UG SEDS Mechanical and Aerospace Engineering	4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering		
602	MAE 454	Aerodynamics	3	6	MAE 300 Fluid Mechanics I (5926) (D and above)			4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	Mechanical and Aerospace Engineering		
603	MAE 455	Flight Mechanics	3	6	MAE 340 Aerodynamics (6576) (D and above) OR MAE 305 Fluid Mechanics II (6173) (D and above)			4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	Mechanical and Aerospace Engineering		
604	MAE 456	Materials and Manufacturing II	3	6				4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	3 year UG SEDS Mechanical and Aerospace Engineering		

605	MAE 460	Advanced Topics in Computational Fluid Dynamics	3	6	MAE 300 Fluid Mechanics I (5926) (D and above) AND ENG 202 Numerical Methods in Engineering (5506) (D and above)			4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	3 year UG SEDS Mechanical and Aerospace Engineering		
606	MAE 463	Micro-Electro-Mechanical Systems and Microsystems technology	3	6				4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	3 year UG SEDS Mechanical and Aerospace Engineering		
607	MAE 464	Mechanics of Soft Materials	3	6	ENG 102 Engineering Materials I (4708) (D and above)			Mechanical and Aerospace Engineering			
608	MMAE 600	Research Seminar	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, Robotics		

609	MMAE 602	Master Thesis II	12	24	MMAE 601 Master Thesis I (5014) (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, Robotics		
610	MMAE 604	Advanced Computational Fluid Dynamics and Heat Transfer in Mechanical 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, Robotics		

611	MMAE 700	Advanced Statistics and Probability	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, Robotics		
612	MMAE 701	Numerical Techniques for Engineers	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, Robotics		

613	MMAE 704	Design and Manufacturing with Environmental Concern	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, Robotics		
614	MMAE 705	Design Optimization	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, Robotics		
615	MMAE 710	Space Structures Design	3	6				SEDS, SMG			

616	MMAE 716	Digital Transformation Concepts	3	6				1 year Gr SEDS Engineering Management, 1 year Gr SEDS Mechanical and Aerospace Engineering, Engineering Management	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Data Science, Electrical and Computer Engineering, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
Mining Engineering											
617	MINE 201	Mineral Processing	3	6	SMG 100 Introduction to Natural Resources Extraction (4773) (and above) AND MATH 162 Calculus II (170) (and above) AND CHEM 101 General Chemistry I (113) (C- and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			2 year UG SMG Mining Engineering, 4 year UG SMG Geology	SMG	SEDS	
618	MINE 306	Underground Mining Systems and Design	3	6	MINE 302 Geomechanics (5878) (D and above)			3 year UG SMG Mining Engineering	SMG	SEDS	
619	MINE 307	Surface Mining System and Design	3	6	MINE 302 Geomechanics (5878) (D and above)			3 year UG SMG Mining Engineering	SMG	SEDS	
620	MINE 308	Mine Planning	3	6				3 year UG SMG Mining Engineering	SMG	SEDS	
621	MINE 309	Sustainability and Mining Environment	3	6	SMG 100 Introduction to Natural Resources Extraction (4773) (D and above)			3 year UG SMG Mining Engineering, 4 year UG SMG Geology	SMG	SEDS	
622	MINE 310	Rock Breakage	3	6	MINE 302 Geomechanics (5878) (D and above)			3 year UG SMG Mining Engineering	SMG	SEDS	

623	MINE 403	Mine Risk Management	3	6				4 year UG SMG Mining Engineering	SMG	SEDS	
624	MINE 480	Mine Design Project	3	6	MINE 307 Surface Mining System and Design (6150) (C- and above) OR MINE 306 Underground Mining Systems and Design (6151) (C- and above)			4 year UG SMG Mining Engineering	SMG	SEDS	
625	MINE 490	Research project II	3	6	MINE 489 Mine Design Project I (6419) (P)			4 year UG SMG Mining Engineering	SMG	SEDS	
626	MINE 507	Rock Excavation Methods	3	6				Mining Engineering			
627	MINE 508	Advanced Rock Mechanics	3	6				Mining Engineering			
628	MINE 509	Advanced Surface Mine Design	3	6				Mining Engineering			
629	MINE 510	Advanced Underground Mine Design	3	6				Mining Engineering			
630	MINE 691	Thesis II	15	30	MINE 690 Thesis I (4531) (P)			Mining Engineering			
631	MINE 702	Current Research Literature	4	8				Mining Engineering			
632	MINE 703	Advanced Mining Systems	4	8				Mining Engineering	Petroleum Engineering, SEDS, SSH		
633	MINE 803	Advanced Geometallurgy	4	8				Mining Engineering	Petroleum Engineering, SEDS, SSH		
634	MINE 890-0	Thesis Research	0	0				Mining Engineering			
Petroleum Engineering											
635	PETE 202	Transport Phenomena	3	6	ENG 200 Engineering Mathematics III (Differential Equations and Linear Algebra) (5009) (C- and above)			2 year UG SMG Petroleum Engineering	SMG		
636	PETE 203	Drilling Engineering with Laboratories	4	8	PETE 201 Fluid Mechanics and Thermodynamics (5120) (C- and above)			2 year UG SMG Petroleum Engineering	SMG		
637	PETE 204	Reservoir Rock and Fluid Properties with Lab	4	8				2 year UG SMG Petroleum Engineering, 4 year UG SMG Geology	SMG		

638	PETE 305	Well Test Analysis	3	6	PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above)			3 year UG SMG Petroleum Engineering	SMG		
639	PETE 306	Reservoir Engineering II	3	6	PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above)			3 year UG SMG Petroleum Engineering	SMG		
640	PETE 307	Production Engineering	3	6	PETE 201 Fluid Mechanics and Thermodynamics (5120) (C- and above) OR PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above)			3 year UG SMG Petroleum Engineering	SMG		
641	PETE 308	Enhanced Oil Recovery	3	6	PETE 204 Reservoir Rock and Fluid Properties with Lab (5487) (C- and above)			3 year UG SMG Petroleum Engineering	SMG		
642	PETE 404	Petroleum Geomechanics	3	6	GEOL 101 Fundamentals of Geology (4774) (C- and above) OR GEOL 102 Fundamentals of Geology (4772) (C- and above)			4 year UG SMG Petroleum Engineering	SMG		
643	PETE 407	Capstone Design Project II	3	6	PETE 400 Capstone Design Project I (6424) (P)			4 year UG SMG Petroleum Engineering	SMG		
644	PETE 411	Reservoir Simulation	3	6	PETE 301 Numerical Methods for Petroleum Engineers (5881) (C- and above) AND PETE 302 Reservoir Engineering I with Laboratory works (5955) (C- and above)			4 year UG SMG Petroleum Engineering	SMG		
645	PETE 506	Advanced Reservoir Simulation	3	6				Petroleum Engineering			
646	PETE 507	Advanced Reservoir Engineering	3	6				Petroleum Engineering			
647	PETE 508	Advanced Production Engineering	3	6				Petroleum Engineering			

648	PETE 600	MSc Thesis	12	24				Petroleum Engineering			
649	PETE 606	Advanced Enhanced Oil Recovery	3	6				Petroleum Engineering			
650	PETE 615	Advanced Petroleum Exploration	3	6	PETE 502 Petroleum Geology (4478) (C- and above)			Instructor's Permission Required. Registration through Add Course form only!			
651	PETE 701	Advanced Well Engineering	4	8				Petroleum Engineering	Mining Engineering, SEDS, SSH		
652	PETE 702	Current Research Literature	4	8				Petroleum Engineering			
653	PETE 703	Advanced Reservoir Engineering	4	8				Petroleum Engineering	Mining Engineering, SEDS, SSH		
654	PETE 801	Advanced Reservoir Simulation	4	8				Petroleum Engineering	Mining Engineering, SEDS, SSH		
655	PETE 803	Advanced Enhanced Oil Recovery	4	8				Petroleum Engineering	Mining Engineering, SEDS, SSH		
656	PETE 890-0	Thesis Research	0	0				Petroleum Engineering			
SMG											
657	SMG 400	Engineering Economics	3	6	SMG 200/ECON 220 Resource Economics (6197) (C- and above) OR ECON 120 Managerial Economics (1852) (C- and above) OR MATH 161 Calculus I (118) (C- and above) OR MATH 162 Calculus II (170) (C- and above)			4 year UG SMG Geology, 4 year UG SMG Mining Engineering, 4 year UG SMG Petroleum Engineering	4 year UG SSH, SMG		
658	SMG 520	Research Methods	3	6				Mining Engineering, Petroleum Engineering			
School of Engineering											
659	DENG 700-0	Thesis Research	0	0				Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			

660	DENG 791	Doctoral Seminar III	3	6	DENG 790 Doctoral Seminar II (4599) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
661	DENG 792	Doctoral Seminar IV	3	6	DENG 791 Doctoral Seminar III (4600) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
662	DENG 793	Doctoral Seminar V	3	6	DENG 792 Doctoral Seminar IV (4601) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
663	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
664	DENG 796	Thesis Completion	0	0				Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			

665	DENG 797	Oral Defence of PhD Dissertation	0	0	DENG 785 PhD Proposal Oral Defence (2604) (P) AND DENG 789 Doctoral Seminar I (4598) (P) AND DENG 790 Doctoral Seminar II (4599) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
666	DENG 798	Doctoral Seminar VI	3	6	DENG 793 Doctoral Seminar V (4602) (P)			Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			
667	DENG 799	Doctoral Seminar VII	3	6	DENG 798 Doctoral Seminar VI (4607) (P)			Science, Engineering and Technology			
SCAI											
Computer Science											
668	CSCI 111	Web Programming and Problem Solving	3	6			CSCI 101 Introduction to Computational Sciences (147) (D and above) OR CSCI 115 Programming Fundamentals (5257) (D and above) OR CSCI 151 Programming for Scientists and Engineers (192) (D and above) OR ENG 101 Programming for Engineers (4517) (D and above)	SSH, SoM			

669	CSCI 115	Programming Fundamentals	4	8			CSCI 101 Introduction to Computational Sciences (147) (D and above) OR CSCI 111 Web Programming and Problem Solving (110) (D and above) OR CSCI 151 Programming for Scientists and Engineers (192) (D and above) OR ENG 101 Programming for Engineers (4517) (D and above)	Biological Sciences, Chemistry, Mathematics, SoM	SSH		
670	CSCI 151	Programming for Scientists and Engineers	4	8			CSCI 111 Web Programming and Problem Solving (110) (D and above) OR CSCI 115 Programming Fundamentals (5257) (D and above) OR ENG 101 Programming for Engineers (4517) (B- and above)	Computer Science, Robotics and Mechatronics	Physics, Undeclared SEDS	SEDS, SMG, SSH, SoM	
671	CSCI 152	Performance and Data Structures	4	8	CSCI 151 Programming for Scientists and Engineers (192) (C- and above)			Computer Science, Robotics and Mechatronics	SSH, Undeclared SEDS	SEDS, SMG, SoM	
672	CSCI 245	System Analysis and Design	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science	SEDS	SMG, SSH, SoM	
673	CSCI 270	Algorithms	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)	MATH 251 Discrete Mathematics (85) (D and above)		Computer Science	SEDS	SMG, SSH, SoM	

674	CSCI 272	Formal Languages	3	6	CSCI 151 Programming for Scientists and Engineers (192) (C- and above)	MATH 251 Discrete Mathematics (85) (D and above)		Computer Science	SEDS	SMG, SSH, SoM	
675	CSCI 299	Internship I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
676	CSCI 307	Research Methods	3	6				3 year UG SEDS Computer Science, 4 year UG SEDS Computer Science, 5 year UG SEDS			
677	CSCI 325	Introduction to Parallel Systems and Graphics Processing Unit Programming	3	6	CSCI 332 Operating Systems (490) (C- and above)		PHYS 421 Parallel Computing (8532) (D and above)	Computer Science	SEDS	SMG, SSH, SoM	
678	CSCI 332	Operating Systems	3	6	CSCI 231 Computer Systems and Organization (194) (D and above)			5 year UG SEDS, Computer Science	SEDS	SMG, SSH, SoM	
679	CSCI 333	Computer Networks	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			5 year UG SEDS, Computer Science	SEDS	SMG, SSH, SoM	
680	CSCI 399	Internship II	3	6				Instructor's Permission Required. Registration through Add Course form only!			
681	CSCI 409	Senior Project II	3	6	CSCI 408 Senior Project I (1481) (C- and above)			4 year UG SEDS Computer Science			
682	CSCI 447	Machine Learning: Theory and Practice	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 321 Probability (482) (C and above)			Computer Science	SEDS	SMG, SSH, SoM	
683	CSCI 462	Open Source Software	3	6	CSCI 361 Software Engineering (640) (C- and above)			Computer Science	SEDS	SMG, SSH, SoM	
684	CSCI 490	Brain Computer Interface	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 321 Probability (482) (C and above)			Computer Science	SEDS	SMG, SSH, SoM	

685	CSCI 502	Hardware Software Co-Design	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above)			Computer Science, Robotics	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Data Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering		
686	CSCI 545	Big Data Analytics	3	6				Data Science	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

687	CSCI 547	Algorithmic Trading	3	6				Computer Science, Data Science	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
688	CSCI 572	Cognitive Modelling for Human-Computer Interaction	3	6				Computer Science, Data Science	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		

689	CSCI 581	Acquisition and Analysis of Biomedical Data	3	6				Computer Science, Data Science	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
690	CSCI 591	Advanced Artificial Intelligence	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above) OR DS 501 Fundamentals of Data Science (5218) (C- and above)			Computer Science, Data Science	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
691	CSCI 694	Thesis	15	30				Computer Science			
692	CSCI 700-0	Thesis Research	0	0				Computer Science			
693	CSCI 702	Advanced Hardware/Software Co-Design	4	8				Computer Science , Robotics Engineering	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Science, Engineering and Technology		
694	CSCI 722	Current Research Literature	4	8				Computer Science			

695	CSCI 745	Advanced Big Data Analytics	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
696	CSCI 747	Advanced Algorithmic Trading	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
697	CSCI 772	Advanced Cognitive Modelling for Human-Computer Interaction	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
698	CSCI 781	Advanced Acquisition and Analysis of Biomedical Data	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		

699	CSCI 791	Advanced Artificial Reasoning and Problem solving	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
700	DS 504	Data Mining and Decision Support	3	6				Data Science	Biomedical Engineering, Chemical and Materials Engineering, Civil and Environmental Engineering, Computer Science, Electrical and Computer Engineering, Engineering Management, Industrial and Systems Engineering, Mechanical and Aerospace Engineering, Robotics		
701	DS 694	Thesis	15	30	DS 693 Thesis Proposal (5915) (P)			Data Science			
702	DS 704	Advanced Data Mining and Decision Support	4	8				Computer Science	Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology		
703	SEDS 592	Research Seminar	3	6				Computer Science, Data Science, Robotics			
Mathematics											

704	MATH 109	Mathematical Discovery	3	6			MATH 161 Calculus I (118) (C- and above)	5 year UG SSH, Anthropology, History, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literature and Culture			
705	MATH 161	Calculus I	4	8				1 year UG SEDS, 1 year UG SMG, 1 year UG SSH Biological Sciences, 1 year UG SSH Chemistry, 1 year UG SSH Mathematics, 1 year UG SSH Physics, 5 year UG SEDS, 5 year UG SSH, Medical Sciences	1 year UG SSH Undeclared, Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM	
706	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			1 year UG SEDS, 1 year UG SMG, 1 year UG SSH Biological Sciences, 1 year UG SSH Chemistry, 1 year UG SSH Mathematics, 1 year UG SSH Physics, 5 year UG SEDS, 5 year UG SSH, Medical Sciences	Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM	
707	MATH 251	Discrete Mathematics	3	6	MATH 161 Calculus I (118) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	Computer Science	SEDS, SMG, SSH, SoM	
708	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics, Physics	SEDS, SMG, SSH, SoM		
709	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 Undeclared, 5 year UG SEDS, 5 year UG SSH, Mathematics, Physics	Computer Science, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
710	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			2 year UG SEDS Robotics and Mechatronics, 2 year UG SSH Chemistry, 2 year UG SSH Mathematics, 2 year UG SSH Undeclared, 5 year UG SEDS, 5 year UG SSH	Chemistry, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	

711	MATH 301	Introduction to Number Theory	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
712	MATH 302	Abstract Algebra I	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
713	MATH 310	Applied Statistical Methods	3	6	MATH 161 Calculus I (118) (C and above)		MATH 321 Probability (482) (C and above)	2 year UG SMG Mining Engineering, 2 year UG SSH Biological Sciences, 2 year UG SSH Undeclared, 5 year UG SEDS, 5 year UG SSH	Biological Sciences, Mining Engineering	SEDS, SMG, SSH, SoM	
714	MATH 321	Probability	3	6	MATH 162 Calculus II (170) (C and above)		ECON 211 Economic Statistics (2280) (C- and above) OR PLS 211 Quantitative Methods (221) (C- and above)	2 year UG SEDS Computer Science, 2 year UG SSH Mathematics, 2 year UG SSH Undeclared, 3 year UG SEDS Robotics and Mechatronics, 5 year UG SEDS, 5 year UG SSH	Computer Science, Mathematics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
715	MATH 322	Mathematical Statistics	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
716	MATH 323	Actuarial Mathematics I	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above) OR (MATH 162 Calculus II (170) (C and above) AND MATH 310 Applied Statistical Methods (82) (C and above))			Mathematics	SEDS, SMG, SSH, SoM		
717	MATH 350	Research Methods	3	6	MATH 321 Probability (482) (C and above)			3 year UG SSH Mathematics, 4 year UG SSH Mathematics			

718	MATH 351	Numerical Methods with Applications	3	6	MATH 274 Introduction to Differential Equations (484) (C and above) AND MATH 263 Calculus III (81) (C and above)		ENG 202 Numerical Methods in Engineering (5506) (C and above)	Mathematics	SEDS, SMG, SSH, SoM		
719	MATH 361	Real Analysis I	3	6	MATH 263 Calculus III (81) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
720	MATH 407	Graph Theory	3	6	(MATH 301 Introduction to Number Theory (613) (C and above) OR MATH 251 Discrete Mathematics (85) (C and above)) AND MATH 273 Linear Algebra with Applications (84) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
721	MATH 412	Nonlinear Optimization	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 263 Calculus III (81) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
722	MATH 423	Actuarial Mathematics II	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			4 year UG SSH Mathematics	3 year UG SSH Mathematics, 4 year UG SSH Economics	SEDS, SMG, SSH, SoM	
723	MATH 424	Mathematical Finance	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			4 year UG SSH Mathematics	3 year UG SSH Mathematics, 4 year UG SSH Economics	SEDS, SMG, SSH, SoM	
724	MATH 449	Statistical Programming	3	6	MATH 322 Mathematical Statistics (1165) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		

725	MATH 456	Introduction to Lie Groups and Representations	3	6	MATH 361 Real Analysis I (483) (C and above) AND MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
726	MATH 462	Advanced Linear Algebra	3	6	MATH 251 Discrete Mathematics (85) (C and above) AND MATH 273 Linear Algebra with Applications (84) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
727	MATH 482	Fourier Analysis	3	6	MATH 263 Calculus III (81) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
728	MATH 490	Special Topics in Mathematics I	3	6				Mathematics	SEDS, SMG, SSH, SoM		
729	MATH 491	Special Topics in Mathematics II	3	6				Instructor's Permission Required. Registration through Add Course form only!			
730	MATH 492	Special Topics in Mathematics III	3	6				Instructor's Permission Required. Registration through Add Course form only!			
731	MATH 499	Capstone Project	3	6				Instructor's Permission Required. Registration through Add Course form only!			
732	MATH 512	Optimization Methods and Techniques	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
733	MATH 514	Operations Research	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
734	MATH 542	Statistical Programming	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	

735	MATH 582	Mathematical Biology	3	6				Applied Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
736	MATH 691	Thesis Proposal	3	6	MATH 592 Research Seminar (5760) (C- and above)			Instructor's Permission Required. Registration through Add Course form only!			
737	MATH 692	Thesis	15	30	MATH 691 Thesis Proposal (5769) (P)			Instructor's Permission Required. Registration through Add Course form only!			
738	MATH 700-0	Thesis Research	0	0				Mathematics			
739	MATH 702	Functional Analysis with Applications	4	8				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
740	MATH 742	Advanced statistical programming	4	8				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
741	MATH 761	Mathematical Finance	4	8				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
742	MATH 791	Topics in Mathematics	4	8				Mathematics	SEDS, SSH	GSB, GSE, GSPP, SMG, SoM	
Robotics and Mechatronics											
743	ROBT 202	System Dynamics and Modeling	3	6	MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			Robotics and Mechatronics	SEDS		
744	ROBT 204	Electrical and Electronic Circuits II with Lab	4	8	ROBT 203 Electrical and Electronic Circuits I with Lab (62) (C- and above)			Robotics and Mechatronics	SEDS		

745	ROBT 206	Microcontrollers with Lab	4	8	CSCI 150 Fundamentals of Programming (1501) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR ENG 101 Programming for Engineers (4517) (C- and above)			Computer Science, Robotics and Mechatronics	SEDS		
746	ROBT 304	Electromechanical Systems with lab	4	8	ROBT 203 Electrical and Electronic Circuits I with Lab (62) (C- and above)			Robotics and Mechatronics	SEDS		
747	ROBT 310	Image Processing	3	6	MATH 162 Calculus II (170) (C- and above) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			Robotics and Mechatronics	SEDS		
748	ROBT 312	Robotics I: Kinematics and Dynamics	3	6	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			Robotics and Mechatronics	SEDS		
749	ROBT 402	Robotic/Mechatronic System Design	3	6	ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above) AND ROBT 206 Microcontrollers with Lab (476) (C- and above)			5 year UG SEDS, Robotics and Mechatronics	SEDS		
750	ROBT 407	Machine Learning with Applications	3	6	MATH 273 Linear Algebra with Applications (84) (C- and above) AND MATH 321 Probability (482) (C- and above) AND CSCI 152 Performance and Data Structures (489) (C- and above)			Robotics and Mechatronics	SEDS		
751	ROBT 491	Graduation Project	3	6	ROBT 391 Research methods (7418) (C- and above)			5 year UG SEDS, Robotics and Mechatronics	SEDS		

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