

**Course Requirements and Registration Priorities
(Undergraduate), Fall 2019**

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
Other											
Other											
1	T - 17352	Cross Cultural Communication	3	6							
2	T - 17443	Literary Criticism	3	6							
3	T - 17567	Latin American Spanish	3	6							
4	T - 18053	Language C General Translation C2: English	3	6							
5	T - 18297	Business Economics	3	6							
6	T - 18299	Organizations Sociology	3	6							
7	T - 18905	Gender Equality in Contemporary Society	3	6							
8	T - 18981	Political Actors and Collective Action	3	6							
9	T - 19483	Communication Strategies in Spanish (informal contexts)	1.5	3							
10	T - 19484	Communication Strategies in Spanish (formal contexts)	1.5	3							
11	T-03SM BOEC0275	A primer in Entrepreneurship	1.5	3							
12	T-03SM BOEC0330	International Management	1.5	3							
13	T-03SM BOEC0343	Development Economics	3	6							
14	T-03SM BOEC0392	Consumer Behavior in the Digital Age	1.5	3							
15	T-03SM BOEC0397	HRM and Organizational Behavior	3	6							
16	T-03SM BOEC0406	Personal Branding and Digital Marketing	3	6							
17	T-COM 110	Communication as Critical Inquiry	3	6							
18	T-MAT 147	Calculus III	4	8							
19	T-MAT 260	Discrete Mathematics	3	6							
20	T-POL 106	U.S. Government and Civic Practices	3	6							

SoM										
Nursing										
21	NUR 101	Human Anatomy and Physiology I and Lab	4	8				Nursing		
22	NUR 112	Introduction to Professional Nursing	2	4				Nursing		
23	NUR 301	Nutrition for Clinical Practice	3	6				For Applied Nursing program only		
24	NUR 302	Physical Assessment Across the Lifespan	4	8				For Applied Nursing program only		
25	NUR 303	Nursing Care of Older Adults	4	8				For Applied Nursing program only		
26	NUR 304	Introduction to Basic Statistics for Evidence Based Practice	3	6				For Applied Nursing program only		
SMG										
Petroleum Engineering										
27	PETE 201	Fluid Mechanics and Thermodynamics	3	6	MATH 161 Calculus I (118) (D and above) OR CHEM 101 General Chemistry I (113) (D and above)			SMG	SEDS, SSH, SoM	
School of Mining and Geosciences										
28	GEOL 201	Mineralogy	3	6	GEOL 101 Fundamentals of Geology (4774) (C- and above)			SMG	SEDS, SSH, SoM	
29	GEOL 202	Geologic Maps and Cross-Sections	3	6	GEOL 101 Fundamentals of Geology (4774) (D and above) OR GEOL 102 Fundamentals of Geology (4772) (D and above)			SMG	SEDS, SSH, SoM	
SSH										
Biological Science										
30	BIOL 101	Biology for non-Science majors	3	6				BIOL 110 Modern Biology I (1070) (C- and above)	Anthropology, Economics, History, Nursing, Political Science and International Relations, SEDS, SMG, Sociology, Undeclared SSH, World Languages, Literatures and Cultures	

31	BIOL 110	Modern Biology I	3	6				Biological Sciences, Chemistry	Computer Science, Mathematics, Physics, Robotics and Mechatronics	Anthropology, Economics, History, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literatures and Cultures	
32	BIOL 230	Human Anatomy and Physiology I	4	8	BIOL 110 Modern Biology I (107) (C and above) OR BIOL 110 Modern Biology I (1070) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
33	BIOL 305	Introduction to Microbiology with Lab	4	8	BIOL 110 Modern Biology I (1070) (C and above) AND BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
34	BIOL 310	Immunology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) OR BIOL 305 Introduction to Microbiology with Lab (1642) (C and above) OR BIOL 301 Molecular Cell Biology (5809) (C and above) OR BIOL 305 Introduction to Microbiology (5789) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
35	BIOL 320	Developmental Biology	3	6	BIOL 230 Human Anatomy and Physiology I (72) (C and above) OR BIOL 230 Human Anatomy and Physiology I (6217) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
36	BIOL 340	Introduction to Applied Bioinformatics	4	8	(BIOL 120 Modern Biology II (1195) (C and above) OR (BIOL 120 Modern Biology II (1195) (C and above) AND BIOL 120L Modern Biology II Laboratory (5443) (C and above))) AND MATH 310 Applied Statistical Methods (82) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
37	BIOL 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	

38	BIOL 355	Critical Research Reasoning	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
39	BIOL 370	Genetics	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
40	BIOL 385	Cell signaling: principles and mechanisms	3	6	BIOL 120 Modern Biology II (1195) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
41	BIOL 392	Directed Study in Biology	3	6				Instructor's Permission Required			
42	BIOL 425	Biomedical Research Methods	3	6	BIOL 110 Modern Biology I (1070) (C and above) AND (BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) OR (BIOL 301 Molecular Cell Biology (5809) (C and above) AND BIOL 301L Molecular Cell Biology Laboratory (5678) (C and above))) AND (BIOL 341 Biochemistry I (2002) (C and above) OR CHEM 341 Biochemistry I (1058) (C and above))			Biological Sciences			
43	BIOL 452	Biology of Cancer	3	6	BIOL 231 Human Anatomy and Physiology II (479) (C and above) OR BIOL 301 Molecular Biology of Cell with Lab (1197) (C and above) OR BIOL 331 Human Anatomy and Physiology II (6218) (C and above) OR BIOL 301 Molecular Cell Biology (5809) (C and above)			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
44	BIOL 455	Biotechnology	3	6	BIOL 301 Molecular Biology of Cell with Lab (1197) (C- and above) OR (BIOL 301 Molecular Cell Biology (5809) (C- and above) AND BIOL 301L Molecular Cell Biology Laboratory (5678) (C- and above))			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	
45	BIOL 470	Advanced Cell Biology	3	6	BIOL 120 Modern Biology II (1195) (C and above) AND BIOL 110L Modern Biology I Laboratory (5448) (C and above) AND (BIOL 341 Biochemistry I (2002) (C and above) OR CHEM 341 Biochemistry I (1058) (C and above))			Biological Sciences	Chemistry, Mathematics, Physics	SEDS, SMG, SSH, SoM	

46	BIOL 490	Honors Thesis Research	0	0	BIOL 355 Critical Research Reasoning (1000) (B and above)			Instructor's Permission Required			
Chemistry											
47	CHEM 090	Chemistry for Non-Science majors	3	6				Anthropology, Economics, History, Nursing, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literatures and Cultures			
48	CHEM 091	Survey of Physical Science	3	6				Anthropology, Economics, History, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literatures and Cultures			
49	CHEM 101	General Chemistry I	3	6				Biological Sciences, Chemistry	Mathematics, Physics	SMG	
50	CHEM 101L	General Chemistry I lab	1	2		CHEM 101 General Chemistry I (113) (C and above)		Biological Sciences, Chemistry		SMG	
51	CHEM 102	General Chemistry II	3	6	CHEM 101 General Chemistry I (113) (C and above)			SMG	Biological Sciences, Chemistry	SEDS, SSH, SoM	
52	CHEM 211	Organic Chemistry I	3	6	CHEM 102 General Chemistry II (232) (C and above)			Biological Sciences, Chemistry	SEDS, SMG, SSH, SoM		
53	CHEM 211L	Organic Chemistry I Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 211 Organic Chemistry I (154) (C and above)		Biological Sciences, Chemistry	SEDS, SMG, SSH, SoM		
54	CHEM 220	Quantitative Chemical Analysis	3	6	CHEM 102 General Chemistry II (232) (C and above)			Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
55	CHEM 220L	Quantitative Chemical Analysis Lab	1	2	CHEM 101L General Chemistry I lab (179) (C and above)	CHEM 220 Quantitative Chemical Analysis (555) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	

56	CHEM 331	Physical Chemistry I	3	6	CHEM 220 Quantitative Chemical Analysis (555) (C and above) AND PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
57	CHEM 331L	Physical Chemistry Lab	1	2		CHEM 331 Physical Chemistry I (634) (C and above)	Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
58	CHEM 341	Biochemistry I	3	6	CHEM 211 Organic Chemistry I (154) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
59	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	
60	CHEM 350	Advanced Inorganic Chemistry	3	6	CHEM 212 Organic Chemistry II (443) (C and above) AND CHEM 212L Organic Chemistry II Lab (444) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
61	CHEM 350L	Advanced Inorganic Chemistry Laboratory	1	2	CHEM 212 Organic Chemistry II (443) (C and above) AND CHEM 212L Organic Chemistry II Lab (444) (C and above) AND CHEM 250 Descriptive Inorganic Chemistry (445) (C and above)	CHEM 350 Advanced Inorganic Chemistry (1905) (C and above)	Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
62	CHEM 400	Chemistry Seminar	3	6	CHEM 380 Research Methods (636) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
63	CHEM 410	Structural Spectroscopy	4	8	CHEM 212 Organic Chemistry II (443) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
64	CHEM 471	Environmental Chemistry	3	6	CHEM 102 General Chemistry II (232) (C and above)		Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
Communication and Composition										
65	WCS 150	Rhetoric and Composition	3	6				SEDS, SMG, SSH, SoM		
66	WCS 200	Introduction to Public Speaking	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			2 year UG SSH		2 year UG SEDS, 2 year UG SMG

67	WCS 210	Technical and Professional Writing	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			SEDS, SMG, SSH, SoM			
68	WCS 230	Say What you Mean: Clarity, Precision, and Style in Academic Writing	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			SEDS, SMG, SSH, SoM			
69	WCS 240	Writing for Digital Media	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			SEDS, SMG, SSH, SoM			
70	WCS 390	Writing Fellows I - Composition and Collaboration in Theory and Practice	3	6	WCS 150 Rhetoric and Composition (2183) (B and above) AND (WCS 210 Technical and Professional Writing (4881) (B+ and above) OR 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 240 Writing for Digital Media (4421) (B+ and above) OR WCS 250 Advanced Rhetoric and Composition (3027) (B+ and above))			Instructor's Permission Required			
Communication and Composition, Languages, Literature and Linguistics											
71	WCS 260/WLL 235	Creative Writing: Introduction to Fiction Writing I	3	6	WCS 150 Rhetoric and Composition (2183) (C- and above)			SEDS, SMG, SSH, SoM			
Economics											
72	ECON 101	Introduction to Microeconomics	3	6				SEDS, SMG, SSH, SoM			
73	ECON 102	Introduction to Macroeconomics	3	6				SEDS, SMG, SSH, SoM			
74	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		SSH	
75	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		SSH	

76	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		SSH	
77	ECON 300	Research Assistance in Economics	1	2	ECON 101 Introduction to Microeconomics (379) (C- and above) AND ECON 102 Introduction to Macroeconomics (503) (C- and above)			Instructor permission required			
78	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	
79	ECON 317	East Asian Economic Development	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics		SSH	
80	ECON 322	Natural Resources and Environmental Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)		ECON 331 Environmental Economics (1687) (C- and above)	Economics		SSH	
81	ECON 325	International Trade	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics		SSH	
82	ECON 326	The Economics of Financial Markets	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above)			Economics		SSH	
83	ECON 399	Independent Study in Economics	3	6				Economics		SSH	
84	ECON 403	Introduction to Contract Theory and Auctions	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
85	ECON 405	Behavioral and Experimental Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
86	ECON 413	Econometrics II Time Series	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	

87	ECON 417	Development Economics	3	6	ECON 301 Econometrics I (664) (C- and above)			Economics		SSH	
History, Philosophy and Religious Studies											
88	HST 100	History of Kazakhstan	3	6				4 year UG SEDS, 4 year UG SEDS (pending graduation), 4 year UG SSH, 4 year UG SSH (pending graduation)	1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH	SEDS, SMG, SSH, SoM	
89	HST 104	Central Asian History II (1700 - 1991)	3	6				History, Undeclared SSH	SEDS, SMG, SSH, SoM		
90	HST 105	Introduction to World Environmental History	3	6				History, Undeclared SSH	SEDS, SMG, SSH, SoM		
91	HST 124	Introduction to the History of Medicine	3	6				History, Undeclared SSH	SEDS, SMG, SSH, SoM		
92	HST 151	US History I (to 1877)	3	6				History, Undeclared SSH	SEDS, SMG, SSH, SoM		
93	HST 232	Russian History from Riurik to Catherine the Great	3	6				SSH	SEDS, SMG, SoM		
94	HST 235	Peter the Great (1682-1725): First Emperor of Russia and "Father of the Fatherland"	3	6				SSH	SEDS, SMG, SoM		

95	HST 335	European Nationalisms	3	6	HST 100 History of Kazakhstan (172) (C- and above) OR HST 103 Central Asian History I (to 1700) (197) (C- and above) OR HST 104 Central Asian History II (1700 - 1991) (1192) (C- and above) OR HST 121 World History I (to 1500) (1193) (C- and above) OR HST 122 World History II (from 1500) (1162) (C- and above) OR HST 131 European History I (to 1700) (201) (C- and above) OR HST 132 European History II (from 1700) (139) (C- and above) OR HST 151 US History I (to 1877) (668) (C- and above) OR HST 152 US History II (from 1877) (465) (C- and above) OR HST 172 Middle Eastern History II (from 1800) (1194) (C- and above) OR HST 182 East Asian History II (from 1500) (213) (C- and above) OR HST 199 Freshman Seminar (241) (C- and above)			SSH	SEDS, SMG, SoM		
96	HST 336	The Totalitarian Phenomenon	3	6	HST 100 History of Kazakhstan (172) (C- and above)			SSH	SEDS, SMG, SoM		
97	HST 420	The Russian Empire in Asia and its Neighbours 1552-1919	3	6	Subject "HST" BETWEEN 200 and 299 OR Subject "HST" BETWEEN 300 and 399			SSH	SEDS, SMG, SoM		
98	HST 498	Directed Reading	3	6				History			
99	PHIL 101	Introduction to Philosophy	3	6				SEDS, SMG, SSH, SoM			
100	PHIL 110	The Good Life in Practice	3	6				SEDS, SMG, SSH, SoM			
101	PHIL 124	Knowledge and Reality	3	6				SEDS, SMG, SSH, SoM			
102	PHIL 141	Critical Thinking	3	6				SEDS, SMG, SSH, SoM			

103	PHIL 210	Ethics	3	6				2 year UG SEDS Chemical Engineering, 2 year UG SEDS Chemical and Materials Engineering, 2 year UG SEDS Civil Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Electrical and Electronic Engineering, 2 year UG SEDS Mechanical Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering, 2 year UG SMG	SEDS, SMG, SSH, SoM		
104	PHIL 215	Bioethics	3	6				SEDS, SMG, SSH, SoM			
105	PHIL 223	Philosophy of Science	3	6				SEDS, SMG, SSH, SoM			
106	PHIL 240	Formal Logic	3	6				SEDS, SMG, SSH, SoM			
107	PHIL 320	Truth, Knowledge and Belief	3	6				SEDS, SMG, SSH, SoM			
108	PHIL 325	Truth, Lies, Media, and Propaganda	3	6				SEDS, SMG, SSH, SoM			
109	PHIL 352	Sex, Life, and Death: The Philosophy of Biology	3	6				SEDS, SMG, SSH, SoM			
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies											
110	HST 261/REL 261	History of Islam (570s to 1258)	3	6	Subject "HST" BETWEEN 100 and 199 OR Subject "REL" BETWEEN 100 and 199			SSH	SEDS, SMG, SoM		
History, Philosophy and Religious Studies, Kazakh Language and Turkic Studies, Sociology and Anthropology											
111	ANT 375/HST 375/TUR 375	Inner Asian Frontiers of China: A Cultural Perspective	3	6				SEDS, SMG, SSH, SoM			
History, Philosophy and Religious Studies, Political Science and International Relations											
112	HST 312/PLS 333	Comparative Colonialism	3	6	Subject "HST" BETWEEN 100 and 199 OR Subject "WLL" BETWEEN 100 and 199 OR Subject "PLS" BETWEEN 100 and 199			SSH	SEDS, SMG, SoM		

History, Philosophy and Religious Studies, Sociology and Anthropology											
113	ANT 313/REL 332	Islam and Politics in Eurasia	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
114	HST 223/ANT 287	Cannibalism and Civilization	3	6				SSH	SEDS, SMG, SoM		
Kazakh Language and Turkic Studies											
115	KAZ 201	Academic Kazakh I	3	6	KAZ 150 Basic Kazakh (1215) (C- and above) OR KLL "[B1.2] Intermediate"			SEDS, SMG, SSH, SoM			
116	KAZ 202	Academic Kazakh II	3	6	KAZ 201 Academic Kazakh I (4561) (C- and above) OR KLL "[B2.2] Upper-Interm."			SEDS, SMG, SSH, SoM			
117	KAZ 211	Academic Speaking in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"		KAZ 212 Academic Writing in Kazakh (703) (C- and above)	SEDS, SMG, SSH, SoM			
118	KAZ 212	Academic Writing in Kazakh	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"		KAZ 211 Academic Speaking in Kazakh (702) (C- and above)	SEDS, SMG, SSH, SoM			
119	KAZ 226	Kazakh for Medical School	3	6	KLL "[B1.2] Intermediate"			SEDS, SMG, SSH, SoM			
120	KAZ 313	Kazakh for Business	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
121	KAZ 349	Kazakh Mythology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
122	KAZ 351	Kazakh Short Stories	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
123	KAZ 354	Kazakh Drama	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
124	KAZ 356	Kazakh Music History	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
125	KAZ 357	Literature of Alash	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
126	KAZ 362	Creative Writing in Kazakh Language	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			

127	KAZ 363	Language and Globalization	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
128	KAZ 364	Kazakh for Civil Service	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
129	KAZ 366	Kazakh Language for Engineers	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
130	KAZ 368	Onomastics: History and Function of Names	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
131	KAZ 371	Contemporary Kazakh Literature	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
132	KAZ 372	Language and ethnicity	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
133	KAZ 373	Kazakh Terminology	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
134	KAZ 374	Kazakh Diplomacy	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
135	KAZ 375	Cultural Studies and Kazakh Culture	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
136	TUR 231	Istanbul in Literature and Culture	3	6				SEDS, SMG, SSH, SoM			
137	TUR 305	Introduction to Chagatay and Ottoman Turkish	3	6	KAZ 202 Academic Kazakh II (4562) (C- and above) OR KLL "[C1.1] Advanced"			SEDS, SMG, SSH, SoM			
Languages, Literature and Linguistics											
138	CHN 101	Beginning Mandarin I	4	8				SEDS, SMG, SSH, SoM			
139	CHN 102	Beginning Mandarin II	4	8	CHN 101 Beginning Mandarin I (1384) (C and above)			SEDS, SMG, SSH, SoM			
140	FRE 201	Intermediate French I	4	8	FRE 102 Beginning French II (454) (C- and above)			SEDS, SMG, SSH, SoM			
141	KOR 101	Beginning Korean I	4	8				SEDS, SMG, SSH, SoM			
142	KOR 201	Intermediate Korean I	4	8	KOR 102 Beginning Korean II (4791) (C- and above)			SEDS, SMG, SSH, SoM			
143	LING 131	Introduction to Linguistics	3	6				World Languages, Literatures and Cultures	Undeclared SSH	SSH	

144	LING 140	Language Variation and Change: the Story of English	3	6				World Languages, Literatures and Cultures	Undeclared SSH	SSH	
145	LING 272	Language and the Mind	3	6				SSH	SEDS, SMG, SoM		
146	LING 275	Second Language Acquisition Theory and Research I	3	6				SSH	SEDS, SMG, SoM		
147	LING 278	Sounds of the World's Languages	3	6				SSH	SEDS, SMG, SoM		
148	LING 472	Language Ideologies	3	6	LING 131 Introduction to Linguistics (1394) (C- and above)			SSH	SEDS, SMG, SoM		
149	PER 201	Intermediate Persian 1	4	8	PER 102 Beginning Persian II (4790) (C- and above)			SEDS, SMG, SSH, SoM			
150	RFL 403	Advanced and Superior Composition and Conversation Russian	4	8				Instructor's permission required.			
151	SPA 101	Beginning Spanish I	4	8				World Languages, Literatures and Cultures	Undeclared SSH	SSH	
152	SPA 201	Intermediate Spanish I	4	8	SPA 102 Beginning Spanish II (1128) (C- and above)			SEDS, SMG, SSH, SoM			
153	SPA 314	Advanced Spanish Grammar and Composition	3	6	SPA 202 Intermediate Spanish II (1842) (C- and above)			SEDS, SMG, SSH, SoM			
154	WLL 110	Introduction to Literary Studies	3	6				World Languages, Literatures and Cultures	Undeclared SSH	SSH	
155	WLL 121	Introduction to Cultural Studies	3	6				World Languages, Literatures and Cultures	Undeclared SSH	SSH	
156	WLL 201	World Literature I	3	6				World Languages, Literatures and Cultures	Undeclared SSH	SSH	
157	WLL 212	Introduction to Poetry	3	6				World Languages, Literatures and Cultures	Undeclared SSH	SSH	
158	WLL 244	Survey of Nineteenth-Century Russian Literature	3	6				World Languages, Literatures and Cultures	Undeclared SSH	SSH	
159	WLL 450	Laughter	3	6				World Languages, Literatures and Cultures	Undeclared SSH	SSH	
160	WLL 498	Languages, Linguistics, and Literatures Capstone I	3	6				4 year UG SSH World Languages, Literatures and Cultures			

Languages, Literature and Linguistics, Languages, Literature and Linguistics

161	SPA 351/WLL 351	Literature and Film of the Postcolonial World	3	6	Subject "WLL" BETWEEN 200 and 299			SEDS, SMG, SSH, SoM			
162	WLL 361/FRE 361	Topics in French and Francophone film	3	6	FRE 101 Beginning French I (246) (C- and above) OR FRE 102 Beginning French II (454) (C- and above) OR FRE 201 Intermediate French I (667) (C- and above) OR FRE 202 Intermediate French II (1122) (C- and above)			SEDS, SMG, SSH, SoM			
Languages, Literature and Linguistics, Sociology and Anthropology											
163	ANT 385/WLL 385	Postcolonial Theory and its Applications in Eurasia	3	6	ANT 110 Introduction to Sociocultural Anthropology (501) (C- and above) OR SOC 101 Introduction to Sociology (508) (C- and above) OR WLL 121 Introduction to Cultural Studies (243) (C- and above) OR WLL 102 /PHIL 102 Language, Experience, Culture (2481) (C- and above)			Anthropology, Sociology, World Languages, Literatures and Cultures	SSH		SEDS, SMG, SoM
164	WLL 171/ANT 175	Introduction to Linguistic Anthropology	3	6			ANT 277/WLL 271 Language and Society (1027) (C- and above)	Anthropology, Sociology, World Languages, Literatures and Cultures	Undeclared SSH	SSH	
Mathematics											
165	MATH 109	Mathematical Discovery	3	6			MATH 161 Calculus I (118) (C- and above)	Anthropology, History, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literatures and Cultures			
166	MATH 161	Calculus I	4	8				1 year UG SEDS, 1 year UG SMG, 1 year UG SSH Mathematics, 1 year UG SSH Physics	Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM	
167	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			2 year UG SEDS, 2 year UG SMG, 2 year UG SSH Chemistry, 2 year UG SSH Mathematics, 2 year UG SSH Physics	SEDS, SMG, SSH, SoM		

168	MATH 251	Discrete Mathematics	3	6	MATH 161 Calculus I (118) (C and above)			Mathematics	Computer Science	SEDS, SMG, SSH, SoM	
169	MATH 263	Calculus III	4	8	MATH 162 Calculus II (170) (C and above)			Mathematics	Physics, SEDS	SMG, SSH, SoM	
170	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 SSH Physics, Mathematics	Computer Science, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
171	MATH 274	Introduction to Differential Equations	3	6	MATH 162 Calculus II (170) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
172	MATH 310	Applied Statistical Methods	3	6	MATH 161 Calculus I (118) (C and above)		MATH 321 Probability (482) (C and above)	Biological Sciences, Computer Science	Mathematics	SEDS, SMG, SSH, SoM	
173	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)	Computer Science, Mathematics	SEDS, SMG, SSH, SoM		
174	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		
175	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		
176	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		
177	MATH 425	Stochastic Processes	3	6	MATH 321 Probability (482) (C and above) OR ECON 211 Economic Statistics (2280) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		

178	MATH 440	Regression Analysis	3	6	MATH 322 Mathematical Statistics (1165) (C and above)		SOC 203 Quantitative Methods in Sociology (1377) (C and above) OR PLS 211 Quantitative Methods (221) (C and above)	Mathematics	SEDS, SMG, SSH, SoM		
179	MATH 471	Nonlinear Differential Equations	3	6	MATH 273 Linear Algebra with Applications (84) (C and above) AND MATH 274 Introduction to Differential Equations (484) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
180	MATH 480	Complex Analysis	3	6	MATH 263 Calculus III (81) (C and above)			Mathematics	SEDS, SMG, SSH, SoM		
181	MATH 481	Partial Differential Equations	3	6	MATH 274 Introduction to Differential Equations (484) (C and above)	MATH 480 Complex Analysis (618) (C and above)		Mathematics	SEDS, SMG, SSH, SoM		
182	MATH 497	Directed Study in Mathematics I	3	6				Instructor's Permission Required			
Physics											
183	PHYS 161	Physics I for Scientists and Engineers with Laboratory	4	8		MATH 161 Calculus I (118) (C and above)	PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above)	1 year UG SEDS, 1 year UG SMG, 1 year UG SSH Mathematics, 1 year UG SSH Physics, 2 year UG SSH Chemistry	Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM	
184	PHYS 201	Introductory Astronomy I	3	6				SEDS, SMG, SSH, SoM			
185	PHYS 221	Classical Mechanics I	3	6	(PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above)) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			Physics		SEDS, SMG, SSH, SoM	

186	PHYS 261	Modern Physics with laboratory	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 152 Introductory Physics II with Lab (1176) (C- and above) OR PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))		Physics	SEDS, SMG, SSH, SoM		
187	PHYS 315	Mathematical Methods of Physics	3	6	(PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above) OR PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) AND MATH 274 Introduction to Differential Equations (484) (C- and above)		Physics	SEDS, SMG, SSH, SoM		
188	PHYS 361	Classical Electrodynamics I	3	6		PHYS 315 Mathematical Methods of Physics (653) (D and above) OR PHYS 411 Advanced Mathematical Physics (3142) (D and above)	Physics	SEDS, SMG, SSH, SoM		
189	PHYS 452	Quantum Mechanics II	3	6	PHYS 451 Quantum Mechanics I (1415) (C- and above)		Physics	SEDS, SMG, SSH, SoM		
190	PHYS 465	Advanced Experimental Physics	3	6	PHYS 370 Optics with Laboratory (1405) (C- and above)		Physics	SEDS, SMG, SSH, SoM		
191	PHYS 473	Introduction to Solid State Physics	4	8	PHYS 261 Modern Physics with laboratory (125) (C- and above) OR CHEM 331 Physical Chemistry I (634) (C- and above) OR MAE 301 Engineering Thermodynamics (5927) (C- and above) OR CHME 201 Chemical Engineering Thermodynamics (5007) (C- and above) OR ELCE 204 Solid State Devices (5508) (C- and above)		Physics	SEDS, SMG, SSH, SoM		

Political Science and International Relations

192	PLS 100	Introduction to the Politics of Central Asia	3	6				SSH	SEDS, SMG, SoM		
193	PLS 101	Introduction to Political Science	3	6				SEDS, SMG	Biological Sciences, Chemistry, Mathematics, Physics	SSH	
194	PLS 120	Introduction to Political Theory	3	6				Political Science and International Relations	Undeclared SSH	SEDS, SMG, SSH, SoM	
195	PLS 140	Introduction to Comparative Politics	3	6				Political Science and International Relations	Undeclared SSH	SEDS, SMG, SSH, SoM	
196	PLS 150	Introduction to International Relations	3	6				Political Science and International Relations	Undeclared SSH	SEDS, SMG, SSH, SoM	
197	PLS 210	Political Science Research Methods	3	6				Political Science and International Relations	SEDS, SMG, SSH, SoM		
198	PLS 211	Quantitative Methods	3	6			ECON 211 Economic Statistics (2280) (C- and above)	Political Science and International Relations	SEDS, SMG, SSH, SoM		
199	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)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
200	PLS 326	Modern Political Theory	3	6	PLS 120 Introduction to Political Theory (512) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
201	PLS 329	Anarchy	3	6	PLS 120 Introduction to Political Theory (512) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
202	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)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
203	PLS 341	Politics of Development	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
204	PLS 342	Political Corruption	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
205	PLS 361	Memory Politics in East Asia	3	6				SSH	SEDS, SMG, SoM		

206	PLS 365	Civil-Military Relations	3	6	PLS 211 Quantitative Methods (221) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
207	PLS 370	Law, Politics and Society	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
208	PLS 431	Politics and Governance of the Russian Federation	3	6	PLS 210 Political Science Research Methods (129) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
209	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)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
210	PLS 448	Comparative Electoral System	3	6	PLS 140 Introduction to Comparative Politics (223) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
211	PLS 455	The Politics of Arms in International Relations	3	6	PLS 150 Introduction to International Relations (511) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above) AND PLS 211 Quantitative Methods (221) (C- and above)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
212	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)			Political Science and International Relations	SEDS, SMG, SSH, SoM		
SSH											
213	SSH 300	School of Sciences and Humanities Internship	3	6				Instructor permission required			
214	SSH 301	School of Sciences and Humanities Internship: Second Experience	3	6				Instructor's permission only			
Sociology and Anthropology											
215	ANT 110	Introduction to Sociocultural Anthropology	3	6				Anthropology, Sociology, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	

216	ANT 140	World Prehistory	3	6				Anthropology, Sociology, Undeclared SSH	2 year UG SSH, 4 year UG SEDS Computer Science, 4 year UG SEDS Robotics and Mechatronics, 4 year UG SSH Biological Sciences, 4 year UG SSH Chemistry, 4 year UG SSH Mathematics, 4 year UG SSH Physics	SEDS, SMG, SSH, SoM	
217	ANT 233	Cavemen, Mammoths, and Sabertooths: Stone Age Archaeology in Eurasia	3	6				Anthropology, Sociology, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
218	ANT 361	Human Evolution: Bones, Stones and Genomes	3	6				Anthropology, Biological Sciences, Sociology	SSH	SEDS, SMG, SoM	
219	ANT 382	Anthropology of Global Health: The Global in the Local	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
220	ANT 400	Research Assistance in Anthropology	1	2							
221	ANT 401	Research Assistance in Anthropology	1	2							
222	ANT 498	Capstone Seminar I	3	6				4 year UG SSH Anthropology			
223	SOC 101	Introduction to Sociology	3	6				Anthropology, Sociology, Undeclared SSH	2 year UG SSH, 3 year UG SSH Biological Sciences	SEDS, SMG, SSH, SoM	
224	SOC 115	Global Social Problems	3	6				Anthropology, Sociology, Undeclared SSH	2 year UG SSH	SEDS, SMG, SSH, SoM	
225	SOC 201	Social Science Research Methods	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
226	SOC 210	Gender and Society	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
227	SOC 213	Work and Society	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
228	SOC 215	Sociology of Race and Ethnicity	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	
229	SOC 221	International Migration	3	6				Anthropology, Sociology	SSH	SEDS, SMG, SoM	

230	SOC 301	Classical Sociological Theory	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above) OR ANT 110 Introduction to Sociocultural Anthropology (501) (C- and above)		Anthropology, Sociology	SSH	SEDS, SMG, SoM	
231	SOC 310	Social Inequality	3	6	SOC 101 Introduction to Sociology (508) (C- and above) OR SOC 115 Global Social Problems (1032) (C- and above)		Anthropology, Sociology	SSH	SEDS, SMG, SoM	
232	SOC 322	Digital Media Research Methods	3	6	SOC 201 Social Science Research Methods (1341) (C- and above) OR SOC 203 Quantitative Methods in Sociology (1377) (C- and above) OR ECON 211 Economic Statistics (2280) (C- and above) OR PLS 210 Political Science Research Methods (129) (C- and above)		Anthropology, Sociology	SSH	SEDS, SMG, SoM	
233	SOC 401	Research Assistance in Sociology	1	2			Instructor's permission required			
234	SOC 403	Research Assistance in Sociology	2	4			Instructor's permission required			
235	SOC 498	Capstone Seminar Part I	3	6			4 year UG SSH Sociology			
Sociology and Anthropology, Sociology and Anthropology										
236	ANT 216/SOC 216	Marriage and Kinship	3	6			Anthropology, Sociology	2 year UG SSH	SEDS, SMG, SSH, SoM	
SEDS										
Chemical and Materials Engineering										

237	CHME 200	Basic Principles and Calculations in Chemical Engineering	3	6				2 year UG SEDS Chemical Engineering, 2 year UG SEDS Chemical and Materials Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
238	CHME 201	Chemical Engineering Thermodynamics	3	6				2 year UG SEDS Chemical Engineering, 2 year UG SEDS Chemical and Materials Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	

239	CHME 222	Inorganic and Analytical Chemistry	3	6				2 year UG SEDS Chemical Engineering, 2 year UG SEDS Chemical and Materials Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
240	CHME 350	Soft Matter, Foods and Colloids	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
241	ECHE 333	Separation Processes-I	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above)			Registration by School Administration			
242	ECHE 369	Transport Phenomena-II	3	6				Registration by School Administration			
243	ECHE 385	Research Practice	3	6				Registration by School Administration			
244	ECHE 418	Capstone project 1	3	6	ECHE 323 Computational methods in Chemical Engineering-I (1272) (D and above)			Registration by School Administration			

245	ECHE 463	Introduction to Molecular Modeling Methods	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
246	ECHE 478	Electrochemical Engineering and Corrosion Protection	3	6	ECHE 222 Chemistry I (731) (D and above)			4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
247	ECHE 481	Chemical Reaction Engineering	3	6	ECHE 126 Introduction to Chemical Engineering (33) (D and above) AND BENG 124 Engineering Mathematics I (101) (D and above) AND BENG 225 Engineering Mathematics II (48) (D and above)			Registration by School Administration			

248	ECHE 484	Multiphase Systems	3	6	ECHE 319 Chemical Engineering Thermodynamics (1218) (D and above) AND ECHE 270 Transport Phenomena-I (735) (D and above)			4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
249	ECHE 486	Chemical Process Safety	3	6				Registration by School Administration			
250	ECHE 488	Atmospheric Chemistry and Physics	3	6				4 year UG SEDS Chemical Engineering, 4 year UG SEDS Chemical and Materials Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
Civil and Environmental Engineering											

251	CEE 200	Structural Mechanics I	3	6				2 year UG SEDS Civil Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
252	CEE 201	Environmental Chemistry	3	6				2 year UG SEDS Civil Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Mechanical Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	

253	CEE 204	Civil Engineering CAD and Surveying	3	6				2 year UG SEDS Civil Engineering, 2 year UG SEDS Civil and Environmental Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
254	ECE 303	Construction Management and Practice	3	6	BENG 148 Engineering Practice (1073) (D and above)			Registration by School Administration			
255	ECE 307	Engineering Geology and Rock Mechanics	3	6				Registration by School Administration			
256	ECE 318	Structural Design - Concrete	3	6	ECE 479 Structural Analysis II (2460) (C- and above)			Registration by School Administration			
257	ECE 401	Capstone Project 1	3	6				Registration by School Administration			
258	ECE 404	Construction Technologies and Processes	3	6	BENG 148 Engineering Practice (1073) (D and above) AND ECE 302 Civil Engineering Materials (1040) (D and above)			Registration by School Administration			
259	ECE 405	Environmental Engineering	3	6	ECE 473 Environmental Systems (1953) (D and above) OR ECE 218 Environmental Chemistry (3296) (D and above)			Registration by School Administration			
260	ECE 416	Highway Engineering	3	6	ECE 302 Civil Engineering Materials (1040) (D and above)			Registration by School Administration			

261	ECE 421	Behaviour and Design of Structural System	3	6	(ECE 318 Structural Design - Concrete (3709) (D and above) OR ECE 314 Structural Engineering Applications I (1042) (D and above)) AND (ECE 319 Structural Design - Steel (4038) (D and above) OR ECE 315 Structural Engineering Applications II (1041) (D and above))			4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
262	ECE 481	Individual Research Projects in Civil Engineering	3	6				Registration by School Administration			
263	ECE 482	Solid and Hazardous Waste Management	3	6	ECE 405 Environmental Engineering (1265) (C- and above)			4 year UG SEDS Civil Engineering, 4 year UG SEDS Civil and Environmental Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	

Computer Science

264	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)	Anthropology, Economics, History, Political Science and International Relations, Sociology, Undeclared SSH, World Languages, Literatures and Cultures			
265	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	Computer Science, Mathematics, Physics, Robotics and Mechatronics, Undeclared SEDS, Undeclared SSH	SSH	

266	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, Mathematics, Physics, Robotics and Mechatronics	Biological Sciences, Chemistry, Undeclared SEDS, Undeclared SSH	SSH	
267	CSCI 231	Computer Systems and Organization	3	6	CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR ENG 100 Introduction to Engineering (4518) (B- and above)			Computer Science			
268	CSCI 235	Programming Languages	4	8	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
269	CSCI 262	Software Project Management	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science	Biological Sciences, Chemistry, Mathematics, Physics, Robotics and Mechatronics, Undeclared SEDS, Undeclared SSH	SSH	
270	CSCI 341	Database Systems	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
271	CSCI 344	Data Mining and Decision Support	3	6	CSCI 341 Database Systems (195) (C- and above) AND MATH 273 Linear Algebra with Applications (84) (C- and above)			Computer Science			
272	CSCI 361	Software Engineering	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
273	CSCI 390	Artificial Intelligence	3	6	CSCI 152 Performance and Data Structures (489) (C- and above)			Computer Science			
274	CSCI 398	Directed Study	3	6				Instructor's permission required			
275	CSCI 399	Internship II	3	6				Instructor's Permission Required			

276	CSCI 399A	Internship II - A	1	2				Instructor's permission required			
277	CSCI 399F	Internship II - F	6	12				Instructor's Permission Required			
278	CSCI 408	Senior Project I	3	6				Computer Science			
279	CSCI 434	Information Security	3	6		CSCI 333 Computer Networks (1145) (D and above)		Computer Science	Biological Sciences, Chemistry, Mathematics, Physics, Robotics and Mechatronics, Undeclared SEDS, Undeclared SSH		
280	CSCI 471	Complexity and Computability	3	6	MATH 251 Discrete Mathematics (85) (C- and above)			Computer Science			
281	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	Biological Sciences, Chemistry, Mathematics, Physics, Robotics and Mechatronics, Undeclared SEDS, Undeclared SSH	SSH	
282	CSCI 494	Deep Learning	3	6	CSCI 390 Artificial Intelligence (643) (C and above) AND MATH 273 Linear Algebra with Applications (84) (C and above)			Computer Science	Biological Sciences, Chemistry, Mathematics, Physics, Robotics and Mechatronics, Undeclared SEDS, Undeclared SSH		
Electrical and Computer Engineering											
283	EEE 238	Digital Signal and Image Processing	3	6				Registration by School Administration			
284	EEE 342	Electromagnetics	3	6				Registration by School Administration			
285	EEE 345	Power Electronics	3	6				Registration by School Administration			
286	EEE 382	Antennas and Propagation	3	6				Registration by School Administration			
287	EEE 384	Digital Integrated Circuits Design	3	6	EEE 250 Microelectronic Devices and Circuits (3152) (C- and above)			Registration by School Administration			
288	EEE 437	Capstone Project 1	3	6				Registration by School Administration			
289	EEE 448	Power Transmission and Distribution plants	3	6				Registration by School Administration			
290	EEE 450	RF and Microwave Circuit Design	3	6				Registration by School Administration			
291	EEE 452	Power Systems Protection	3	6				Registration by School Administration			

292	EEE 490	Introduction to Big Data	3	6				Registration by School Administration			
293	EEE 493	Industry 4.0	3	6				Registration by School Administration			
294	EEE 494	Modern Characterizations for Semiconductor Industry	3	6				Registration by School Administration			
295	EEE 497	Signal Processing for Communications	3	6				Registration by School Administration			
296	EEE 498	Computer Networks	3	6				Registration by School Administration			
297	ELCE 200	Introduction to Electrical Circuits	3	6	MATH 162 Calculus II (170) (C- and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Electrical and Electronic Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
298	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, 2 year UG SEDS Electrical and Electronic Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	

299	ELCE 203	Signals and Systems	3	6	MATH 162 Calculus II (170) (C- and above) AND PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above)			2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Electrical and Electronic Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
Mechanical and Aerospace Engineering											
300	EME 354	Advanced Control Systems	3	6	BENG 219 Control Systems (728) (D and above)			Registration by School Administration			
301	EME 358	Heat Transfer	3	6	BENG 226 Engineering Thermodynamics (1553) (D and above) AND EME 275 Fluid Mechanics I (1988) (D and above)			Registration by School Administration			
302	EME 361	Machine Design	3	6				Registration by School Administration			
303	EME 410	Aerodynamics	3	6	EME 357 Fluid Mechanics II (1280) (D and above)			Registration by School Administration			
304	EME 412	Heating, Ventilating and Air Conditioning	3	6				4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	

305	EME 413	Computer Aided Geometric Design	3	6	EME 253 Computer Aided Engineering (1050) (C- and above)			4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
306	EME 451	Capstone Project 1	3	6				Registration by School Administration			
307	EME 463	Machine Dynamics II	3	6				Registration by School Administration			
308	EME 467	Vehicle Propulsion Systems	3	6				4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	

309	ENG 100	Introduction to Engineering	3	6				1 year UG SEDS Chemical Engineering, 1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Electrical and Electronic Engineering, 1 year UG SEDS Mechanical Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SEDS Undeclared	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
310	ENG 101	Programming for Engineers	3	6			CSCI 151 Programming for Scientists and Engineers (192) (F) OR CSCI 111 Web Programming and Problem Solving (110) (F) OR CSCI 115 Programming Fundamentals (5257) (F) OR CSCI 152 Performance and Data Structures (489) (F) OR CSCI 408 Senior Project I (1481) (F) OR CSCI 409 Senior Project II (1483) (F)	1 year UG SEDS Chemical Engineering, 1 year UG SEDS Chemical and Materials Engineering, 1 year UG SEDS Civil Engineering, 1 year UG SEDS Civil and Environmental Engineering, 1 year UG SEDS Electrical and Computer Engineering, 1 year UG SEDS Electrical and Electronic Engineering, 1 year UG SEDS Mechanical Engineering, 1 year UG SEDS Mechanical and Aerospace Engineering, 1 year UG SEDS Undeclared (F)	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, Undeclared SEDS		

311	ENG 200	Engineering Mathematics III (Differential Equations and Linear Algebra)	3	6	MATH 162 Calculus II (170) (C and above)			2 year UG SEDS Chemical Engineering, 2 year UG SEDS Chemical and Materials Engineering, 2 year UG SEDS Civil Engineering, 2 year UG SEDS Civil and Environmental Engineering, 2 year UG SEDS Electrical and Computer Engineering, 2 year UG SEDS Electrical and Electronic Engineering, 2 year UG SEDS Mechanical Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering, 2 year UG SEDS Undeclared	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
312	MAE 201	Computer Aided Design	3	6				2 year UG SEDS Mechanical Engineering, 2 year UG SEDS Mechanical and Aerospace Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	

313	MAE 457	Feasibility Analysis of Clean Energy Technologies	3	6				4 year UG SEDS Mechanical Engineering, 4 year UG SEDS Mechanical and Aerospace Engineering	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, Undeclared SEDS	SEDS, SMG, SSH, SoM	
Robotics and Mechatronics											
314	ROBT 201	Mechanics: Statics and Dynamics	3	6	MATH 162 Calculus II (170) (C- and above) AND (PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C- and above) OR PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above))			Robotics and Mechatronics, SMG	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
315	ROBT 203	Electrical and Electronic Circuits I with Lab	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above) OR (PHYS 141 Physics I for non-majors with Lab (1437) (C- and above) AND PHYS 142 Physics II for non-majors with Lab (1438) (C- and above)))			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
316	ROBT 205	Signals and Sensing with Lab	4	8	MATH 162 Calculus II (170) (C- and above) AND (PHYS 162 Physics II for Scientists and Engineers with Laboratory (173) (C- and above) OR PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above))			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		

317	ROBT 301	Mechanical Design I with CAD Laboratory	4	8	ROBT 201 Mechanics: Statics and Dynamics (475) (C- and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
318	ROBT 303	Linear Control Theory with Lab	4	8	ROBT 202 System Dynamics and Modeling (68) (C- and above) AND MATH 274 Introduction to Differential Equations (484) (C- and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
319	ROBT 305	Embedded Systems	3	6	ROBT 206 Microcontrollers with Lab (476) (C- and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
320	ROBT 307	Power Electronics	3	6	ROBT 204 Electrical and Electronic Circuits II with Lab (491) (C- and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
321	ROBT 308	Industrial Automation	3	6				Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
322	ROBT 401	Robot Dynamics and Control	3	6	ROBT 303 Linear Control Theory with Lab (623) (C- and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
323	ROBT 407	Statistical Methods and Machine Learning	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	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		

324	ROBT 414	Human-Robot Interaction	3	6	CSCI 152 Performance and Data Structures (489) (C-and above)			Robotics and Mechatronics	Biological Sciences, Chemistry, Computer Science, Mathematics, Physics, Undeclared SEDS, Undeclared SSH		
School of Engineering											
325	BENG 405	Project Management	3	6				Registration by School Administration			