

## Course Requirements and Registration Priorities (Undergraduate), Summer 2021

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
<b>GSB</b>											
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1	BUS 101	Core Course in Business	3	6				3 year UG SEDS, 3 year UG SMG, 3 year UG SSH	2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH	SEDS, SMG, SSH, SoM	
<b>SMG</b>											
<b>School of Mining and Geosciences</b>											
2	GEOL 206	Field Geology 1	3	6	GEOL 202 Geologic Maps and Cross-Sections (5123) (C- and above)			2 year UG SMG			
<b>SSH</b>											
<b>Biological Science</b>											
3	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, Medical Sciences	Biological Sciences	Anthropology, Chemistry, Computer Science, Economics, History, Mathematics, Political Science and International Relations, Robotics and Mechatronics, Sociology, Undeclared SSH, World Languages, Literatures and Cultures	
4	BIOL 301L	Molecular Cell Biology Laboratory	1	2	BIOL 120 Modern Biology II (1195) (C and above) OR BIOL 120L Modern Biology II Laboratory (5443) (C and above)	BIOL 301 Molecular Cell Biology (5809) (C and above)		5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
5	BIOL 305L	Introduction to Microbiology Laboratory	1	2	BIOL 120 Modern Biology II (1195) (C and above) OR BIOL 120L Modern Biology II Laboratory (5443) (C and above)	BIOL 305 Introduction to Microbiology (5789) (C and above)		5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	

6	BIOL 333	Environmental Biology	3	6	BIOL 120 Modern Biology II (1195) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
7	BIOL 392	Directed Study in Biology	3	6				Instructor's Permission Required. Registration through Add Course form only!			
<b>Chemistry</b>											
8	CHEM 101L	General Chemistry I lab	1	2		CHEM 101 General Chemistry I (113) (C and above)		5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, Medical Sciences	SEDS, SMG, SSH, SoM		
9	CHEM 102	General Chemistry II	3	6	CHEM 101 General Chemistry I (113) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, Medical Sciences, SMG	SEDS, SSH, SoM		
10	CHEM 189c	Independent Study	3	6				Instructor's Permission Required. Registration through Add Course form only!			
11	CHEM 212	Organic Chemistry II	3	6	CHEM 211 Organic Chemistry I (154) (C and above) OR CHEM 191 Chemistry I for Engineers (1908) (C and above)			5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
12	CHEM 212L	Organic Chemistry II Lab	1	2	CHEM 211L Organic Chemistry I Lab (156) (C and above)	CHEM 212 Organic Chemistry II (443) (C and above) OR CHEM 292 Organic Chemistry for Biologists II (1901) (C and above)		5 year UG SEDS, 5 year UG SSH, Chemistry	Biological Sciences	SEDS, SMG, SSH, SoM	
<b>Communication and Composition</b>											
13	WCS 150	Rhetoric and Composition	3	6				1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH, 5 year UG SEDS, 5 year UG SSH	SEDS, SMG, SSH, SoM		
<b>Economics</b>											
14	ECON 102	Introduction to Macroeconomics	3	6				5 year UG SEDS, 5 year UG SSH, Undeclared SSH	1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH	SEDS, SMG, SSH, SoM	

15	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's Permission Required. Registration through Add Course form only!			
16	ECON 399	Independent Study in Economics	3	6				Instructor's Permission Required. Registration through Add Course form only!			
17	ECON 498	Advanced Special Topics in Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) AND ECON 202 Intermediate Macroeconomics (207) (C- and above)			Instructor's Permission Required. Registration through Add Course form only!			
<b>History, Philosophy and Religious Studies</b>											
18	HST 100	History of Kazakhstan	3	6				4 year UG SEDS, 4 year UG SMG, 4 year UG SSH, 5 year UG SEDS, 5 year UG SSH	1 year UG SEDS, 1 year UG SMG, 1 year UG SOM, 1 year UG SSH	SEDS, SMG, SSH, SoM	
19	HST 399	Independent Study	3	6				Instructor's Permission Required. Registration through Add Course form only!			
20	PHIL 210	Ethics	3	6				3 year UG SEDS, 3 year UG SMG, 3 year UG SOM, 3 year UG SSH, 5 year UG SEDS, 5 year UG SSH	2 year UG SEDS, 2 year UG SMG, 2 year UG SOM, 2 year UG SSH		
<b>History, Philosophy and Religious Studies, History, Philosophy and Religious Studies</b>											
21	REL 110/HST 110	Introduction to World Religions	3	6				5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		
<b>Kazakh Language and Turkic Studies</b>											
22	KAZ 150	Basic Kazakh	3	6	KLL "[A2] Basic"			5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
23	KAZ 202	Academic Kazakh II	3	6	KAZ 201 Academic Kazakh I (4561) (C- and above) OR KLL "[B2.2] Upper-Interm."			5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
24	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)	5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
25	KFL 101	Elementary Kazakh as a Foreign Language I	4	8				Instructor's Permission Required. Registration through Add Course form only!			
26	KFL 102	Elementary Kazakh as a Foreign Language II	4	8	KFL 101 Elementary Kazakh as a Foreign Language I (4889) (C- and above)			Instructor's Permission Required. Registration through Add Course form only!			

27	KFL 201	Intermediate Kazakh as a Foreign Language I	4	8				Instructor's Permission Required. Registration through Add Course form only!			
28	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!			
<b>Languages, Literature and Linguistics</b>											
29	LING 370	Methods of Teaching Foreign Languages	3	6				Instructor's Permission Required. Registration through Add Course form only!			
<b>Mathematics</b>											
30	MATH 161	Calculus I	4	8				5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG, Undeclared SEDS, Undeclared SMG, Undeclared SSH	SSH, SoM		
31	MATH 162	Calculus II	4	8	MATH 161 Calculus I (118) (C and above)			5 year UG SEDS, 5 year UG SSH, Biological Sciences, Chemistry, Mathematics, Physics, SEDS, SMG	SSH, SoM		
32	MATH 273	Linear Algebra with Applications	4	8	MATH 161 Calculus I (118) (C and above)	MATH 162 Calculus II (170) (C and above)		1 year UG SSH Physics, 2 year UG SSH Undeclared, 5 year UG SEDS, 5 year UG SSH	Chemistry, Computer Science, Mathematics, Physics, Robotics and Mechatronics	SEDS, SMG, SSH, SoM	
33	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	
34	MATH 361	Real Analysis I	3	6	MATH 263 Calculus III (81) (C and above) AND MATH 251 Discrete Mathematics (85) (C and above)			5 year UG SEDS, 5 year UG SSH, Mathematics	SEDS, SMG, SSH, SoM		
35	MATH 399	Internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			
36	MATH 497	Directed Study in Mathematics I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
<b>Physics</b>											

37	PHYS 161	Physics I for Scientists and Engineers with Laboratory	4	8		MATH 161 Calculus I (118) (C and above)	PHYS 171 Physics I for Physics Majors with Laboratory (1401) (C- and above)	5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
38	PHYS 162	Physics II for Scientists and Engineers with Laboratory	4	8	PHYS 161 Physics I for Scientists and Engineers with Laboratory (116) (C- and above) OR PHYS 151 Introductory Physics I with Lab (649) (C- and above)		PHYS 172 Physics II for Physics Majors with Laboratory (1402) (C- and above)	5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
39	PHYS 299	Research project and internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			
40	PHYS 399	Physics Research Project	3	6				Instructor's Permission Required. Registration through Add Course form only!			
<b>Political Science and International Relations</b>											
41	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!			
42	PLS 422	Just War Theory	3	6	PLS 120 Introduction to Political Theory (512) (C- and above) AND PLS 210 Political Science Research Methods (129) (C- and above)			4 year UG SSH Political Sciences and International Relations, 5 year UG SEDS, 5 year UG SSH, 5 year UG SSH Political Sciences and International Relations	2 year UG SSH Political Sciences and International Relations, 3 year UG SSH Political Sciences and International Relations	SEDS, SMG, SSH, SoM	
43	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!			
<b>SSH</b>											
44	SSH 300	School of Sciences and Humanities Internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			
45	SSH 301	School of Sciences and Humanities Internship: Second Experience	3	6				Instructor's Permission Required. Registration through Add Course form only!			
<b>Sociology and Anthropology</b>											
46	SOC 400	Research Assistance in Sociology	1	2				Instructor's Permission Required. Registration through Add Course form only!			

47	SOC 403	Research Assistance in Sociology	2	4				Instructor's Permission Required. Registration through Add Course form only!			
<b>SEDS</b>											
<b>Chemical and Materials Engineering</b>											
48	CHME 202	Fluid Mechanics	3	6				4 year UG SEDS Chemical Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Chemical and Materials Engineering		
49	CHME 352	Research Practice	3	6				4 year UG SEDS Chemical Engineering, 5 year UG SEDS, 5 year UG SSH	3 year UG SEDS Chemical and Materials Engineering		
50	ECHE 386	Chemical Plant Design and Optimization	3	6				4 year UG SEDS Chemical Engineering, 5 year UG SEDS, 5 year UG SSH			
51	ECHE 418	Capstone project 1	3	6	ECHE 323 Computational methods in Chemical Engineering-I (1272) (D and above)			4 year UG SEDS Chemical Engineering, 5 year UG SEDS, 5 year UG SSH			
52	ECHE 420	Polymer Processing and Rheology	3	6				4 year UG SEDS Chemical Engineering, 5 year UG SEDS, 5 year UG SSH			
53	ECHE 479	Capstone Project II	9	18	ECHE 418 Capstone project 1 (1278) (D and above)			4 year UG SEDS Chemical Engineering, 5 year UG SEDS, 5 year UG SSH			
<b>Civil and Environmental Engineering</b>											
54	CEE 201	Environmental Chemistry	3	6				Instructor's Permission Required. Registration through Add Course form only!			
<b>Computer Science</b>											
55	CSCI 152	Performance and Data Structures	4	8	CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR ENG 101 Programming for Engineers (4517) (B- and above)			5 year UG SEDS, 5 year UG SSH, Computer Science, Robotics and Mechatronics	SEDS	SMG, SSH, SoM	
56	CSCI 299	Internship I	3	6				5 year UG SEDS, 5 year UG SSH, Computer Science			
57	CSCI 398	Directed Study	3	6				Instructor's Permission Required. Registration through Add Course form only!			
58	CSCI 399	Internship II	3	6				5 year UG SEDS, 5 year UG SSH, Computer Science			
59	CSCI 399F	Internship II - F	6	12				Instructor's Permission Required. Registration through Add Course form only!			

60	CSCI 409	Senior Project II	3	6	CSCI 408 Senior Project I (1481) (C- and above)						
<b>Electrical and Computer Engineering</b>											
61	EEE 437	Capstone Project 1	3	6				5 year UG SEDS, 5 year UG SSH, Electrical and Electronic Engineering			
62	ELCE 309	Individual Study	3	6				5 year UG SEDS, 5 year UG SSH, Electrical and Computer Engineering			
<b>Mechanical and Aerospace Engineering</b>											
63	MAE 302	Machine Elements Design	3	6	MAE 205 Material and Manufacturing I (5534) (D and above)			Instructor's Permission Required. Registration through Add Course form only!			
64	MAE 307	Engineering Dynamics II	3	6	MAE 206 Engineering Dynamics I (5535) (D and above)			Instructor's Permission Required. Registration through Add Course form only!			
<b>Robotics and Mechatronics</b>											
65	ROBT 399	Internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			
<b>School of Engineering</b>											
66	BENG 312	Internship	6	12				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			