Course Requirements and Registration Priorities
Summer 2021

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
GSB											
Economics											
1	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	
2	ECON 300	Research Assistance in Economics	1	2	ECON 101 Introduction to Microeconomics (379) (C- and above) AND ECON 102 Introduction to Macroeconomics (503) (C- and above) OR CSCI 151 Programming for Scientists and Engineers (192) (C- and above) OR CSCI 235 Programming Languages (638) (C- and above) OR CSCI 390 Artificial Intelligence (643) (C- and above) OR MATH 321 Probability (482) (C- and above) OR MATH 322 Mathematical Statistics (1165) (C- and above)			Instructor's Permission Required. Registration through Add Course form only!			
3	ECON 399	Independent Study in Economics	3	6				Instructor's Permission Required. Registration through Add Course form only!			

4	ECON 498	Advanced Special Topics in Economics	3	6	ECON 201 Intermediate Microeconomics (133) (C- and above) OR ECON 202 Intermediate Macroeconomics (207) (C- and above) OR MATH 322 Mathematical Statistics (1165) (C- and above) OR MATH 321 Probability (482) (C- and above)			Instructor's Permission Required. Registration through Add Course form only!			
5	ECON 580	Research and Thesis	0	0				Instructor's Permission Required. Registration through Add Course form only!			
GSB											
6	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	
7	GSBF 520	Empirical Asset Pricing	2	4				For GSB programs only! Registration by School admin.			
8	GSBF 541	Global Finance Experience Residency (I)	2	4				For GSB programs only! Registration by School admin.			
9	MBA 10	Foundations of Strategy	2	4				For GSB programs only! Registration by School admin.			
10	MBA 20A	Internship	6	12				For GSB programs only! Registration by School admin.			
11	MSF 05	Internship	6	12				For GSB programs only! Registration by School admin.			
GSPP											
Master in Public Administration											
12	MPA 607	Accountability, Financial and Performance Management	4	8				1 year GSPP Public Administration			
13	MPA 699	Master’s Project with Overseas Component	0	0				1 year GSPP Public Administration			
PhD in Public Policy											
14	DPP 600	Developing Dissertation Research	0	0				1 year GSPP PhD Public Policy, 2 year GSPP PhD Public Policy, 3 year GSPP PhD Public Policy			
15	DPP 689-0	PhD Qualifying Examination: Core Exam	0	0				1 year GSPP PhD Public Policy			
GSE											
MA in Multilingual Education											

16	EDML 680	Developing the Thesis Research Topic	0	0				1 year GSE MA in Multil.Education			
17	EDML 692	Thesis Research III	3	6				2 year GSE MA in Multil.Education			
MSc Educational Leadership HE											
18	EDHE 641	Organisation and governance in higher education	3	6				1 year GSE Educ.Leadership HE only!			
19	EDHE 642	Globalisation and higher education	3	6				1 year GSE Educ.Leadership HE only!			
20	EDHE 646	Higher Education Management Reform in Kazakhstan	3	6				1 year GSE Educ.Leadership HE only!			
21	EDHE 650	Innovative Research Methods: Answering the Complicated, Contemporary Questions in Higher Education	3	6				1 year GSE Educ.Leadership HE only!			
22	EDHE 680	Developing the Thesis Research Topic	0	0				1 year GSE Educ.Leadership HE only!			
23	EDHE 690	Thesis Seminar I	3	6				1 year GSE Educ.Leadership HE only!			
24	EDUC 573	Academic Writing in Kazakh	3	6				Yr1 Ed.Leadership, Yr1 Mult.Educ, Yr1-2 PhD Education only!			
25	EDUC 729	Developing the Research Topic	0	0				1 year GSE PhD Education			
MSc Educational Leadership IE											
26	EDIE 624	Psychology of Learning (Children as Learners)	3	6				1 year GSE Educ.Leadership IE only!			
27	EDIE 650	Theories of Inclusive Education	3	6				1 year GSE Educ.Leadership IE only!			
28	EDIE 657	Leading Inclusive Education for Culturally and Linguistically Diverse Learners	3	6				1 year GSE Educ.Leadership IE only!			
29	EDIE 680	Developing the Thesis Research Topic	0	0				1 year GSE Educ.Leadership IE only!			
30	EDIE 690	Thesis Seminar I	3	6				1 year GSE Educ.Leadership IE only!			
MSc Educational Leadership SE											
31	EDSE 630	Professional Identity	3	6				1 year GSE Educ.Leadership SE only!			
32	EDSE 632	School Improvement and Effectiveness	3	6				1 year GSE Educ.Leadership SE only!			
33	EDSE 634	Assessment: Theories, policies, practices	3	6				1 year GSE Educ.Leadership SE only!			

34	EDSE 680	Developing the Thesis Research Topic	0	0				1 year GSE Educ.Leadership SE only!			
35	EDSE 690	Thesis Seminar I	3	6				1 year GSE Educ.Leadership SE only!			
Other											
Other											
36	T - MOD E05	IoT & Edge Computing	3	6							
37	T - MOD201	Usability Engineering	3	6							
38	T - MOD202	Software-intensive Solutions	3	6							
SoM											
Biological Science											
39	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, Literature and Culture	
40	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	
41	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	

42	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	
43	BIOL 492	Directed Study in Biology	3	6				Instructor's Permission Required. Registration through Add Course form only!			
44	BIOL 599	Master's Thesis Research	0	0				Instructor's Permission Required. Registration through Add Course form only!			
45	BIOL 800-0	Thesis Research	0	0				Instructor's Permission Required. Registration through Add Course form only!			
MSMR											
46	MSMR 513	Internship in Sports Medicine and Rehabilitation	1.5	3				1 year Gr SOM Sports Medicine and Rehabilitation			
PHD											
47	PHDBS 701-0	Thesis Research	0	0				1 year PhD SOM BioMed Sciences, 2 year PhD SOM BioMed Sciences			
SSH											
Academic Success Centre, Communication and Composition											
48	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		
Area Studies											
49	EAS 505	Research and Fieldwork Practicum	4	8				Instructor's Permission Required. Registration through Add Course form only!			
50	EAS 800-0	Dissertation Research in Eurasian Studies	0	0				Instructor's Permission Required. Registration through Add Course form only!			
Chemistry											
51	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		
52	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		
53	CHEM 189c	Independent Study	3	6				Instructor's Permission Required. Registration through Add Course form only!			

54	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	
55	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	
56	CHEM 560	Directed research in chemistry	0	0				Instructor's Permission Required. Registration through Add Course form only!			
History, Philosophy and Religious Studies											
57	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	
58	HST 399	Independent Study	3	6				Instructor's Permission Required. Registration through Add Course form only!			
59	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		
History, Philosophy and Religious Studies, History, Philosophy and Religious Studies											
60	HST 110/REL 110	Introduction to World Religions	3	6				5 year UG SEDS, 5 year UG SSH, SSH	SEDS, SMG, SoM		
Kazakh Language and Turkic Studies											
61	KAZ 150	Basic Kazakh	3	6	KLL "[A2] Basic"			5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
62	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			

63	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)	5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			
64	KFL 101	Elementary Kazakh as a Foreign Language I	4	8				Instructor's Permission Required. Registration through Add Course form only!			
65	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!			
66	KFL 201	Intermediate Kazakh as a Foreign Language I	4	8				Instructor's Permission Required. Registration through Add Course form only!			
67	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!			
Languages, Literature and Linguistics											
68	LING 370	Methods of Teaching Foreign Languages	3	6				Instructor's Permission Required. Registration through Add Course form only!			
Physics											
69	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			
70	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			
71	PHYS 299	Research project and internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			
72	PHYS 399	Physics Research Project	3	6				Instructor's Permission Required. Registration through Add Course form only!			

73	PHYS 600	Thesis Research	0	0				Instructor's Permission Required. Registration through Add Course form only!			
74	PHYS 700-0	Thesis Research	0	0				Instructor's Permission Required. Registration through Add Course form only!			
Political Science and International Relations											
75	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!			
76	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	
77	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!			
78	PLS 597	Research for Thesis	6	12				Instructor's Permission Required. Registration through Add Course form only!			
SSH											
79	SSH 300	School of Sciences and Humanities Internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			
80	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											
81	SOC 400	Research Assistance in Sociology	1	2				Instructor's Permission Required. Registration through Add Course form only!			
82	SOC 403	Research Assistance in Sociology	2	4				Instructor's Permission Required. Registration through Add Course form only!			
SEDS											
School of Engineering											
83	BENG 312	Internship	6	12				5 year UG SEDS, 5 year UG SSH, SEDS, SMG, SSH, SoM			

SoE											
Chemical and Materials Engineering											
84	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		
85	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		
86	DCHME 700-0	Thesis Research	0	0				Chemical Engineering			
87	ECHE 386	Chemical Plant Design and Optimization	3	6				4 year UG SEDS Chemical Engineering, 5 year UG SEDS, 5 year UG SSH			
88	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			
89	ECHE 420	Polymer Processing and Rheology	3	6				4 year UG SEDS Chemical Engineering, 5 year UG SEDS, 5 year UG SSH			
90	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			
91	MBME 604	Biosensors	3	6				2 year Gr SEDS Electrical and Computer Engineering			
Civil and Environmental Engineering											
92	CEE 201	Environmental Chemistry	3	6				Instructor's Permission Required. Registration through Add Course form only!			
93	DCEE 700-0	Thesis Research	0	0				Instructor's Permission Required. Registration through Add Course form only!			
Electrical and Computer Engineering											
94	DELCE 700-0	Thesis Research	0	0				Electrical Engineering			
95	EEE 437	Capstone Project 1	3	6				5 year UG SEDS, 5 year UG SSH, Electrical and Electronic Engineering			
96	ELCE 309	Individual Study	3	6				5 year UG SEDS, 5 year UG SSH, Electrical and Computer Engineering			
Geosciences											

97	GEOL 206	Field Geology 1	3	6	GEOL 202 Geologic Maps and Cross-Sections (5123) (C- and above)			2 year UG SMG			
Mechanical and Aerospace Engineering											
98	DMAE 700-0	Thesis Research	0	0				Mechanical Engineering			
99	DMAE 770	Digital Transformation Concepts	4	8				Instructor's Permission Required. Registration through Add Course form only!			
100	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!			
101	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!			
Mining Engineering											
102	MINE 890-0	Thesis Research	0	0				Instructor's Permission Required. Registration through Add Course form only!			
Petroleum Engineering											
103	PETE 890-0	Thesis Research	0	0				Instructor's Permission Required. Registration through Add Course form only!			
School of Engineering											
104	DENG 700-0	Thesis Research	0	0				2 year PhD SEDS Science, Engineering and Technology			
105	DENG 794	Dissertation Research	12	24	DENG 785 PhD Proposal Oral Defence (2604) (P)			4 year PhD SEDS Science, Engineering and Technology, 5 year PhD SEDS Science, Engineering and Technology (pending graduation)			
106	DENG 796	Thesis Completion	0	0				3 year PhD SEDS Science, Engineering and Technology, 4 year PhD SEDS Science, Engineering and Technology, 5 year PhD SEDS Science, Engineering and Technology (pending graduation)			
107	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)			2 year PhD SEDS Science, Engineering and Technology, 3 year PhD SEDS Science, Engineering and Technology, 4 year PhD SEDS Science, Engineering and Technology, 5 year PhD SEDS Science, Engineering and Technology (pending graduation)			
SCAI											

Computer Science											
108	CSCI 152	Performance and Data Structures	4	8	CSCI 151 Programming for Scientists and Engineers (192) (C- and above)			5 year UG SEDS, 5 year UG SSH, Computer Science, Robotics and Mechatronics	SEDS	SMG, SSH, SoM	
109	CSCI 299	Internship I	3	6				5 year UG SEDS, 5 year UG SSH, Computer Science			
110	CSCI 398	Directed Study	3	6				Instructor's Permission Required. Registration through Add Course form only!			
111	CSCI 399	Internship II	3	6				5 year UG SEDS, 5 year UG SSH, Computer Science			
112	CSCI 399F	Internship II - F	6	12				Instructor's Permission Required. Registration through Add Course form only!			
113	CSCI 409	Senior Project II	3	6	CSCI 408 Senior Project I (1481) (C- and above)						
114	CSCI 700-0	Thesis Research	0	0				Computer Science			
Mathematics											
115	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		
116	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		
117	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	
118	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	

119	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		
120	MATH 399	Internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			
121	MATH 497	Directed Study in Mathematics I	3	6				Instructor's Permission Required. Registration through Add Course form only!			
122	MATH 599	Thesis Research Preparation	0	0				Instructor's Permission Required. Registration through Add Course form only!			
123	MATH 700-0	Thesis Research	0	0				Instructor's Permission Required. Registration through Add Course form only!			
Robotics and Mechatronics											
124	ROBT 399	Internship	3	6				Instructor's Permission Required. Registration through Add Course form only!			
125	ROBT 700-0	Thesis Research	0	0				Chemical Engineering, Civil Engineering, Computer Science , Electrical Engineering, Mechanical Engineering, Robotics Engineering, Science, Engineering and Technology			