

Course Requirements and Registration Priorities (Master), Spring 2018

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
GSB											
GSB											
1	GSBF 512	Principles of Finance	2.5	5							
2	GSBF 514	Corporate Finance	2.5	5							
3	GSBF 518	Risk Management	2	4							
4	GSBF 519	Financial Reporting and Analysis	2	4							
5	GSBF 521	Ethics, Governance and Regulation	2	4							
6	GSBF 541	Global Finance Experience Residency (I)	2	4							
7	MBA 10	Foundations of Strategy	2	4							
8	MBA 13	Macroeconomics	2	4							
9	MBA 14	Decision Models	2	4							
10	MBA 15	Corporate Finance	2	4							
11	MBA 17	Negotiations	2	4							
12	MBAE 13	Raising Capital	2	4							
13	MBAE 2	Emerging Markets Strategy	2	4							
14	MSF 01	Financial Modeling	2.5	5							
15	MSF 02	Thesis Preparation Seminar	2	4							
GSPP											
Master in Public Administration											
16	MPA 608	Strategic Management and Leadership	4	8							
17	MPA 699	Master's Project with Overseas Component	0	0							
18	MPE 610	National Identity and Public Policy	4	8					GSPP		
19	MPE 611	Benefit Cost Analysis	4	8					GSPP		
20	MPE 617	Institutions and development policies	4	8					GSPP		
21	MPE 624	Public Management Reforms in Transitional Countries	4	8					GSPP		

22	MPE 640	International Political Economy	4	8				2 year GSPP Public Policy	GSPP		
23	MPE 648	Environmental Economics and Public Policy	4	8				2 year GSPP Public Policy	GSPP		
Master in Public Policy											
24	MPP 602	Macroeconomics and Public Policy	4	8							
25	MPP 613	Policy Research Design and Methods	4	8							
26	MPP 628	Economic Growth in Developing Asia	4	8				2 year GSPP Public Policy	GSPP		
27	MPP 641	Public Management and Leadership	4	8							
28	MPP 685	Urban Planning and Public Policy	4	8				2 year GSPP Public Policy	GSPP		
29	MPP 699	Policy Analysis Exercise with Overseas Component	8	16	MPP 601 Microeconomics and Public Policy (1449) (C- and above) AND MPP 611 Statistics for Public Policy (1450) (C- and above) AND MPP 613 Policy Research Design and Methods (1301) (C- and above) AND MPP 621 Public Policy and Analysis (1451) (C- and above)						
GSE											
MA in Multilingual Education											
30	EDML 611	Plurilingual Individual	3	6				1 year GSE MA in Multil.Education			
31	EDML 612	Multilingual Society	3	6				1 year GSE MA in Multil.Education			
32	EDML 621	Principles and Methods of Language Education in Multilingual Contexts	3	6				2 year GSE MA in Multil.Education			
33	EDML 691	Thesis Research II	6	12							
MSc Educational Leadership HE											
34	EDHE 610	Applying Educational Leadership in Kazakhstan	3	6							
35	EDHE 692	Thesis Seminar III	4.5	9							
36	EDUC 506	Academic English II	1.5	3				1 year GSE Educ.Leadership			
37	EDUC 508	Academic English IV	1.5	3							

38	EDUC 511	Advanced English for Education Professionals II	3	6				1 year GSE MA in Multil.Education			
39	EDUC 513	English for Thesis Writing II	3	6							
40	EDUC 572	Kazakh for Professional Purposes	3	6				1 year GSE MA in Multil.Education, 1 year GSE PhD Education			
41	EDUC 573	Academic Writing in Kazakh	3	6				1 year GSE Educ.Leadership, 1 year GSE MA in Multil.Education, 1 year GSE PhD Education			
42	EDUC 600	Research Methods II	3	6				1 year GSE Educ.Leadership, 1 year GSE MA in Multil.Education			
43	EDUC 670	Internship Project	6	12				1 year GSE Educ.Leadership			
44	EDUC 671	Work-based project	6	12				1 year GSE Educ.Leadership			
45	EDUC 675	Learning to Work	4.5	9							
MSc Educational Leadership IE											
46	EDIE 610	Applying Educational Leadership in Kazakhstan	3	6							
47	EDIE 692	Thesis Seminar III	4.5	9							
MSc Educational Leadership SE											
48	EDSE 610	Applying Educational Leadership in Kazakhstan	3	6							
49	EDSE 620	Perspectives on Inclusive Education	3	6							
50	EDSE 692	Thesis Seminar III	4.5	9							
SoM											
MMM											
51	MMMM 507	Critical Analysis of the Contemporary Concepts in Molecular Medicine	3	6							
52	MMMM 508	Molecular Immunology	3	6							
53	MMMM 509	From the Bench to the Bedside: Drug Development and Clinical Trials	3	6							
54	MMMM 510	Natural Medicine	3	6							

55	MMMM 511	Research Methods in Molecular Biomedicine	3	6						
56	MMMM 512	Molecular Basis of Chronic Inflammation	1	2						
Public Health										
57	PUBH 512	Biostatistical Modeling and Sampling	3	6						
58	PUBH 522	Advanced Analytical Epidemiology	3	6						
59	PUBH 561	Graduate Research Seminar I	3	6						
60	PUBH 631	Social and Behavioral Sciences in Public Health	3	6						
61	PUBH 633	Methods in Public Health	3	6						
62	PUBH 682	Master's Project Implementation	12	24						
SMG										
Mining Engineering										
63	MINE 505	Advanced Mine Ventilation	3	6						
64	MINE 509	Advanced Surface Mine Design	3	6						
65	MINE 510	Advanced Underground Mine Design	3	6						
66	MINE 601	Mine Management and Sustainability	3	6						
School of Mining and Geosciences										
67	SMG 520	Research Methods	3	6						
SSH										
Area Studies										
68	EAS 502	Disciplinary Methodology	4	8						
69	EAS 504	Thesis II	12.5	25	EAS 500 Introduction to Eurasia (1632) (C- and above) AND EAS 501 General Methodology (1633) (C- and above) AND EAS 502 Disciplinary Methodology (1379) (C- and above) AND EAS 503 Thesis I (2141) (C- and above)			Eurasian Studies		
70	EAS 511	Independent Study in Eurasian Studies	4	8				Through Add form only		

Biological Science

71	BIOL 530	Bioethics Principles and Practices	3	6				1 year Gr SST Biological Sciences			
72	BIOL 550	Structural and Molecular Biology in Health and Disease	3	6				1 year Gr SST Biological Sciences			
73	BIOL 560	Molecular Biology of Prokaryotic Cells	3	6				1 year Gr SST Biological Sciences			
74	BIOL 600	Graduate Seminar Series	3	6				1 year Gr SST Biological Sciences, 2 year Gr SST Biological Sciences			
75	BIOL 637	Fundamentals of Advanced Microscopy	3	6							
76	BIOL 699	Research Thesis II	6	12				2 year Gr SST Biological Sciences			

Economics

77	ECON 521	Microeconomic Theory II	4	8	ECON 501 Microeconomics I (2187) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)			Economics, Eurasian Studies, Political Science and International Relations			
78	ECON 522	Macroeconomics II	4	8	ECON 502 Macroeconomics I (2186) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)			Economics, Eurasian Studies, Political Science and International Relations			
79	ECON 524	Research Methodology	4	8	ECON 501 Microeconomics I (2187) (C- and above) AND ECON 502 Macroeconomics I (2186) (C- and above) AND ECON 511 Statistics (2188) (C- and above)	ECON 531 Econometrics (2505) (D and above)		Economics, Eurasian Studies, Political Science and International Relations			
80	ECON 528	Wages and the Labor Market	4	8	ECON 521 Microeconomic Theory II (2506) (C- and above) AND ECON 531 Econometrics (2505) (C- and above)			Economics, Eurasian Studies, Political Science and International Relations			
81	ECON 531	Econometrics	4	8	ECON 511 Statistics (2188) (C- and above) AND ECON 512 Mathematical Economics (2154) (C- and above)			Economics, Eurasian Studies, Political Science and International Relations			

82	ECON 590	Thesis II	8	16	ECON 589 Thesis I (3714) (P)						
History, Philosophy and Religious Studies											
83	HST 524	Global Histories	4	8							
Mathematics											
84	MATH 512	Optimization Methods and Techniques	3	6				1 year Gr SST Applied Mathematics			
85	MATH 541	Data Analysis and Statistical Learning	3	6	MATH 540 Statistical Learning (2340) (B- and above)			1 year Gr SST Applied Mathematics			
86	MATH 551	Advanced Numerical Methods	3	6				1 year Gr SST Applied Mathematics			
Physics											
87	PHYS 510	Quantum Mechanics	3	6				1 year Gr SST Physics			
88	PHYS 520	Statistical Physics	3	6				1 year Gr SST Physics			
Political Science and International Relations											
89	PLS 510	Advanced Research I	4	8				1 year Gr SHSS Political Sciences and Int. Relations			
90	PLS 531	Politics and Governance of the Russian Federation	4	8				2 year Gr SHSS Political Sciences and Int. Relations	1 year Gr SHSS Political Sciences and Int. Relations		
91	PLS 540	Core Seminar in Comparative Politics	4	8				1 year Gr SHSS Political Sciences and Int. Relations			
92	PLS 547	Comparative Political Parties	4	8				2 year Gr SHSS Political Sciences and Int. Relations	1 year Gr SHSS Political Sciences and Int. Relations		
93	PLS 555	The Politics of Arms in International Relations	4	8				2 year Gr SHSS Political Sciences and Int. Relations	1 year Gr SHSS Political Sciences and Int. Relations		
94	PLS 558	International Organization	4	8	PLS 550 Core Seminar in IR (1372) (C- and above)			2 year Gr SHSS Political Sciences and Int. Relations	1 year Gr SHSS Political Sciences and Int. Relations		
95	PLS 598	MA Thesis I	6	12				2 year Gr SHSS Political Sciences and Int. Relations			
Sociology and Anthropology											
96	ANT 520	Materiality and Eurasian Society	4	8							
SEDS											
Chemical Engineering											

97	MCHE 601	Pipeline Engineering & Flow Assurance	3	6							
98	MCHE 602	Process Engineering and Simulation	3	6	MCHE 615 Advanced Unit Operations (3145) (D and above)						
99	MCHE 603	Crude Oil Processing	3	6							
100	MCHE 604	Natural Gas Processing	3	6							
101	MCHE 605	Petroleum Refining Water/Wastewater Use and Management	3	6							
Civil Engineering											
102	MCE 609	Contaminated Site Management and Soil Treatment Technologies	3	6							
103	MCE 610	Sustainable Transportation Systems	3	6							
104	MCE 611	Sustainable Infrastructure Systems	3	6							
105	MCE 612	Resilient Structural and Geotechnical Systems	3	6							
Civil and Environmental Engineering											
106	E MEM 510	Managerial Accounting	2	4							
107	E MEM 511	Business Strategy	2	4							
108	E MEM 512	Leading Change	2	4							
109	E MEM 513	Entrepreneurship	2	4							
110	E MEM 514	Finance	2	4							
111	E MEM 516	Management of Organizations	2	4							
112	E MEM 517	Marketing	2	4							
113	E MEM 529	Capstone Project	8	16							
114	E MEM 535	Managing Product and Service Development	3	6							
115	E MEM 543	Quality and Lean Management	3	6							
116	E MEM 545	Business Communication	2	4							
Computer Science											

117	CSCI 502	Hardware Software Co-Design	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above)			1 year Gr SST Computer Science, 1 year Gr SST Robotics and Mechatronics			
118	CSCI 591	Advanced Artificial Intelligence	3	6	CSCI 501 Software Principles and Practice (2408) (C- and above) OR DS 501 Fundamentals of Data Science (5218) (C- and above)			1 year Gr SST Computer Science			
119	CSCI 694	Thesis	15	30				2 year Gr SST Computer Science, 2 year Gr SST Physics, 2 year Gr SST Robotics and Mechatronics			
120	SEDS 502	Teaching Practicum	3	6				1 year Gr SST Applied Mathematics, 1 year Gr SST Computer Science, 1 year Gr SST Physics, 1 year Gr SST Robotics and Mechatronics			
121	SEDS 504	Innovation and Entrepreneurship	3	6				1 year Gr SST Computer Science, 1 year Gr SST Physics, 1 year Gr SST Robotics and Mechatronics			
122	SEDS 592	Research Seminar	3	6				1 year Gr SST Applied Mathematics, 1 year Gr SST Computer Science, 1 year Gr SST Physics, 1 year Gr SST Robotics and Mechatronics			
Electrical and Electronic Engineering											
123	MEE 601	Industrial and Commercial Power System	3	6							
124	MEE 602	Advanced Power Electronics	3	6							
125	MEE 609	Internet of Things	3	6							
126	MEE 615	Wireless Communications	3	6							
127	MEE 618	Optical Communication	3	6							
128	MEE 620	RF and Microwave Communications Systems	3	6							
129	MEE 624	Pattern Recognition	3	6							
130	MEE 627	Switched Capacitor Converters (Special Topics in Power Engineering)	3	6							

131	MEE 629	System Design for Wireless	3	6							
Mechanical Engineering											
132	MME 622	Advanced Design and Manufacturing	3	6							
133	MME 623	Design and Manufacturing with Environmental Concern	3	6							
134	MME 624	Design Optimization	3	6							
135	MME 625	Advanced Computer Aided Engineering	3	6							
136	MME 626	Advanced Manufacturing Processes and Strategies	3	6							
Robotics and Mechatronics											
137	ROBT 502	Robot Perception & Vision	3	6	ROBT 501 Robot Manipulation and Mobility (2263) (C- and above)			1 year Gr SST Robotics and Mechatronics			