

**Course Requirements and Registration Priorities  
(Graduate: Master), Fall 2016**

#	Abbr	Title	Cr(US)	Cr(ECTS)	PreRequisite	CoRequisite	AntiRequisite	1st priority registration	2nd priority registration	3rd priority registration	4th priority registration
<b>SEng</b>											
<b>Chemical Engineering</b>											
1	MCHE 613	Physical Chemistry of Oil & Gas	1.5	3							
2	MCHE 614	Applied Chemical Engineering Thermodynamics	1.5	3							
3	MCHE 615	Advanced Unit Operations	1.5	3							
4	MCHE 616	Advanced Chemical Reactor Engineering	1.5	3	ECHE 481 Chemical Reaction Engineering (D and above)						
5	MCHE 618	Plant Economics and Planning	1.5	3							
6	MCHE 619	Safety Engineering and Loss Prevention	1.5	3							
<b>Civil Engineering</b>											
7	E MEM 502	Decision Models	1.5	3							
8	E MEM 505	Operations Management	1.5	3							
9	E MEM 507	Project Management	3	6							
10	E MEM 509	Systems Engineering	3	6							
11	E MEM 513	Entrepreneurship	2	4							
12	E MEM 519	Product Development	1.5	3							
13	E MEM 522	Quality Management	1.5	3							
14	E MEM 523	Supply Chain Management	3	6							
15	E MEM 528	Information Systems Mananagement	1.5	3							
16	E MEM 530	Technology Assessment	1.5	3							
17	E MEM 533	Engineering Management and Engineering Economy	3	6							
18	MCE 601	Sustainable Development	3	6							
19	MCE 604	Advanced Project Management	3	6							

20	MCE 606	Environmental Impacts and Assessments	3	6							
21	MSC 615	Advanced statistics and probability	3	6	BENG 228 Engineering Mathematics III (D and above)						
22	MSC 616	Research Methods	3	6							
<b>Electrical and Electronic Engineering</b>											
23	MEE 600	MSc Thesis in Electrical and Electronics Engineering	15	30							
24	MEE 607	Statistical Signal Processing	3	6							
25	MEE 608	Special Topics in Circuits Theory	3	6							
<b>Mechanical Engineering</b>											
26	MME 600	MSc Thesis in Mechanical Engineering	15	30							
27	MME 604	Engineering Mathematics	3	6							
28	MME 605	Numerical Techniques for Engineers	3	6							
29	MME 606	Advanced control systems	3	6							
<b>SST</b>											
<b>Biological Science</b>											
30	BIOL 501	Fundamentals of Biological Sciences	3	6							
31	BIOL 520	Statistical Methods in Research	3	6							
32	BIOL 600	Graduate Seminar Series	3	6							
33	BIOL 635	Critical Appraisal of Scientific Literature	3	6							
34	BIOL 670	Gene Therapy	3	6							
35	BIOL 690	Research Thesis I	6	12							
<b>Computer Science</b>											
36	CSCI 501	Software Principles and Practice	3	6							
37	CSCI 512	Information Theory	3	6							
38	CSCI 525	Quantum Computing	3	6							
39	CSCI 531	Distributed Systems	3	6							
40	CSCI 545	Big Data Analytics	3	6							
<b>Physics</b>											
41	PHYS 505	Classical Mechanics	3	6							
42	PHYS 511	Computational Modeling and Simulation	3	6							
43	PHYS 515	Classical Electrodynamics	3	6							
44	PHYS 530	Solid State Physics	3	6							
45	PHYS 545	Advanced Instrumentation Methods	3	6							
46	PHYS 550	Advanced Mathematical Physics	3	6							
47	SST 501	Teaching and Learning	3	6							
48	SST 503	Laboratory Practicum	3	6	SST 501 Teaching and Learning (C- and above) AND SST 502 Teaching Practicum (C- and above)						

49	SST 591	Research Methods	3	6							
50	SST 693	Thesis Proposal	3	6	SST 591 Research Methods (C- and above)						
<b>Robotics and Mechatronics</b>											
51	ROBT 501	Robot Manipulation and Mobility	3	6							
52	ROBT 503	Dynamic Systems and Control	3	6							
53	ROBT 605	Robotic Motion Planning	3	6	ROBT 501 Robot Manipulation and Mobility (C- and above) AND CSCI 501 Software Principles and Practice (C- and above)						
54	ROBT 611	Industrial Robotics	3	6	ROBT 501 Robot Manipulation and Mobility (C- and above) AND CSCI 501 Software Principles and Practice (C- and above)						
<b>SHSS</b>											
<b>Area Studies</b>											
55	EAS 500	Introduction to Eurasia	4	8							
56	EAS 501	General Methodology	4	8							
57	EAS 503	Thesis I	7.5	15	EAS 500 Introduction to Eurasia (C- and above) AND EAS 501 General Methodology (C- and above) AND EAS 502 Disciplinary Methodology (C- and above)						
<b>Area Studies, Political Science and International Relations, Sociology and Anthropology</b>											
58	SOC 514/PLS 514/EAS 506	Qualitative Research Methods	4	8							
<b>Economics</b>											
59	ECON 501	Microeconomics I	4	8							
60	ECON 502	Macroeconomics I	4	8							
61	ECON 503	Introduction to Contract Theory and Auctions	4	8							
62	ECON 511	Statistics	4	8							
63	ECON 512	Mathematical Economics	4	8							
64	ECON 516	Empirical Industrial Organization	4	8	ECON 501 Microeconomics I (C- and above) AND ECON 531 Econometrics (C- and above)						

65	ECON 532	Applied Econometrics	4	8							
66	ECON 543	Topics in Macroeconomic Theory	4	8	ECON 502 Macroeconomics I (C- and above)						
67	ECON 545	Public Finance	4	8	ECON 501 Microeconomics I (C- and above) OR ECON 413 Econometrics II (C- and above) OR ECON 531 Econometrics (C- and above)						
68	ECON 551	Topics in Microeconomic Theory	4	8	ECON 501 Microeconomics I (C- and above)						
<b>History, Philosophy and Religious Studies</b>											
69	REL 510	Buddhism in Central Asia	4	8							
<b>Political Science and International Relations</b>											
70	PLS 511	Advanced Research I	4	8							
71	PLS 512	Scientific Research in International Relations	4	8	PLS 511 Advanced Research I (C- and above) AND PLS 510 Advanced Research II (C- and above) AND PLS 550 Core Seminar in IR (C- and above)						
72	PLS 513	Research and Writing in Political Science	4	8							
73	PLS 515	Maximum Likelihood Models	4	8	PLS 510 Advanced Research II (C- and above)						
74	PLS 532	Comparative Democratization	4	8	PLS 540 Core Seminar in Comparative Politics (C- and above)						
75	PLS 540	Core Seminar in Comparative Politics	4	8							
76	PLS 541	Advanced Topics in Comparative Politics	4	8							
77	PLS 550	Core Seminar in IR	4	8							
78	PLS 551	Advanced Topics in International Relations	4	8							
79	PLS 565	Politics of International Finance	4	8							
80	PLS 569	International Relations of Eurasia	4	8							
<b>GSB</b>											
<b>GSB</b>											
81	MBA 01	Consequential Leadership	1	2							
82	MBA 02	Business Mathematics and Business Computer Application	1	2							
83	MBA 03	Financial Accounting	2	4							
84	MBA 04	Probability and Statistics	2	4							
85	MBA 05	Business Communication	2	4							

86	MBA 07	Managerial Effectiveness	2	4							
87	MBA 08	Managerial Economics	2	4							
88	MBA 09	Marketing Management	2	4							
89	MBA 18	Financial Statement Analysis	2	4							
90	MBA 19	Distinguished Speaker Series	0	1							
91	MBA 20	Practicum Project	2.5	5							
92	MBAE 1	Investments	2	4							
93	MBAE 6	International Finance	2	4							
94	MBAE 7	Supply Chain Management	2	4							
95	MBAE 8	Leadership	2	4							
96	MBAE 9	Marketing Strategy	2	4							
<b>GSP</b>											
<b>GSP</b>											
97	MPA 602	Public Administration in Theory and Practice	4	8							
98	MPA 603	Economic Applications for Public Managers	4	8							
99	MPA 605	Research Methods for Decision Making	4	8							
100	MPA 608	Strategic Management and Leadership	4	8							
101	MPA 609	Human Resource Management	3	6							
102	MPA 611	Benefit Cost Analysis	4	8							
103	MPA 613	Economic and Social Policy	3	6							
104	MPA 614	Comparative Economic Development	3	6							
105	MPA 699	Master's Project with Overseas Component	0	0							
106	MPP 601	Microeconomics and Public Policy	4	8							
107	MPP 611	Statistical Techniques for Public Policy	4	8							
108	MPP 612	Public Policy Research and Evaluation	4	8							
109	MPP 621	Introduction to Public Policy and Analysis	4	8							
110	MPP 625	Central Asian politics: Comparative Analysis	4	8							
111	MPP 631	Politics and Public Policy	4	8							
112	MPP 636	Weapons of Mass Destruction Nonproliferation and Disarmament	4	8							
113	MPP 639	International Financial Policy	4	8							
114	MPP 671	Game Theory and Public Policy	4	8							
115	MPP 683	Energy Systems and Climate Policy	4	8							
<b>GSE</b>											
<b>GSE</b>											
116	EDHE 609	Introduction to Educational Leadership: Higher Education	3	6							
117	EDIE 609	Introduction to Educational Leadership: Inclusive Education	3	6							

118	EDML 601	Introduction to Linguistics	3	6							
119	EDML 610	Foundations of Multilingual Education	3	6							
120	EDML 613	The Multilingual School	3	6							
121	EDML 620	Language and Literacy Development	3	6							
122	EDML 621	Principles and Methods of Language Education in Multilingual Contexts	3	6							
123	EDML 623	Globalization and Language Education	3	6							
124	EDML 690	Thesis Research I	3	6							
125	EDSE 609	Introduction to Educational Leadership: School Education	3	6							
126	EDSE 620	Perspectives on Inclusive Education	3	6							
127	EDSE 621	Education Policy Analysis and Development	3	6							
128	EDSE 624	Psychology of Learning (Children as Learners)	3	6							
129	EDSE 630	Professional Identity	3	6							
130	EDSE 634	Assessment: Theories, policies, practices	3	6							
131	EDSE 636	Preparing Children for the Future: Skills and Employability	3	6							
132	EDUC 500	English Language Preparation	0	0							
133	EDUC 502	English for Research	3	6							
134	EDUC 505	Academic English 1	1.5	3							
135	EDUC 510	Advanced English for Education Professionals I	3	6							
136	EDUC 512	English for Thesis Writing I	3	6							
137	EDUC 573	Academic Writing in Kazakh	3	6							
138	EDUC 600	Research Methods I	3	6							
139	EDUC 600	Research Methods II	3	6							
140	EDUC 602	Educational Context and Reform in Kazakhstan	3	6							
141	EDUC 640	Thesis Seminar (Part II)	3	6							
142	EDUC 640	Thesis Seminar (Part I)	1.5	3							
<b>Other</b>											
<b>GSPP</b>											
143	T-PP 5136	Applied Public Sector Economics	4	8							
144	T-PP 5147	Asian Global Cities	4	8							
145	T-PP 5168	Public Service Leadership	4	8							
146	T-PP 5178	Leadership and Decision-Making Skills	4	8							
<b>SoM</b>											
<b>Public Health</b>											
147	PUBH 501	Principles of Public Health Problem Solving	3	6							
148	PUBH 511	Inferential Biostatistics	3	6							

149	PUBH 521	Principles of Analytical Epidemiology	3	6							
150	PUBH 528	Qualitative Research Methods	3	6							
151	PUBH 531	Emerging Infectious Diseases	3	6							