American University – Central Asia
Program: Applied Mathematics and Informatics

CHECKLIST

Student's Name_____ **ID #** _____

Major _____**AMI**_____ **Year of Admission** ___2016_____

Minor _____ **Year of Declaration** _____

Course Name	Course #	Course ID	Credits	Prereq	Comments
General Education Courses			**Total - 100 Credits**		
First Year Seminar I			6		
Introduction to Philosophy I (part of FYS)			2		
Kyrgyz Language (part of FYS)			2		
Russian Language (part of FYS)			2		
First Year Seminar II			8		
Manas Studies (part of FYS)			2		
Introduction to Philosophy II (part of FYS)			2		
Kyrgyz Language			6		
Russian Language			6		
History of Kyrgyzstan			4		
Social Sciences (12 credits):					
• Psychology, Sociology, Political Studies, Economics, Law, Anthropology and/or European Studies from outside the student's major			12		
Humanities (12 credits):					
• Modern Foreign Languages, Religious Study, History, Literature, and/or Culture from outside the student's major			12		
Art and Sport					
Arts			12		
Sports			0	4 semesters-1 sport class	400 Hours
Natural science (6 credits) and CMS (6 credits)					
Physics (MAT 103/131)			3		
Physics. Computer Modeling			3		
Concepts of Modern Science			6		
Mathematics (12 credits)					
Linear Algebra & Analytic Geometry			6	none	
Mathematical Analysis I			6	MAT 103/131	
Courses on Specialty					
Required Courses on Major			**Total - 81 Credits**		
Discrete Mathematics and Mathematical Logic I	COM-227		6	none	
Discrete Mathematics and Mathematical Logic II	COM-228		6	COM-227	
Mathematical Analysis II	MAT-		6	MAT-233	
The Theory of Probabilities and Mathematical Statistics I	MAT-307		6	MAT-131	

Course	Code		Credits	Prereq	
Ordinary Differential Equations	MAT-332		6	MAT-316.2	
Equations of Mathematical Physics	MAT-360		6		
Numerical Methods	MAT-407		6	MAT-316.2,	
Functional Analysis	MAT-341		3		
Complex Variables	MAT-326		3	MAT-316.2	
Introduction to computing			3		
Programming I. Introduction to Object Oriented	COM-116		6	none	
Programming II. Introduction to Object Oriented	COM-117		6	COM-116	
Research Methods in Applied Mathematics	MAT-370		6		
Senior project preparation I	MAT		3		
Senior project preparation II	MAT		3		
Internship I	MAT		3		
Internship II	MAT		3		
Elective Courses on Major				**21 Credits (min)**	
The Theory of Probabilities and Mathematical Statistics II	MAT-328		6	MAT-307	
Quantitative Decision Making	BUS/MAT 366		6		OR
Optimization Methods	MAT-435		3		
Game Theory	MAT-317		6	MAT-233 /	
Mathematical Analysis III			6		
Courses for the education profile "Mathematical Modeling in Natural and Social Sciences" (1 of the following groups) 12 credits					
1. -Numerical Methods of Mathematical Physics.	MAT		6		
-Mathematical Modeling in Geophysics.	MAT		6		
2. -Econometrics.	MAT		6		
-Mathematical Modeling in Economics	MAT		6		
Elective courses outside the Major				**30 Credits (min)**	
Algorithms and Data structures			6		Required for Minor in SFW
Algorithm Analysis			6		
Computer Architecture			6		
Operating Systems			6		
Database Principles	COM-210.1		6	COM-117	
Computer course (HTML)			6		
Computer Graphics			6		
Courses for Minor*					
Total Number of Credits					**240**

Order of study for 2016 admits

I semester (27 credits)		
Gen. Ed.	First Year Seminar I	6
	Introduction to Philosophy I (part of FYS)	2
	Kyrgyz Language (part of FYS)	2
	Russian Language (part of FYS)	2
	Total FYS: 12 credits	
	Linear Algebra and Analytic Geometry	6
	Sport	0
Profile	Discrete Mathematics and Math Logic I	6
	Introduction to Computing	3

II semester (30 credits)		
Gen. Ed.	First Year Seminar II	8
	Introduction to Philosophy II (part of FYS)	2
	Manas Studies	2
	Total FYS: 12 credits	
	Concepts of Modern Science	6
	Mathematical Analysis I	6
	Sport	0
Profile	Discrete Mathematics and Math Logic II	6

III semester (30 credits)		
Profile	Programming I	6
	Ordinary Differential Equations	6
	Mathematical Analysis II	6
Gen. Ed.	Physics	3
	Physics. Computer Modeling	3
	Second Year Seminar	6
	Sport	0

IV semester (31 credits)		
Profile	Programming II	6
	The Theory of Probabilities and Mathematical Statistics I	6
	Numerical Methods	6
	Complex Variables	3
Gen. Ed.	History of Kyrgyzstan	4
	KYR/RUS:ART (Cross-listed course)	6
	Sport	0

V semester (30 credits)		
Profile	Functional Analysis	3
	Elective (Theory of Probabilities and Math Statistics II/QDM)	6
	Elective (Algorithm and Data Structures)	6
	Elective (Optimization Methods)	3
	Elective (Computer Graphics)	6
Gen. Ed.	Social Science	6

VI semester (30 credits)		
Profile	Equations of Mathematical Physics	6
	Research Methods in Applied Math	6
	Elective (Algorithm Analysis)	6
	Elective (Computer Architecture)	6
Gen. Ed.	KYR/RUS:ART (Cross-listed course)	6

VII semester (33 credits)		
Profile	Senior Paper/Seminar I	3
	Elective (Numerical Methods of Mathematical Physics/ Econometrics)	6
	Elective (Mathematical Analysis III/ Game Theory)	6
	Elective(Mobile App./Web. Prog.)	6
	Elective(Operating Systems)	6
Gen. Ed.	Social Science	6

VIII semester (29 credits)		
Profile	Senior Paper/Seminar II	3
	Elective (Mathematical Modeling in Geophysics/ Mathematical Modeling in Economics)	6
	Electives(Game Dev. / Database Pr./ Comp. courses)	20