American University – Central Asia
Program: Applied Mathematics and Informatics

CHECKLIST

Student's Name_____ **ID #** _____

Major: _____ **Year of Admission __2017_____**

Minor: _____ **Year of Declaration _____**

Course Name	Course #	Course ID	Credits	Prereq	Comments
General Education Courses				**Total - 94 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):					
Student has to choose from the following list of Majors: Anthropology, Economics, European Studies, IB Law, IC Politics, Psychology, Sociology and LAS Concentrations.			12		OR Second year seminar: Social science (6 cr)
Humanities (12 credits):					
Modern Foreign Languages, Religious Study, History, Literature, and/or Culture			12		OR Second year seminar: Humanities (6 cr)
Art (SYS) and Sport					
Arts			12		
Sports			0	4 semesters-1 sport class	400 Hours
Natural science (6 credits)					
Physics			6		
Mathematics (12 credits)					
Linear Algebra & Analytic Geometry (for AMI)			6		
Mathematical Analysis I (for AMI)			6		
Courses on Specialty				**146 Credits (min)**	
Required Courses on Major				**Total - 128 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	
Ordinary Differential Equations	MAT-332		6	MAT-316.2	
Equations of Mathematical Physics	MAT-360		6		
Numerical Methods	MAT-407		6	MAT-316.2, COM-116	
Numerical Methods of Mathematical Physics			6		

Functional Analysis	MAT-341	6		
Complex Variables	MAT-326	6	MAT-316.2	
Optimization Methods	MAT-435	6		
Introduction to Software Engineering and Informatics		6		Courses from Software Engineering Program
Structural programming	COM-118	6	none	
Object Oriented Programming		6	COM-118	
Computer Architecture		6		
Operating Systems		6		
Database		6		
Computer Graphics		6		
Research Methods in Applied Mathematics	MAT-370	6		
Senior project preparation I	MAT	3		
Senior project preparation II	MAT	3		
Internship I (Educational Tasks)	MAT	3		
Internship II (Research Project)	MAT	3		
Safety Management		2		
Elective Courses on Major				**18 Credits (min)**
The Theory of Probabilities and Mathematical Statistics II	MAT-328	6	MAT-307	
Quantitative Decision Making	BUS/MAT 366	6		
Game Theory	MAT-317	6	MAT-233	
Mathematical Analysis III		6		
Актуарная математика I		6		
Актуарная математика II		6		
Algorithms and Data structures		6		Required for Minor in SFW
Algorithm Analysis		6		
Courses for the education profile "Mathematical Modeling in Natural and Social Sciences":				
1. Mathematical Modeling in Geophysics.	MAT	6		
2. Mathematical Modeling in Economics	MAT	6		
Courses for Minor*				
Total Number of Credits				**240**

Order of study for 2017 admits

I semester (30 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 Software Engineering and Informatics	6

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	
	Physics. Computer Modeling	6
	Mathematical Analysis I	6
	Sport	0
Profile	Discrete Mathematics and Math Logic II	6

III semester (32 credits)		
Profile	Structural programming	6
	Ordinary Differential Equations	6
	Mathematical Analysis II	6
	Safety Management	2
Gen. Ed.	KYR/RUS:ART (Cross-listed course)	6
	Second year seminar	6
	Sport	0

IV semester (34 credits)		
Profile	Object Oriented Programming	6
	The Theory of Probabilities and Mathematical Statistics I	6
	Numerical Methods	6
	Complex Variables	6
Gen. Ed.	History of Kyrgyzstan	4
	KYR/RUS:ART (Cross-listed course)	6
	Sport	0

V semester (30 credits)		
Profile	Functional Analysis	6
	Database	6
	Optimization Methods	6
Gen. Ed.	Social Science (SYS)	6
	Humanities (SYS)	6

VI semester (30 credits)		
Profile	Equations of Mathematical Physics	6
	Research Methods in Applied Math	6
	Computer Architecture	6
	Computer Graphics	6
G.E	Humanities (SYS)	6

VII semester (30 credits)		
Profile	Senior project preparation I	3
	Numerical Methods of Mathematical Physics	6
	Operating Systems	6
	Elective	6
	Elective	3
	Internship I	3
	Internship II	3

VIII semester (24 credits)		
Profile	Senior project preparation II	3
	Elective (Mathematical Modeling in Geophysics)	6
	Elective (Mathematical Modeling in Economics)	6
	Elective	6
	Elective	3