American University – Central Asia

Program: Applied Mathematics and Informatics

CHECKLIST

Student's Name_____ ID #_____

Major: Applied Mathematics and Informatics_____ Year of Admission __2018_____

Minor: _____ Year of Declaration _____

Course Name	Course #	Course ID	Credits	Prereq	Comments
General Education Courses					**Total - 96 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 (Literature)			6		
Russian Language			6		
History of Kyrgyzstan			4		
Geography of Kyrgyzstan			2		
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 2018 admits

I semester (30 credits)			II semester (30 credits)		
Gen. Ed.	First Year Seminar I	6	Gen. Ed.	First Year Seminar II	8
	Introduction to Philosophy I (part of FYS)	2		Introduction to Philosophy II (part of FYS)	2
	Kyrgyz Language (part of FYS)	2		Manas Studies	2
	Russian Language (part of FYS)	2		Total FYS: 12 credits	
	Total FYS: 12 credits			Physics. Computer Modeling	6
	Linear Algebra and Analytic Geometry	6		Mathematical Analysis I	6
	Sport	0		Sport	0
Profile	Discrete Mathematics and Math Logic I	6	Profile	Discrete Mathematics and Math Logic II	6
	Introduction to Software Engineering and Informatics	6			

III semester (32 credits)			IV semester (33 credits)		
Profile	Structural programming	6	Profile	Object Oriented Programming	6
	Ordinary Differential Equations	6		The Theory of Probabilities and Mathematical Statistics I	6
	Mathematical Analysis II	6		Numerical Methods	6
	Safety Management	2		Complex Variables	6
Gen. Ed.	KYR(Lit)/RUS:ART (Cross-listed course)	6	Gen. Ed.	History and Geography of Kyrgyzstan	6
	Second year seminar	6		Elective	3
	Sport	0		Sport	0

V semester (30 credits)			VI semester (30 credits)		
Profile	Functional Analysis	6	Profile	Equations of Mathematical Physics	6
	Database	6		Research Methods in Applied Math	6
	Optimization Methods	6		Computer Architecture	6
Gen. Ed.	Social Science (SYS)	6		Computer Graphics	6
	Humanities (SYS)	6	G.E	Humanities (SYS)	6

VII semester (30 credits)			VIII semester (24 credits)		
Profile	Senior project preparation I	3	Profile	Senior project preparation II	3
	Numerical Methods of Mathematical Physics	6		Elective (Mathematical Modeling in Geophysics)	6
	Operating Systems	6		Elective (Mathematical Modeling in Economics)	6
	KYR(Lit)//RUS:ART (Cross-listed course)	6		Elective	6
	Elective	3		Elective	3
	Internship I	3			
	Internship II	3			