## American University – Central Asia **Program: Applied Mathematics and Informatics**

## **CHECKLIST**

Student's Name	ID #
Major: Applied Mathematics and Informatics	
Minor:	

**ID** #

Year of Admission \_\_\_2020\_\_\_\_\_ Year of Declaration \_\_\_\_\_

Course Name	Course #	Course	Credits	Prereq	Comments
General Education Courses				To	otal - 98 credits
First Year Seminar I			4		
First Year Seminar II			4		
Introduction to Philosophy I (part of FYS)			2		
Introduction to Philosophy II (part of FYS)			2		
English Composition I			6		
English Composition II			6		
Kyrgyz Language and Literature I			4		
Kyrgyz Language and Literature II			4		
Russian Language I			2		
Russian Language II			2		
History of Kyrgyzstan			4		
Geography of Kyrgyzstan			2		
Manas Studies			2		
Social Sciences (12 credits):	-				
Student has to choose from the following list of Majors: Anthropology, Economics, European Studies, IBL, ICP, Psychology, Sociology and LAS Concentrations.			12		OR Second Year Seminar: Social science (6 credits)
Humanities (12 credits):					
Modern Foreign Languages, Religious Study, History, Literature, and/or Culture			12		OR Second Year Seminar: Humanities (6 credits)
Art and Sport	1		6	1	1
Arts			12		OR Second Year Seminar: Arts (6 credits)
Sports			0	4 semesters-1 sport class	400 hours
Natural science (6 credits)	1	1		1	
Physics. Computer Modeling.			6		
Mathematics (12 credits)					
Linear Algebra & Analytic Geometry (for AMI)			6		
Mathematical Analysis I (for AMI)			6		
Courses on Specialty					142 credits(min)
Required Courses on Major	1			1	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-316.2		6	MAT-233	
The Theory of Probabilities and Mathematical Statistics I	MAT-307		6	MAT-131	

Numerical Methods       MAT-407       6       MAT-332 COM-118 MAT-332 desirable         Numerical Methods       MAT-410       6       MAT-332 desirable         Numerical Methods for Equations of Mathematical Physics       MAT-410       6       MAT-410 MAT-326         Functional Analysis       MAT-316       MAT-410       6       MAT-410         Optimization Methods       MAT-326       6       MAT-316.2       Optimization Methods         Optimization Methods       MAT-435       6       MAT-336.2       Optimization Methods         Object Oriented Programming       COM-118       6       none       Optimization Methods         Object Oriented Programming       COM-119       6       COM-423.1       Optimization         Optimize Graphics       COM-213       6       COM-410.1       Optimizetion         Or graphic Design I or II       MAT-480       3       MAT-370       Senior project preparation I       MAT-480       MAT-480       Internship I (Research Project)       MAT-480       3       MAT-480       Internship I (Research Project)       MAT-479       3       none       Internship I (Research Project)       MAT-480       MAT-332       Internship I (Research Project)       MAT-480       3       NMAT-480       Internship I (Research Project)       MAT-480	Ordinary Differential Equations	MAT-332	6	MAT-233.2	
Numerical Methods     MAT-407     6     COM-118 MAT-332 desirable       Numerical Methods for Equations of Mathematical Physics     MAT-410     6     MAT-307, MAT-306       Functional Analysis     MAT-341     6     MAT-3162, MAT-326       Complex Variables     MAT-336     6     MAT-3162, MAT-326       Optimization Methods     MAT-435     6     MAT-3162, MAT-326, 6     MAT-3162, MAT-326, 6     MAT-3162, MAT-326, 6     COM-100, MAT-435, 6     6       Optimization Methods     MAT-435, MAT-435, 0 (primization Methods)     MAT-435, MAT-435, 6     6     MAT-232, COM-118, 6     COM-118, 6     COM-118, 6       Object Oriented Programming     COM-119, COM-110, Computer Architecture     6     COM-110, 7     6     COM-223,1       Orightic Architecture     COM-311, 7     6     COM-223,1     FyS-216       Orightic Computer Graphics or Graphic Design I or II     MAT-370     6     MAT-310, 7     E       Research Methods in Applied Mathematics     MAT-370     6     MAT-380, 1     Internship II (Research Project)     MAT-480, 3     MAT-380, 3     1       Internship II (Research Project)     MAT-480, 3     3     none     Internship II (Research Project)     MAT-479, 3     3     none       Quantitative Decision Making     366, 367, 366, 367, 366     6     MAT-307, 33     Isteredits	Equations of Mathematical Physics	MAT-360	6		
Mathematical Physics     MAT-110     6     MAT-360       Functional Analysis     MAT-341     6     MAT-316.2, MAT-326     MAT-326       Complex Variables     MAT-326     6     MAT-316.2       Optimization Methods     MAT-435     6     MAT-323.2       Introduction to Software Engineering and     COM-108     6     none       Optimization Methods     MAT-435     6     MAT-233.2       Introduction to Software Engineering and     COM-108     6     none       Orgetting Systems     COM-118     6     comes       Opperating Systems     COM-311     6     COM-410.1       Computer Graphics     COM-311     6     COM-119       Computer Graphics     ImtroCOM     7     FYS-216       or     JMCCOM     6     MAT-370       Research Methods in Applied Mathematics     MAT-370     6       Senior project preparation I     MAT-480     3     none       Internship I (Educational Tasks)     MAT-370     3     none       Safety Management and Economics     COM-120     2     none       Safety Management and Economics     COM-321     6     MAT-337       Quantitative Decision Making     306     3     none       366     36     MAT-337	Numerical Methods	MAT-407	6	COM-118 MAT-332-	
Functional Analysis         NAT-341         0         MAT-326           Complex Variables         MAT-326         6         MAT-326         0           Optimization Methods         MAT-335         6         MAT-336.2         0           Optimization Methods         MAT-435         6         MAT-336.2         0           Optimization Methods         MAT-435         6         MAT-337.2         0           Introduction to Software Engineering and         COM-108         6         none         0           Object Oriented Programming         COM-118         6         none         Engineering Program           Operating Systems         COM-311         6         COM-119         Computer Architecture         COM-341.1         6         COM-119           Computer Graphics or Graphic Design 1 or II         MAT-370         6         MAT-131.2         Senior project preparation 1         MAT-480         3         MAT-370           Senior project preparation I         MAT-481         3         MAT-380         none         Internship I (Research Project)         MAT-370           Senior project preparation I         MAT-480         3         None         Internship I (Research Project)         MAT-479         3         none         Internship I (Research Project	Numerical Methods for Equations of Mathematical Physics	MAT-410	6		
Optimization Methods     MAT-435     6       Optimization Methods     MAT-435     6     MAT-233.2       Introduction to Software Engineering and     COM-108     6     none       Structural programming     COM-118     6     none       Object Oriented Programming     COM-119     6     COM-118       Computer Architecture     COM-410.1     6     COM-118       Operating Systems     COM-341.1     6     COM-101       Database     COM-213     6     COM-23.1       Computer Graphics     IMC/COM     6     FYS-216       or     JMC/COM     6     FYS-216       Senior project preparation I     MAT-480     3     MAT-480       Senior project preparation II     MAT-480     3     MAT-480       Internship I (Educational Tasks)     MAT-479     3     none       Safety Management and Economics     COM-22.1     6     MAT-131.2       Elective Courses on Major     BUS/MAT     6     MAT-370       Quantitative Decision Making     366     6     MAT-131.2       Game Theory     MAT-317     6     MAT-323       Actuarial Mathematics I     366     6     MAT-370       Algorithms and Data structures     COM-223.1     6     COM-118    <	Functional Analysis	MAT-341	6	· · · · · · · · · · · · · · · · · · ·	
Optimization Methods     MAT-435     6     MAT-233.2       Introduction to Software Engineering and     COM-108     6     none       Structural programming     COM-118     6     none       Object Oriented Programming     COM-119     6     COM-203.1       Operating Systems     COM-311.1     6     COM-410.1       Doptating Systems     COM-311.1     6     COM-410.1       Database     COM-311     6     COM-23.1       Computer Graphics     COM-391     COM-23.1     6       or     IMCCOM     6     FYS-216       Senior project preparation I     MAT-480     3     MAT-370       Senior project preparation II     MAT-480     3     none       Internship I (Educational Tasks)     MAT-380     3     none       Internship I (Research Project)     MAT-479     3     none       Safety Management and Economics     COM-23.1     6     MAT-31.2       Game Theory     MAT-317     6     MAT-31.2       Quantitative Decision Making     BUS/MAT     36     MAT-307       367     G     MAT-31.2     Game Theory     MAT-31.7       Actuarial Mathematics I     BUS/MAT     G     MAT-333       Actuarial Mathematics II     BUS/MAT     6	Complex Variables		_	MAT-316.2	
Introduction to Software Engineering and COM-108 6 none Structural programming COM-118 6 none Object Oriented Programming COM-119 6 COM-118 Computer Architecture COM-410.1 6 COM-223.1 Operating Systems COM-341.1 6 COM-101 Database COM-213 6 COM-119 Computer Graphics COM-391 JMC/COM or JMC/COM Graphic Design I or II MAT-480 7 MAT-310.2 Senior project preparation I MAT-480 3 MAT-370 Senior project preparation I MAT-481 3 MAT-480 Internship I (Educational Tasks) MAT-380 3 none Safety Management and Economics COM-120 2 none Elective Courses on Major II BUS/MAT 366 6 MAT-131.2 Game Theory MAT-317 6 MAT-333 Actuarial Mathematics I BUS/MAT 367 6 MAT-307 Actuarial Mathematics I BUS/MAT 368 6 BUS/MAT-367 Algorithm Analysis COM-324.1 6 COM-119 Suffy Manageming COM-324.1 6 COM-119 Structures COM-223.1 6 COM-119 Structures COM-223.1 6 COM-119 Structures COM-223.1 6 COM-119 Structures COM-233.1 6 COM-119 Structures COM-324.1 6 COM-119 Structures COM-233.1 6 COM-119 Struct Web programming COM-338.1 6 COM-119 Structures COM-233.1 6 COM-213 Courses for the education profile "Mathematical Modeling in Natural and Social Sciences" Mathematical Modeling in Economics MAT-420 6 MAT-407, MAT-316.2, MAT-410-desirable MAT-800 Structures Structures COM-233.2 Structures Structures COM-233.2 Structures Structures COM-233.2 Struc	Optimization Methods	MAT-435	6		
Structural programming         COM-118         6         none           Object Oriented Programming         COM-119         6         COM-118           Computer Architecture         COM-341.1         6         COM-23.1           Database         COM-341.1         6         COM-119           Computer Graphics         COM-31         6         COM-23.1           Computer Graphics         Or         COM-391         COM-223.1           Or         JMC/COM         6         FYS-216           Senior project preparation I         MAT-480         3         MAT-480           Senior project preparation II         MAT-480         3         more           Internship I (Educational Tasks)         MAT-480         3         none           Safety Management and Economics         COM-120         2         none           Elective Courses on Major           Quantitative Decision Making         BUS/MAT -366         6         MAT-307           Actuarial Mathematics I         BUS/MAT -366         6         MAT-307           Actuarial Mathematics I         BUS/MAT -366         6         MAT-307           Actuarial Mathematics I         BUS/MAT -366         6         MAT-307           Actuarial Ma	Optimization Methods	MAT-435	6	MAT-233.2	
Object Oriented Programming       COM-119       6       COM-118         Computer Architecture       COM-410.1       6       COM-23.1         Operating Systems       COM-341.1       6       COM-40.1         Database       COM-213       6       COM-119         Computer Graphics or Graphic Design I or II       COM-391       COM-223.1       FYS-216         MCCOM       6       FYS-216       FYS-216         Senior project preparation II       MAT-480       3       MAT-370         Senior project preparation II       MAT-481       3       MAT-480         Internship I (Educational Tasks)       MAT-480       3       none         Safety Management and Economics       COM-120       2       none         Elective Courses on Major         US/MAT 366       6       MAT-311.2         Game Theory       MAT-317       6       MAT-312.2         Actuarial Mathematics I       BUS/MAT 368       6       MAT-307         Actuarial Mathematics I       BUS/MAT 368       6       MAT-307         Actuarial Mathematics I       BUS/MAT 368       6       COM-119       Equired for Minor in 16 formation security         Information security       COM-323.1       6	Introduction to Software Engineering and	COM-108	6	none	_
Computer Architecture       COM-410.1       6       COM-223.1       Courses from Software Engineering Program         Operating Systems       COM-341.1       6       COM-410.1       6       Courses from Software Engineering Program         Database       COM-213       6       COM-223.1       6       Courses from Software Engineering Program         Computer Graphics or Graphic Design I or II       JMC/COM //ICMA- 0       6       FYS-216       FYS-216         Research Methods in Applied Mathematics       MAT-370       6       MAT-131.2       Senior project preparation I       MAT-480       3       MAT-370         Senior project preparation II       MAT-480       3       none       Internship I (Research Project)       MAT-480       3       none         Safety Management and Economics       COM-120       2       none       Ist credits (min)         Quantitative Decision Making       BUS/MAT 366       6       MAT-370       Ist credits (min)         Quantitative Decision Making       BUS/MAT 366       6       MAT-370       Ist credits (min)         Quantitative Decision Making       BUS/MAT 366       6       BUS/MAT 367       Ist credits (min)         Actuarial Mathematics I       BUS/MAT 366       6       BUS/MAT 367       Ist credits (min)	Structural programming	COM-118	6	none	
Operating Systems       COM-341.1       6       COM-410.1       Courses for Minor*         Database       COM-213       6       COM-119       Engineering Program         Computer Graphics or Graphic Design I or II       IMC/COM /TCMA- 301       6       MAT-131.2       COM-223.1       FYS-216         Research Methods in Applied Mathematics       MAT-370       6       MAT-131.2       Senior project preparation I       MAT-480       3       MAT-370         Senior project preparation I       MAT-480       3       MAT-480       Imternship I (Educational Tasks)       MAT-480       3       none         Safety Management and Economics       COM-120       2       none       Imternship I (Research Project)       MAT-479       3       none       Imternship I (Research Project)       MAT-479       G       MAT-370       Imternship I (Research Project)       Imternship I (Research Project)       MAT-479       G       MAT-470       Imternship I (Research Project)       Imternship I (Research Project)       MAT-470       G	Object Oriented Programming	COM-119	6	COM-118	
Operating Systems       COM-341.1       6       COM-410.1       Courses for Minor*         Database       COM-213       6       COM-119       Engineering Program         Computer Graphics or Graphic Design I or II       IMC/COM /TCMA- 301       6       MAT-131.2       COM-223.1       FYS-216         Research Methods in Applied Mathematics       MAT-370       6       MAT-131.2       Senior project preparation I       MAT-480       3       MAT-370         Senior project preparation I       MAT-480       3       MAT-480       Imternship I (Educational Tasks)       MAT-480       3       none         Safety Management and Economics       COM-120       2       none       Imternship I (Research Project)       MAT-479       3       none       Imternship I (Research Project)       MAT-479       G       MAT-370       Imternship I (Research Project)       Imternship I (Research Project)       MAT-479       G       MAT-470       Imternship I (Research Project)       Imternship I (Research Project)       MAT-470       G	Computer Architecture	COM-410.1	6	COM-223.1	
Database       COM-213       6       COM-119         Computer Graphics or Graphic Design I or II       IMC/COM /TCMA- 301       FYS-216       FYS-216         Research Methods in Applied Mathematics       MAT-370       6       MAT-131.2         Senior project preparation I       MAT-480       3       MAT-480         Internship I (Educational Tasks)       MAT-480       3       none         Internship I (Educational Tasks)       MAT-479       3       none         Safety Management and Economics       COM-120       2       none         Elective Courses on Major       Its credits (min)         Quantitative Decision Making       BUS/MAT -367       6       MAT-307         Actuarial Mathematics I       BUS/MAT -367       6       MAT-307         Actuarial Mathematics II       BUS/MAT -368       6       BUS/MAT-367         Agorithms and Data structures       COM-223.1       6       COM-119         Information security       COM -324.1       6       COM-119       SFW         Intor to Web programming       COM-388.1       6       COM-119       SFW         Intor to Web programming       COM-388.1       6       COM-119       SFW         Mathematical Modeling in Geophysics.       MAT-420	Operating Systems	COM-341.1	6	COM-410.1	
Computer Graphics or Graphic Design I or IICOM-391 JMC/COM /TCMA-301COM-223.1 FYS-216Research Methods in Applied MathematicsMAT-3706MAT-131.2Senior project preparation IMAT-4803MAT-370Senior project preparation IIMAT-4813MAT-480Internship I (Educational Tasks)MAT-4813MAT-480Internship I (Research Project)MAT-4793noneSafety Management and EconomicsCOM-1202noneIB credits (min)Quantitative Decision MakingBUS/MAT -3666MAT-131.2Game TheoryMAT-3176MAT-233Actuarial Mathematics IIBUS/MAT -3686BUS/MAT-367Algorithm AnalysisCOM-223.16COM-119Information securityCOM-324.16COM-123Information securityCOM-326.16COM-119Database designCOM-236.16COM-119Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"MAT-410-desirableMathematical Modeling in EconomicsMAT-4206MAT-407, MAT-316.2, MAT-410-desirableMathematical Modeling in EconomicsMAT-4206MAT-407, MAT-316.2, MAT-410-desirable		COM-213	6	COM-119	
or Graphic Design I or II JMC/COM /TCMA- 301 Senior project preparation I MAT-480 3 MAT-370 6 MAT-131.2 Senior project preparation I MAT-480 3 MAT-370 Senior project preparation II MAT-481 3 MAT-480 Internship I (Educational Tasks) MAT-380 3 none Internship I (Educational Tasks) MAT-380 3 none Safety Management and Economics COM-120 2 none Safety Management and Economics COM-120 2 none Ister Safety Management and Economics COM-120 2 none Ister Safety Management and Economics COM-120 2 none Ister Safety Management and Economics COM-120 1 Senior Project Safety Management and Economics COM-120 1 Senior Safety Management and Economics COM-120 2 none Ister Safety Management and Economics COM-120 1 Senior Safety Management and Economics Ister Safety Management					-
Senior project preparation I       MAT-480       3       MAT-370         Senior project preparation II       MAT-481       3       MAT-480         Internship I (Educational Tasks)       MAT-370       3       none         Internship II (Research Project)       MAT-479       3       none         Safety Management and Economics       COM-120       2       none         Elective Courses on Major         Automic Courses on Major         Quantitative Decision Making         BUS/MAT       6       MAT-307         Game Theory       MAT-317       6       MAT-307         Actuarial Mathematics I       BUS/MAT       6       MAT-307         Actuarial Mathematics II       BUS/MAT       6       BUS/MAT-367         Algorithms and Data structures       COM-223.1       6       COM-119         Algorithm Analysis       COM-324.1       6       COM-213       Database design         Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"       MAT-420       6       MAT-407, MAT-316.2, MAT-410-desirable         Mathematical Modeling in Economics       333       6       MAT-433.2       Courses for Minor*		/TCMA-	6	FYS-216	
Senior project preparation I       MAT-480       3       MAT-370         Senior project preparation II       MAT-481       3       MAT-480         Internship I (Educational Tasks)       MAT-370       3       none         Internship II (Research Project)       MAT-479       3       none         Safety Management and Economics       COM-120       2       none         Elective Courses on Major         Automic Courses on Major         Quantitative Decision Making         BUS/MAT       6       MAT-307         Game Theory       MAT-317       6       MAT-307         Actuarial Mathematics I       BUS/MAT       6       MAT-307         Actuarial Mathematics II       BUS/MAT       6       BUS/MAT-367         Algorithms and Data structures       COM-223.1       6       COM-119         Algorithm Analysis       COM-324.1       6       COM-213       Database design         Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"       MAT-420       6       MAT-407, MAT-316.2, MAT-410-desirable         Mathematical Modeling in Economics       333       6       MAT-433.2       Courses for Minor*	Research Methods in Applied Mathematics	MAT-370	6	MAT-131.2	
Senior project preparation II       MAT-481       3       MAT-480         Internship I (Educational Tasks)       MAT-380       3       none         Internship I (Research Project)       MAT-479       3       none         Safety Management and Economics       COM-120       2       none         Elective Courses on Major         Quantitative Decision Making         BUS/MAT       366       6       MAT-312         Game Theory       MAT-317       6       MAT-307         Actuarial Mathematics I       BUS/MAT       368       6       BUS/MAT-367         Actuarial Mathematics II       BUS/MAT       6       COM-19       Required for Minor in         Information security       COM-223.1       6       COM-19       SFW         Intor to Web programming       COM-388.1       6       COM-213       SFW         Intor to Web programming       COM-388.1       6       COM-213       Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"         Mathematical Modeling in Geophysics.       MAT-420       6       MAT-407, MAT-316.2, MAT-410-desirable         Mathematical Modeling in Economics       MAT/ECO-333       6       MAT-233.2					
Internship I (Educational Tasks)       MAT-380       3       none         Internship I (Research Project)       MAT-479       3       none         Safety Management and Economics       COM-120       2       none         Ister Courses on Major         Quantitative Decision Making         BUS/MAT       6       MAT-131.2         Game Theory       MAT-317       6       MAT-307         Actuarial Mathematics I       BUS/MAT       6       MAT-367         Actuarial Mathematics II       BUS/MAT       6       BUS/MAT-367         Algorithms and Data structures       COM-223.1       6       COM-213         Information security       COM -424.1       6       COM-119       SFW         Intro to Web programming       COM-388.1       6       COM-213       COM-213         Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"       MAT-410-desirable         Mathematical Modeling in Economics       MAT-420       6       MAT-407, MAT-316.2, MAT-410-desirable         Mathematical Modeling in Economics       MAT-420       6       MAT-407, MAT-316.2, MAT-410-desirable					
Internship II (Research Project)       MAT-479       3       none         Safety Management and Economics       COM-120       2       none         Elective Courses on Major         BUS/MAT -366       6       MAT-131.2         Game Theory       MAT-317       6       MAT-307         Actuarial Mathematics I       BUS/MAT -367       6       MAT-307         Actuarial Mathematics II       BUS/MAT -368       6       BUS/MAT-367         Algorithms and Data structures       COM-223.1       6       COM-119         Algorithm Analysis       COM-324.1       6       COM-119         Intro to Web programming       COM-388.1       6       COM-119         Database design       COM-236.1       6       COM-213         Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"       MAT-420       6       MAT-407, MAT-316.2, MAT-410-desirable         Mathematical Modeling in Economics       MAT/ECO- 333       6       MAT-233.2					
Safety Management and Economics       COM-120       2       none         Elective Courses on Major       BUS/MAT -366       6       MAT-131.2         Quantitative Decision Making       BUS/MAT -366       6       MAT-131.2         Game Theory       MAT-317       6       MAT-233         Actuarial Mathematics I       BUS/MAT -367       6       MAT-307         Actuarial Mathematics II       BUS/MAT -368       6       BUS/MAT-367         Algorithms and Data structures       COM-223.1       6       COM-119         Algorithm Analysis       COM-324.1       6       COM-119         Information security       COM-424.1       6       COM-119       SFW         Intro to Web programming       COM-388.1       6       COM-119       SFW         Ourses for the education profile "Mathematical Modeling in Natural and Social Sciences"       MAT-400       6       MAT-407, MAT-316.2, MAT-410-desirable         Mathematical Modeling in Economics       MAT/ECO- 333       6       MAT-233.2					
Quantitative Decision MakingBUS/MAT -3666MAT-131.2Game TheoryMAT-3176MAT-233Actuarial Mathematics IBUS/MAT -3676MAT-307Actuarial Mathematics IIBUS/MAT -3686BUS/MAT-367Algorithms and Data structuresCOM-223.16COM-119Algorithm AnalysisCOM-324.16COM-223.1Required for Minor in SFWInformation securityCOM - 424.16COM-119SFWIntro to Web programmingCOM-388.16COM-119SFWDatabase designCOM-236.16COM-213Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"Mathematical Modeling in Geophysics.MAT-4206MAT-407, MAT-316.2, MAT-410-desirableMathematical Modeling in EconomicsMAT/ECO- 3336MAT-233.2	Safety Management and Economics				
Quantitative Decision MakingBUS/MAT -3666MAT-131.2Game TheoryMAT-3176MAT-233Actuarial Mathematics IBUS/MAT -3676MAT-307Actuarial Mathematics IIBUS/MAT -3686BUS/MAT-367Algorithms and Data structuresCOM-223.16COM-119Algorithm AnalysisCOM-324.16COM-223.1Required for Minor in SFWInformation securityCOM - 424.16COM-119SFWIntro to Web programmingCOM-388.16COM-119SFWDatabase designCOM-236.16COM-213Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"Mathematical Modeling in Geophysics.MAT-4206MAT-407, MAT-316.2, MAT-410-desirableMathematical Modeling in EconomicsMAT/ECO- 3336MAT-233.2	Elective Courses on Major				18 credits (min)
Game Theory       MAT-317       6       MAT-233         Actuarial Mathematics I       BUS/MAT -367       6       MAT-307         Actuarial Mathematics II       BUS/MAT -368       6       BUS/MAT-367         Algorithms and Data structures       COM-223.1       6       COM-119         Algorithm Analysis       COM-324.1       6       COM-223.1         Information security       COM - 424.1       6       COM-119         SFW       SFW       Intro to Web programming       COM-388.1       6       COM-119         Database design       COM-236.1       6       COM-213       COM-213         Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"       MAT-410-desirable         Mathematical Modeling in Economics       MAT-420       6       MAT-233.2	Quantitative Decision Making		6	MAT-131.2	
Actuarial Mathematics I       BUS/MAT -367       6       MAT-307         Actuarial Mathematics II       BUS/MAT -368       6       BUS/MAT-367         Algorithms and Data structures       COM-223.1       6       COM-119         Algorithm Analysis       COM-324.1       6       COM-223.1         Required for Minor in Information security       COM - 424.1       6       COM-119         Database design       COM-388.1       6       COM-119         Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"       MAT-420       6         Mathematical Modeling in Economics       MAT/ECO- 333       6       MAT-233.2	Game Theory		6	MAT-233	
Actuarial Mathematics II       -368       6       BUS/MA1-367         Algorithms and Data structures       COM-223.1       6       COM-119         Algorithm Analysis       COM-324.1       6       COM-223.1       Required for Minor in         Information security       COM - 424.1       6       COM-119       SFW         Intro to Web programming       COM-388.1       6       COM-213       Employed and the	Actuarial Mathematics I	BUS/MAT			
Algorithm Analysis       COM-324.1       6       COM-223.1       Required for Minor in         Information security       COM - 424.1       6       COM-119       SFW         Intro to Web programming       COM-388.1       6       COM-119       SFW         Database design       COM-236.1       6       COM-213       COM-213         Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"       MAT-420       6       MAT-407, MAT-316.2, MAT-410-desirable         Mathematical Modeling in Economics       MAT/ECO- 333       6       MAT-233.2	Actuarial Mathematics II		6	BUS/MAT-367	
Algorithm Analysis       COM-324.1       6       COM-223.1       Required for Minor in         Information security       COM - 424.1       6       COM-119       SFW         Intro to Web programming       COM-388.1       6       COM-119       SFW         Database design       COM-236.1       6       COM-213       COM-213         Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"       MAT-420       6       MAT-407, MAT-316.2, MAT-410-desirable         Mathematical Modeling in Economics       MAT/ECO- 333       6       MAT-233.2	Algorithms and Data structures		6	COM-119	
Information security       COM - 424.1       6       COM-119       SFW         Intro to Web programming       COM-388.1       6       COM-119          Database design       COM-236.1       6       COM-213          Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"           Mathematical Modeling in Geophysics.       MAT-420       6       MAT-407, MAT-316.2, MAT-410-desirable         Mathematical Modeling in Economics       MAT/ECO- 333       6       MAT-233.2	Algorithm Analysis				Required for Minor in
Database design       COM-236.1       6       COM-213         Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"         Mathematical Modeling in Geophysics.       MAT-420       6       MAT-407, MAT-316.2, MAT-410-desirable         Mathematical Modeling in Economics       MAT/ECO- 333       6       MAT-233.2         Courses for Minor*       Courses for Minor*	Information security		6		· ·
Database design       COM-236.1       6       COM-213         Courses for the education profile "Mathematical Modeling in Natural and Social Sciences"       MAT-420       6       MAT-407, MAT-316.2, MAT-410-desirable         Mathematical Modeling in Economics       MAT/ECO- 333       6       MAT-233.2	Intro to Web programming		6	COM-119	
Mathematical Modeling in Geophysics.       MAT-420       6       MAT-407, MAT-316.2, MAT-410-desirable         Mathematical Modeling in Economics       MAT/ECO- 333       6       MAT-233.2         Courses for Minor*	Database design	COM-236.1	6	COM-213	
Mathematical Modeling in Economics     MAT/ECO- 333     6     MAT-233.2       Courses for Minor*     6     6     6	Courses for the education profile "Mathema	tical Modeling in Na	tural and	Social Sciences	"
Mathematical Modeling in Economics 333 6 MAT-233.2 Courses for Minor*	Mathematical Modeling in Geophysics.		6	MAT-407, MAT	-316.2, MAT-410-desirable
	Mathematical Modeling in Economics		6	MAT-233.2	
	Courses for Minor*				
	Total Number of Credits				240

## Order of study for 2020 admits

I semester (30 credits)				II semester (30 credits)			
	First Year Seminar I	4		First Year Seminar II	4		
Ed.	Introduction to Philosophy I (part of FYS)	2	Ed.	Introduction to Philosophy II (part of FYS)	2		
	English Composition I	6	en. ]	English Composition II	6		
Gen.	Linear Algebra and Analytic Geometry	6	Ge	Mathematical Analysis I	6		
	Sport	0		Sport	0		
ile	Discrete Mathematics and Math Logic I	6	file	Physics. Computer Modeling	6		
Profile	Introduction to Software Engineering and Informatics	6	Proi	Discrete Mathematics and Math Logic II	6		

III semester ( 32 credits) +1optional				IV semester (32 credits) +1optional			
	Structural programming	6		Object Oriented Programming	6		
Profile	Ordinary Differential Equations	6	Profile	The Theory of Probabilities and Mathematical Statistics	6		
P1	Mathematical Analysis II	6	Pı	Numerical Methods	6		
	Safety Management	2		Numerical Methods			
		4		Kyrgyz language and literature II	4		
	Kyrgyz language and literature I	4		History of Kyrgyzstan	4		
Ed.	Russian Language I	2	Ed	Geography of Kyrgyzstan	2		
Gen.	Second year seminar (SS/ART/HUM)	6	Gen.	Russian Language II	2		
				Manas Studies	2		
	Sport	0		Sport	0		

V semester ( 30 credits) +3 optional				VI semester ( 30 credits)+3 optional			
e	Functional Analysis	6		Equations of Mathematical Physics	6		
E	Database	6	a	Equations of Mathematical Thysics			
Profil	Optimization Methods	6	fil	Research Methods in Applied Math	6		
-	Complex Variables	6	$\Pr$	Computer Architecture	6		
Ed.				Computer Graphics	6		
Gen. ]	Humanities / Social Science/ Arts	6	G.E	Humanities / Social Science/ Arts	6		

	VII semester ( 30 credits) +3 optional			VIII semester (30 credits) +3 optional	
	Senior project preparation I	3		Senior project preparation II	3
le	Numerical Methods for Equations of Mathematical Physics	6	Profile	Mathematical Modeling in Geophysics	6
Profile	Operating Systems	6	Pro	Mathematical Modeling in Economics	6
$\mathbf{P}_{\mathbf{r}}$	Internship I	3		Elective	6
	Internship II	3			
	Elective	6	•	Humanities / Social Science/ Arts	6
Gen. Ed.	Humanities / Social Science/ Arts	6	Gen. Ed	Humanities / Social Science/ Arts	6

During 4th year of study, in case your overall GPA is higher than 3.0, you can transfer 3 additional credits from one semester to another (to take one extra 6 credits course)

Courses from AMI program	
Courses from SFW program	
Courses should be taken only during 2 year of studies, to pass a State Examinatio	n