

American University of Central Asia

Program: Software Engineering

CHECKLIST

Student's Name: _____

ID #: _____

Major: _____

Year of Admission: 2019

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 I (part of FYS)			2		
Kyrgyz Language and Literature			6		
Russian Language			6		
History of Kyrgyzstan			4		
Geography of Kyrgyzstan			2		
Social Sciences (12 credits):					
Psychology, Sociology, Political Studies, Economics, Law, Anthropology and/or European Studies from outside the student's major			12		OR Second year seminar: Social science (6 cr)
Humanities (12 credits):					
Modern Foreign Languages, Religious Study, History, Literature, and/or Culture from outside the student's major			12		OR Second year seminar: Humanities (6 cr)
Art/Sport					
Arts			12		
Sports			0	4 semesters-1 sport class (400 Hours)	
Natural science					
Ecology			3+3		
Physics (prereq. LINEAR ALGEBRA)					
Mathematics (12 credits)					
Linear Algebra & Analytic Geometry for AMI/SFW			6	none	
Mathematical Analysis I for AMI/SFW			6	Linear Algebra	
Courses on Specialty			Total 141 credits		
Required Courses on Specialty			123		
From Software Engineering department			99 credits		
Algorithm Languages			6		
Algorithms and Data Structures	COM-223.1	3114	6	OOP	
Computer Architecture	COM-410.1	3268	6	Alg.& Data structures	
Computer Graphics			6		
Database	COM-213	4773	6	Alg.& Data structures	
Information Security	COM-424.1	3953	6		

Internship: Educational Tasks			6		
Internship: Research Project					
Introduction to Software Engineering and Informatics	COM-108	4321	6	-	
Object Oriented Programming	COM-119	4357	6	Structural programming	
Operating Systems	COM-341	3325	6	Alg.& Data Struct+Archit.	
Safety Management and Economics	COM-120	4358	3	-	
Senior Project Preparation I/ II	COM-431.1	3706	12	Comp. Archit+ OperSyst	
Software Design and Architecture			6		
Software Engineering			6		
Structural programming	COM-118	4322	6	None	
System programming	COM-		6	Comp. Archit	
			99		

Required courses from "Applied Mathematics and Informatics" department					24 credits
Mathematical Analysis II for AMI/SFW			6	Math. Analysis I	<i>From AMI</i>
Discrete mathematics and math. logic I			6	-	<i>From AMI</i>
Discrete mathematics and math. logic II			6	Discrete Math I	<i>From AMI</i>
6 credits out of next courses:					
Numerical Methods			6	OOP and Math.An II	<i>From AMI</i>
Theory of Probabilities and Math. Statistics			6	Linear Math.	<i>From AMI</i>

Elective Courses on Specialty					
From Software Engineering department			Minimum 18 credits (21)		
3D Design and Animation			6	-	
ABAP programming for SAP			6	OOP	
Algorithm Analysis*			6	Alg. and Data Structures	
Applied Autonomous robotics			6	OOP	
Introduction to Artificial Intelligence			6	FYS II	
Computer Design I / II			6		
Computer Networks			6	Operating Systems	
Computer Systems & Assembler			6	OOP	
Computer Vision			6	Parallel and Distr. Prog	
Cryptography			6	Alg. and Data Structures	
Data Science			6	OOP	
Database Design			6	Database	
Digital Integrated Circuit Design			6	OOP	
Game Development			6	OOP	
Information Security II			6	Info.security	
Intro to Web programming			6	OOP and Comp	
Introduction to automated deduction			6	Discrete Math II	
iOS application development			6	OOP	
Machine learning			6	LinAlg and Comp Architect	
Mobile and IoT Development			6	OOP	
Neural Networks and deep learning			6	Comp Architecture	
Programming Languages			6	OOP	
System Administration			6	Comp Networks	
Theory of Computation			6	Lin. Algebra	
Website & Mobile Web App Development			6	Intro to SE and Informatics	

*courses should be taken in case of doing Minor

Courses for Minor*					

Total Number of Credits					240
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Order of study for 2019 admits

I semester (30 credits)			II semester (30 credits)		
Gen. Ed.	First Year Seminar I	6	Gen. Ed.	First Year Seminar I	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			Total FYS: 12 credits	
	Sport (Competitive programming)	0		Sport (Competitive programming)	0
Profile	Introduction to Software Engineering and Informatics	6	Profile	Object Oriented Programming	6
	Linear Algebra and Analytic Geometry	6		Safety Management and Economics	3
	Structural programming	6		Physics	3
				Mathematical Analysis I	6
III semester (30 credits)			IV semester (33 credits)		
Profile	Mathematical Analysis II	6	Profile	Computer Architecture	6
	Algorithm and Data Structures	6		Discrete Mathematics II	6
	Discrete Mathematics I	6		Elective course (Algorithm Analysis) or Numerical Methods/Theory of Probabilities (one of them is required to take)	6
	Elective course (Game Dev., Web. Prog. Mobile App Dev etc.)	6		Kyrgyz Language and Literature	6
Gen. Ed.	Second year seminar: HUM/ART/SS	6	Gen. Ed.	History of Kyrgyzstan+ Geography of Kyrgyzstan	4+2
	Sport (Competitive programming)	0		Sport (Competitive programming)	0
			Natural science course: Ecology etc.	3	
V semester (30 credits)			VI semester (30 credits)		
Profile	Operating Systems	6	Profile	Computer Graphics	6
	Database	6		Algorithm Languages	6
	System programming	6		Elective course (Game Dev., Web. Prog. Mobile App Dev etc.) or Numerical Methods/Theory of Probabilities (one of them is required to take)	12
	Elective course (Game Dev., Web. Prog. Mobile App Dev etc.)	6			
Gen. Ed.	RUS:ART/HUM	6	Gen. Ed.	HUM	6
VII semester (30 credits)			VIII semester (30 credits)		
Profile	Senior Paper/Seminar	6	Profile	Senior Paper/Seminar	6
	Elective course (Game Dev., Web. Prog. Mobile App Dev etc.)	6		Software Design and Architecture	6
	Software Engineering	6		Elective	6
	Elective	6		Information Security	6
Gen. Ed.	Social Science	6	Gen. Ed.	Social Science	6

