

American University of Central Asia

Program: Software Engineering

CHECKLIST

Student's Name: _____

ID #: _____

Major: _____

Year of Admission: **2021**

Minor: _____

Year of Declaration: _____

Course Name	Course #	Course ID	Credits	Prereq	Comments
Orientation week- August 16-27, 2021			2		Outside of 240
General Education Courses			Total - 80-98 Credits		
First Year Seminar I			4		
Philosophy I (part of FYS)			2		
Composition I			6		
First Year Seminar II			4		
Philosophy II (part of FYS)			2		
Composition II			6		
Kyrgyz Language and Literature I			4		
Kyrgyz Language and Literature II			4		
History of Kyrgyzstan			4		
Geography of Kyrgyzstan			2		
Russian Language I			2		
Russian Language II			2		
Manas Studies			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 Physics (prereq. LINEAR ALGEBRA)			3+3		
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 147 credits		
Required Courses on Specialty			105 credits		
From Software Engineering department			123 credits		
Algorithm Languages I	COM- 393		6	Alg.& Data structures	
Algorithm Languages II	TBA		6	Alg. Languages I	

Algorithms and Data Structures	COM-223.1	3114	6	OOP+Safety Manag.&Eco	
Computer Architecture	COM-410.1	3268	6	Alg.& Data structures	
Computer Graphics	COM- 391	4954	6	Alg.& Data structures	
Database	COM-213	4773	6	Alg.& Data structures	
Information Security	COM-424.1	3953	6	Alg. Analysis	
Internship: Educational Tasks Internship: Research Project			6		
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 for SFW	COM-121	5291	3	-	
Senior Project Preparation I/ II	COM-431.1	3706	12	Comp. Archit+ OperSyst	
Software Engineering I	COM- 421.1	3705	6	OOP	
Software Engineering II	COM- 430.1	3881	6	Software Eng. I	
Structural programming	COM-118	4322	6	-	
System programming	COM- 392	4953	6	Comp. Archit+ OperSyst	
			105		

Required courses from "Applied Mathematics and Informatics" department					24 credits
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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					
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From Software Engineering Department			Minimum 18 credits		
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3D Design and Animation			6	-	
Software project management (eng)			6	OOP	
Algorithm Analysis			6	Alg. and Data Structures	
Applied Autonomous robotics			6	OOP	
Introduction to Artificial Intelligence			6	FYS II	
Computer Networks			6	Operating Systems	
Computer Vision			6	Parallel and Distr. Prog	
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	
Management of Information Systems for			6	OOP	
Mobile and IoT Development			6	OOP	
Neural Networks and deep learning			6	Comp Architecture	
Programming Languages			6	OOP	
System Administration			6	Comp Networks	

Courses for Minor*					
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Total Number of Credits					240
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Order of study for 2021 admits

Orientation Week, August 16-27, 2 credits

I semester (30 credits)				II semester (30 credits)			
Gen. Ed.	First Year Seminar I	4	Gen. Ed.	First Year Seminar I	4		
	Philosophy I (part of FYS)	2		Philosophy II (part of FYS)	2		
	Composition I	6		Composition II	6		
	Sport (or Competitive programming)	0		Sport (or 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 for SFW	3		
	Structural programming	6		Physics	3		
				Mathematical Analysis I	6		
III semester (30 credits)+3optional				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		Algorithm Languages I	6		
Gen. Ed.	Second year seminar/ART or HUM or SS	6	Gen. Ed.	Kyrgyz language and Literature II	4		
	Kyrgyz language and Literature I	4		History of Kyrgyzstan	4		
	Russian Language I	2		Geography of Kyrgyzstan	2		
	Sport (or Competitive programming)	0		Russian Language II	2		
				Sport (or Competitive programming)	0		
V semester (30 credits) +3optional				VI semester (32 credits) +1optional			
Profile	Operating Systems	6	Profile	Computer Graphics	6		
	Database	6		System programming	6		
	Algorithm Languages II	6		Numerical Methods/Theory of Probabilities	6		
	Elective course	6		Elective course	6		
Gen. Ed.	ART or HUM or SS	6	Gen. Ed.	ART or HUM or SS	6		
	Natural science course: Ecology etc.	3		Manas Studies	2		
VII semester (30 credits) +3optional				VIII semester (30 credits) +3optional			
Profile	Senior Paper/Seminar	6	Profile	Senior Paper/Seminar	6		
	Elective course	6		Software Engineering II	6		
	Software Engineering I	6		Elective	6		
Gen. Ed.	ART or HUM or SS	6		Information Security	6		
	ART or HUM or SS	6	Gen. Ed. ART or HUM or SS	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)							

Order of GenEd courses (Social Science, Humanities, Art and Natural Science) fulfillment can be changed, you can shift them.

	Courses from SFW program
	Courses from Applied Mathematics and Informatics program
	Courses should be taken only during 2 year of studies, to pass a State Examination