American University in Central Asia
Department: Software Engineering

CHECKLIST FOR ADMITS 2026

General Education Courses						
Course Name	**Course abbr.**	**Course ID**	**Credits**	**Semester**	**Prerequisites**	**Comments**
Academic Orientation program: August 17- August 28, 2026	ORI		**2***			**Outside of 240**
First Year Seminar I	FYS		4		none	
First Year Seminar II	FYS		4		FYS 1	
Introduction to Philosophy I (part of FYS)	FYS		2		none	
Introduction to Philosophy II (part of FYS)	FYS		2		Phil 1	
English Composition I	ECL		6		none	
English Composition II	ECL		6		ECL 1	
Kyrgyz Language and Literature I	KLL		4		none	
Kyrgyz Language and Literature II	KLL		4		KLL I	
Russian Language I	RUS		2		none	
Russian Language II	RUS		2		RUS 1	
History of Kyrgyzstan	HIST		4		none	
Geography of Kyrgyzstan	GEO		2		none	
Manas Studies			2		none	
Natural Sciences/Second Year Seminar**	NTR, ECL, GEO,AGEO		6			
Mathematics and Quantitative reasoning *-Linear Algebra & Analytic Geometry for AMI/SFW* *-Mathematical Analysis I for AMI/SFW* *-Theory of probabilities and Math. Statistics*	MAT-131.2 MAT-233.2 MAT-307	3828 3855 3215	18		None Lin. Algebra Lin. Algebra	
Arts/Second Year Seminar**	ART		12			
Humanities/Second Year Seminar** *Modern Foreign Languages, History, Literature, Culture from outside the student's major*	SYS/HUM		12			
Social Sciences/Second Year Seminar** *Psy, Soc, ICP, Econ, IBL, Anth, ES. From outside the student's major*	SYS/SS, SOC, PSY, ES etc.		12			
Sports	SPO		0		none	400 hours
Total GenEd credits			104 [2] credits			

***** Credits earned for the Academic Orientation program are not included into 240 credits for graduation.

**All students in their 2nd year must take one Second Year Seminar. This seminar substitutes for one required 6-credit course in either Humanities, Social Sciences, Arts or Natural Science.

Major Requirements						
Required Courses (75 cr = 60 + 15 (internship))						
Course Name	**Course abbr.**	**Course ID**	**Credits**	**Semester**	**Prerequisites**	**Comment**
Introduction to Programming	COM-122	5682	6	1	none	
Discrete Mathematics	MAT-240	5676	6	1	none	
Object Oriented Programming	COM-119	4357	6	2	Introduction to Programming (COM-122)	
Principles of computing systems	COM-123	5778	6	2	Introduction to Programming (COM-122)	
Data structures	COM-229	5964	6	3	OOP (COM-119)	
Algorithms	TBA	TBA	6	4	Data structures	
Operating systems **or** Computer networks	COM-341.1 or COM - 416.1	3325 or 3709	6	5	Principles of computing systems AND Data structures	
Database	COM-213	4773	6	5	OOP (COM-119)	
Senior Thesis I	COM-431.1	3706	6	7	OOP (COM-119)	
Senior Thesis II	COM-433	3707	6	8	Senior Thesis I, COM-431.1	
Internship:						
Internship: Educational Tasks Internship: Research Project	COM-498.1 COM-499.1	3842 3841	15	summer		Outside of 240 cr
Elective Courses (need to take 36 cr)						
Course Name	**Course abbr.**	**Course ID**	**Credits**	**Semester**	**Prerequisites**	**Comment**
3D Design and Animation	JMC/TCMA/COM-336	4047	6	any	None	
Software project management (eng)	COM-341	5093	6	2-8	OOP	
Algorithm Analysis	COM - 324.1	3261	6	4-8	Algorithms	
Applied Autonomous robotics	COM-255	4521	6	3-8	OOP	
Introduction to Artificial Intelligence	COM-214	4633	6	3-8	FYS II	
Computer Vision	COM-389	4626	6		OOP	
Data Science	COM/MATH-295	4520	6	3-8	OOP	
Database Design	COM – 326.1	3499	6	6-8	Database	
Digital Integrated Circuit Design	COM-333	4143	6	3-8	OOP	
Game Development	COM – 299	3956	6	3-8	OOP	
Information Security	COM-424.1	3953	6	3-8	OOP	
Information Security II	COM-425.1	4827	6	4-8	Info.security	
Intro to Web programming	COM – 388.1	3040	6	3-8	OOP	
Introduction to automated deduction	COM – 270	4351	6	4-8	Discrete Math II	
iOS application development	COM-256	4624	6	3-8	OOP	
Machine learning	COM-474	4774	6	3-8	LinAlg AND Principles of computing systems	
Management of Information Systems	COM-302	5095	6	3-8	OOP	

for SFW (eng)						
Mobile and IoT Development	COM-254	4389	6	3-8	OOP	
Modern Programming Languages	COM-297	5679	6	3-8	OOP	
Neural Networks and deep learning	COM – 312	4519	6	3-8	Principles of computing systems	
Parallel programming	COM-451.1	3708	6	6-8	Operating systems	
Programming Languages	COM – 371.1	3327	6	3-8	OOP	
System Administration	COM – 463.1	3704	6	6-8	Comp Networks	
Theory of computation	COM-332.1	3703	6	6-8	Linear Algebra	
Electives - 40 cr (at least 18cr outside the major + 22cr can be taken either within the major or outside the major)						
Total Number of Credits			**257**			

Recommended order of study for 2026 admits

Academic Orientation Program [2 credits]			
1st semester (30 credits)		**2nd semester (30 credits)**	
First Year Seminar I	4	First Year Seminar II	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
Discrete Mathematics	6	Object Oriented Programming	6
Linear Algebra and Analytic Geometry	6	Principles of Computing systems	6
Introduction to Programming	6	Mathematical Analysis I	6
3rd semester (30 credits)		**4th semester (30 credits)**	
Theory of probabilities and Math. Statistics OR Natural Science	6	Natural Science OR Theory of probabilities and Math. Statistics	6
Data Structures	6	SFW Elective (2)	6
SFW elective (1)	6	Algorithms	6
Second year seminar/ART or HUM or SS etc.	6	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
5th semester (30 credits)		**6th semester (32 credits)**	
Operating systems **or** Computer networks	6	SFW Elective course (4)	6
Database	6	Elective course (outside the major)	6

SFW Elective course (3)	6	Elective course (within or outside the major)	6
Elective course (outside the major)	6	Elective course (within or outside the major)	6
ART or HUM or SS or Elective	6	ART or HUM or SS	6
Sport (or Competitive programming)	0	Manas Studies	2
SUMMER			
Internship	15		
7th semester (30 credits)		**8th semester (30 credits)**	
Senior Thesis I	6	Senior Thesis II	6
SFW Elective course (5)	6	SFW Elective course (6)	6
Elective course (outside the major)	6	Elective course (within or outside the major)	6
ART or HUM or SS	6	ART or HUM or SS	6
ART or HUM or SS	6	ART or HUM or SS	6

Graduation requirements:

1. Earn at least 242 credits (+credit hours earned for program internships)
   - **a.** Complete all General Education requirements;
   - **b.** Complete all requirements for at least one major;
   - **c.** Earn no more than 102 credits of introductory (100-level) courses;
   - **d.** Complete at least 18 elective credits outside of a student's major and General Education program;
   - **e.** Complete the required number of internship credits (the number of credits is determined by each department);
   - **f.** Pass all state graduation examinations;
   - **g.** Successfully complete and defend a senior thesis/project;
   - **h.** Receive no "F" or "N/p" grades in the final semester;

   To earn an overall GPA of at least 2.0.