



About the university

Astana IT University was established on behalf of the First President of Kazakhstan, Nazarbayev N. N., the Public Fund "Nursultan Nazarbayev Education Fund" on February 12, 2019 (<https://astanait.edu.kz/>) with the sole mission and purpose of preparing high quality professionals in the areas of IT, Computer Science and IT Management in support of Kazakhstan's vision for a full-fledged implementation of the State Program "Digital Kazakhstan".



MISSION

Human capital development for Digital Kazakhstan within the competence domain of the University



PURPOSE

Creation of a modern University to train highly qualified specialists in the field of Digital Economy of Kazakhstan on the basis of interdisciplinary competences & technologies



THE UNIVERSITY COMPETENCE

- Educational programs for bachelor/master/doctoral
- Applied research activities
- Corporate training and re-training of staff & specialists, online courses to improve digital literacy



UNIVERSITY'S INITIATIVES

- Implementing the concept of Lifelong Learning;
- Training of staff & specialists with breakthrough competencies: technical competencies + soft skills
- Interdisciplinary approach based on a combination of digital technologies and industry specifics
- Innovative programs

STUDENTS INTAKE



2019 - 2020



614
STUDENT

State grant

Based on
tuition fee

600 **14**

Bachelors Bachelors

0

Masters

0

PhD

2020 -2021



1900
STUDENT

State grant

Based on
tuition fee

1700 **200**

Bachelors Bachelors

0

Masters

0

PhD

2021 -2022



3200
STUDENT

State grant

Based on
tuition fee

2800 **200**

Bachelors Bachelors

150

Masters

15

PhD

2022 -2023



4500
STUDENT

State grant

Based on
tuition fee

3900 **300**

Bachelors Bachelors

200

Masters

35

PhD

Educational Programs



Bachelor Programs



Big Data Analytics



Software Engineering



Computer Science



Cybersecurity



IT Project Management



Media Technologies



Industrial Automation



Telecommunication Systems



Digital Journalism

Master Programs



Applied Data Science



Digital Operations



Digital Transformation



Digital Strategy



Project Management

Bachelor Education for the Digital Transformation

- Bachelor Computer Science (BSc.)
 - Programming (Java, C# or C++)
 - Computer Architectures & Operating Systems
 - Computer Science Theory
 - => Generalists: Software / Hardware / System Architects, Scientists, System Operators
- Bachelor Software Engineering (BSc.)
 - Programming (Java, C# or C++)
 - Software Engineering, Software architectures (e.g. Cloud Systems)
 - Software testing (ISTQB), Software development processes, tools
 - => Software Developers (Web/Mobile/Database Applications), Software Testers
- Bachelor Big Data Analysis (BSc.)
 - Data Acquisition and Processing, e.g. Big Data
 - Data Analysis Algorithms and Tools, e.g. AI / Machine Learning
 - => Data Analysts, Data Warehouse Operators, Process Engineers
- Bachelor Industrial Automation (BSc.)
 - Embedded Software & Systems, Internet of Things (IoT)
 - Automation & Robotics, Industry 4.0
 - => Manufacturing Process Eng., Automation & Robotics Engineer, Embedded Systems Engineer

Bachelor Education for the Digital Transformation

- Bachelor Media Technologies (BSc.)
 - Digital Design & Arts, Creativity, Design Thinking
 - Web & Mobile Technologies
 - User Centred Design, Interaction Technologies (AR / VR)
 - => Web / Media Designer, Digital Artist, Producer, Digital Marketing Expert
- Bachelor Cybersecurity (BSc.)
 - Cryptography (Theory), Secure Algorithms & Tools (e.g. Blockchain)
 - Cloud, Server, Computer Networks
 - Forensics, Hacking, Data Ethics & Law
 - => Security Expert (IT Operations), Security Tools Developer, Security Analyst
- Bachelor Telecommunication Systems (BSc.)
 - Electrical Engineering, Electronics, Signal Processing
 - Computer/Telecommunication Networks (e.g. LTE, 5G), Security
 - => Telecommunication Equipment/Computer Network Operator, Network Architect
- Bachelor IT Project Management (BSc.)
 - Business Process Engineering, Workflow Management & Cooperation Systems
 - Agile Project Management, Change Management, IT Service Management (ITIL)
 - => IT Project Managers, Business Process Analysts, IT Consultants

Computer Science							
Term 1			Term 2			Term 3	
Foreign Language (English 1)	5	Foreign Language (English 2)	5	Professional English	5		
Discrete Mathematics	5	Cultural studies	2	Modern History of Kazakhstan	5		
Information and Communication Technologies	5	Calculus 2	5	Linear Algebra	5		
Calculus 1	5	Object-Oriented Programming	5	Algorithms and Data Structures	5		
Introduction to Programming	5	WEB Technologies	5	Coding Lab	5		
Physical Culture	2	Physical Culture	2	Physical Culture	2		
Educational Practice	2		24		27		
	29						
Term 4		Term 5		Term 6			
Kazakh (Russian) Language 1	5	Kazakh (Russian) Language 2	5	Political Science	2		
Computer Organisation and Architecture 1	5	Probability and Statistics	5	Sociology	2		
Digital Systems	5	Software Architecture	5	Information Theory	5		
Database Management Systems	5	Computer Organisation and Architecture 2	5	Android 2 // iOS 2 // PL/SQL 2 // Python 2	5		
Operating Systems (Windows/Linux OS Adminis	5	Computer Networks	5	Software Factory (Project)	5		
Physical Culture	2	Android 1 // iOS 1 // PL/SQL 1 // Python 1	5	Industrial practice (between 6 and 7)	4		
	27		30		23		
Term 7		Term 8		Term 9			
Psychology	2	Philosophy	5	Diploma Work (Project) and Defence	12		
Robotics & Mechtronics	5	Information Security Fundamentals	5	Undergraduate practice	4		
Technological Entrepreneurship	5	Embedded Systems Design	5	Industrial practice	8		
Mastering Design Thinking // Presentation, Communication and Negotiation	5	Project Management	5		24		
Machine Learning Algorithms	5	Research Methods & Tools	4				
Cloud Computing Applications	5	Distributed Algorithms and Parallel Computing	5				
	27		29				

Software Engineering						
Term 1			Term 2		Term 3	
Foreign Language (English 1)	5		Foreign Language (English 2)	5	Professional English	5
Cultural Studies	2		Calculus 2	5	Modern History of Kazakhstan	5
Information and Communication Technologies	5		Discrete Mathematics	5	Linear Algebra	5
Calculus 1	5		Object-Oriented Programming	5	Algorithms and Data Structures	5
Introduction to Programming	5		WEB Technologies	5	Coding Lab (Project)	5
Physical Culture	2		Physical Culture	2	Physical Culture	2
Educational Practice	2			27		27
	26					
Term 4			Term 5		Term 6	
Kazakh (Russian) Language 1	5		Kazakh (Russian) Language 2	5	Political Science	2
Computer Organisation and Architecture	5		Operating Systems and Computer Networks	5	Psychology	2
Database Management Systems	5		Probability and Statistics	5	Software Performance Engineering	5
Advanced Java 1 // Advanced C# 1 // Advanced Python 1	5		Advanced Java2 // Advanced C# 2 // Advanced Python 2	5	Android 2 // iOS 2 // PL/SQL 2	5
Software Design Patterns	5		Software Architecture	5	Software Factory (Project)	5
Physical Culture	2		Android 1 // iOS 1 // PL/SQL 1	5	Industrial practice (between 6 and 7)	4
	27			30		23
Term 7			Term 8		Term 9	
Sociology	2		Philosophy	5	Diploma Work (Project) and Defence	12
Software Process Management	5		Information Security Fundamentals	5	Undergraduate practice	4
Technological Entrepreneurship	5		Software Quality Assurance and Testing	5	Industrial practice	8
Mastering Design Thinking // Presentation, Communication and Negotiation	5		Project Management	5		24
Machine Learning Algorithms	5		Research Methods & Tools	4		
Cloud Computing Applications	5		Distributed Algorithms and Parallel Computing	5		
	27			29		

Big Data							
Term 1			Term 2			Term 3	
Foreign Language (English 1)	5	Foreign Language (English 2)	5	Professional English	5		
Linear Algebra	5	Modern History of Kazakhstan	5	Cultural Studies	2		
Information and Communication Technologies	5	Calculus 1	5	Calculus 2	5		
Discrete Mathematics	5	Object-Oriented Programming	5	Algorithms and Data Structures	5		
Introduction to Programming	5	WEB Technologies	5	Data Acquisition Lab	5		
Physical Culture	2	Physical Culture	2	Physical Culture	2		
Educational Practice	2		27		24		
	29						
Term 4		Term 5		Term 6			
Kazakh (Russian) Language 1	5	Kazakh (Russian) Language 2	5	Sociology	2		
Computer Organisation and Architecture 1	5	Operating Systems and Computer Networks	5	Political Science	2		
Probability and Statistics	5	Business Process Engineering	5	Data Science Programming 2 (Python)	5		
Database Management Systems	5	Information Retrieval and Data Mining	5	Android 2 // iOS 2 // PL/SQL 2	5		
Introduction to Data Analytics	5	Data Science Programming 1 (Python)	5	Capstone Project	5		
Physical Culture	2	Android 1 // iOS 1 // PL/SQL 1	5	Industrial practice (between 6 and 7)	4		
	27		30		23		
Term 7		Term 8		Term 9			
Philosophy	5	Psychology	2				
Technological Entrepreneurship	5	Project Management	5	Diploma Work (Project) and Defence	12		
Mastering Design Thinking // Presentation, Communication and Negotiation	5	Research Methods & Tools	4	Undergraduate practice	4		
Information Theory	5	Cloud Computing Applications	5	Industrial practice	8		
Distributed Algorithms and Parallel Computing	5	Big Data and High Performance Computing	5		24		
Machine Learning Algorithms	5	Applied Machine Learning	5				
	30		26				

Industrial Automation							
Term 1			Term 2			Term 3	
Foreign Language (English 1)	5		Foreign Language (English 2)	5		Professional English	5
Linear Algebra	5		Module of social-political education: Cultural studies	2		Modern History of Kazakhstan	5
Information and Communication Technologies	5		Calculus 2	5		Discrete Mathematics	5
Calculus 1	5		Algorithms and Data Structures	5		Object-Oriented Programming	5
Introduction to Programming	5		WEB Technologies	5		Embedded Systems Lab	5
Physical Culture	2		Physical Culture	2		Physical Culture	2
Educational Practice	2			24			27
	29						
Term 4			Term 5			Term 6	
Kazakh (Russian) Language 1	5		Kazakh (Russian) Language 2	5		Module of social-political education: Political s	2
Computer Organisation and Architecture 1	5		Module of social-political education: Psychology	2		Probability and Statistics	5
Advanced Programming in C/C++	5		Computer Networks (Cisco CCNA + R&S)	5		Industrial Automation with PLC	5
Electronics	5		Control Systems	5		Model Based Design	5
Signals and Systems	5		Software Engineering for Embedded Systems	5		Industrial Automation Project	5
Physical Culture	2		Embedded System Design	5		Industrial practice (between 6 and 7)	4
	27			27			26
Term 7			Term 8			Term 9	
Philosophy	5		Module of social-political education: Sociology	2		Diploma Work (Project) and Defence	12
Robotics & Mechtronics	5		Information Security Fundamentals	5		Undergraduate practice	4
Technological Entrepreneurship	5		Project Management	5		Industrial practice	8
Mastering Design Thinking // Presentation, Communication and Negotiation	5		Research Methods & Tools	4			24
Machine Learning Algorithms	5		Industry 4.0	5			
Distributed Algorithms and Parallel Computing	5		Real Time Operating Systems	5			
	30			26			

Media Technologies					
Term 1			Term 2		Term 3
Foreign Language (English 1)	5	Foreign Language (English 2)	5	Professional English	5
Modern History of Kazakhstan	5	Calculus 2	5	Cultural studies	2
Information and Communication Technologies	5	Discrete Mathematics	5	Linear Algebra	5
Calculus 1	5	Algorithms and Data Structures	5	Object-Oriented Programming	5
Introduction to Programming	5	WEB Technologies	5	App Development Lab	5
Physical Culture	2	Physical Culture	2	Physical Culture	2
Educational Practice	2		27		24
	29				
Term 4		Term 5		Term 6	
Kazakh (Russian) Language 1	5	Kazakh (Russian) Language 2	5	Political science	2
Computer Organisation and Architecture	5	Sociology	2	Probability and Statistics	5
Video Electronics & Image Processing	5	Operating Systems and Computer Networks	5	Digital Journalism 2	5
Database Management Systems	5	Computer Graphics	5	Android 2 // iOS 2 // C# 2 // Python 2	5
Audio Electronics	5	Digital Journalism 1	5	Digital Arts Show (Project)	5
Physical Culture	2	Android 1 // iOS 1 // C# 1 // Python 1	5	Industrial practice (between 6 and 7)	4
	27		27		26
Term 7		Term 8		Term 9	
Psychology	2	Philosophy	5	Diploma Work (Project) and Defence	12
Digital Marketing & Analytics	5	Information Security Fundamentals	5	Undergraduate practice	4
UX / UI Design	5	Project Management	5	Industrial practice	8
Technological Entrepreneurship	5	Research Methods & Tools	4		24
Mastering Design Thinking // Presentation, Communication and Negotiation	5	User Centred Design	5		
Motion Picture Design	5	Game Development	5		
	27		29		

IT Management							
Term 1			Term 2			Term 3	
Foreign Language (English 1)	5		Foreign Language (English 2)	5		Professional English	5
Information and Communication Technologies	5		Cultural studies	2		Modern History of Kazakhstan	5
Calculus 1	5		Linear Algebra	5		Discrete Mathematics	5
Business Administration	5		Management & Organisation	5		Introduction to Programming (C++) // Introduction to Programming (Java)	6
Physical Culture	2		Micro and Macroeconomics	5		Business Project (Simulation)	5
Educational Practice	2		WEB Technologies	5		Physical Culture	2
	24		Physical Culture	2			28
				29			
Term 4			Term 5			Term 6	
Kazakh (Russian) Language 1	5		Kazakh (Russian) Language 2	5		Probability and Statistics	5
Psychology	2		Operating Systems and Computer Networks	5		Quality Management	5
	2		Business Process Engineering// Business Intelligence	5		IT Systems & Infrastructure	5
Political science	2					Information Security Fundamentals	7
Computer Organisation and Architecture	4		Database Management Systems/ NoSQL Database Systems	5			
Financial Management	5		Mobile Development (Android) // Mobile Development 1 (iOS) // PL/SQL Programming	5		Industrial practice (between 6 and 7)	4
Workflow & Groupware Systems	5		Project Management	5			
Physical Culture	2			30			26
	25						
Term 7			Term 8			Term 9	
Sociology	2		Philosophy	5		Diploma Work (Project) and Defence	12
Technological Entrepreneurship	5		Information Security Fundamentals	5		Undergraduate practice	4
Leadership	5		Presentation, Communication & Negotiation	5		Industrial practice	8
Mastering Design Thinking	2		Research Methods and Tools // Quantitative Analysis for Business	5			24
Elective 1	5		Elective 4	5			
Elective 2	5						
Elective 3	5			25			
	29						

Cybersecurity							
Term 1			Term 2			Term 3	
Foreign Language (English 1)	5		Foreign Language (English 2)	5		Professional English	5
Modern History of Kazakhstan	5		Module of social-political education: Cultural studies	2		Algebra and Geometry	5
Information and Communication Technologies	5		Introduction to Web Development	5		Hacking Lab	5
Mathematical Analysis 1	5		Algorithms and Data Structures	5		Object-Oriented Programming (Java)	5
Fundamentals of Programming C++	5		Mathematical Analysis 2	5		Discrete Mathematics	5
Physical Culture	2		Physical Culture	2		Physical Culture	2
Educational Practice	2			24			27
	29						
Term 4			Term 5			Term 6	
Kazakh (Russian) Language 1	5		Kazakh (Russian) Language 2	5		Module of social-political education: Political s	2
Theory of Probability and Mathematical Statistics	5		Computer Networks I (CISCO CCNA ITTN & RSE)	5		Module of social-political education: Sociology	2
Computer Organisation and Architecture 1	5		Cryptography	5		Database Management Systems	5
Introduction to Cybersecurity	5		Operating Systems	5		Operating Systems Security	5
Advanced Java 1 // Advanced C# 1	5		Python 1	5		Technological Entrepreneurship	5
Physical Culture	2			25		Security Defense Competition (Project)	8
	27						27
Term 7			Term 8			Term 9	
Philosophy	5		Module of social-political education: Psychology	2		Diploma Work (Project) and Defence	12
Ethical hacking and Penetration Testing	5		Networks security (CISCO CCNA Cyber Ops)	5		Undergraduate practice	4
Information Security Risk Management and Comp	5		Project Management	5		Industrial practice	8
Mastering Design Thinking // Management Communication	5		Research Methods & Tools	5			24
Elective 1	5		Elective 3	5			
Elective 2	5		Elective 4	5			
	30			27			

Telecommunication							
Term 1		Term 2		Term 3			
Foreign Language (English 1)	5	Foreign Language (English 2)	5	Professional English	5		
Modern History of Kazakhstan	5	Introduction to Web Development	5	Module of social-political education: Cultural studies	2		
Information and Communication Technologies	5	Algorithms and Data Structures	5	Embedded Systems Lab	5		
Mathematical Analysis 1	5	Mathematical Analysis 2	5	Object-Oriented Programming (Java)	5		
Fundamentals of Programming C++	5	Algebra and Geometry	5	Discrete Mathematics	5		
Physical Culture	2	Physical Culture	2	Physical Culture	2		
Educational Practice	2		27		24		
	29						
Term 4		Term 5		Term 6			
Kazakh (Russian) Language 1	5	Kazakh (Russian) Language 2	5	Module of social-political education: Sociology	2		
Computer Organisation and Architecture 1	5	Theory of Probability and Mathematical Statistics	5	Module of social-political education: Political s	2		
Advanced Programming in C/C++	5	Computer Networks (Cisco CCNA + R&S)	5	Database Management Systems	5		
Electronics	5	Introduction to Telecommunication	5	Digital Signal Processing	5		
Signals and Systems	5	Information Security Fundamentals	5	Technological Entrepreneurship	5		
Physical Culture	2	Operating Systems	5	Capstone Project	8		
	27		30		27		
Term 7		Term 8		Term 9			
Module of social-political education:	2	Philosophy	5	Diploma Work (Project) and Defence	12		
Telecommunication (MPLS)	5	Project Management	5	Undergraduate practice	4		
Embedded Systems Design	5	Research Methods & Tools	5	Industrial practice	8		
Mastering Design Thinking // Management Communication	5	Elective 3	5				24
Elective 1	5	Elective 4	5				
Elective 2	5		25				
	27						

HILTON

Congress Center

Holding large IT events

SAP Forum 2019, Seed Space startup hub, SOC Day 2019, information security code 2019, Big data conference 2019, Cyber & Digital Security-2019



КОД
ИНФОРМАЦИОННОЙ
БЕЗОПАСНОСТИ

seedspace

kaspersky



ECO SYSTEM

ASTANA HUB

International Technology Park for IT Startups

3593

Community
members

245

Projects

19

The experts

71

Investors

FINTECH HUB

Attraction in fintech industry of young specialists. Attraction investors and investments in fintech industry of Kazakhstan. Consolidation of efforts business representatives to introducing innovation in financial sector



more than 60 startups



BCPD

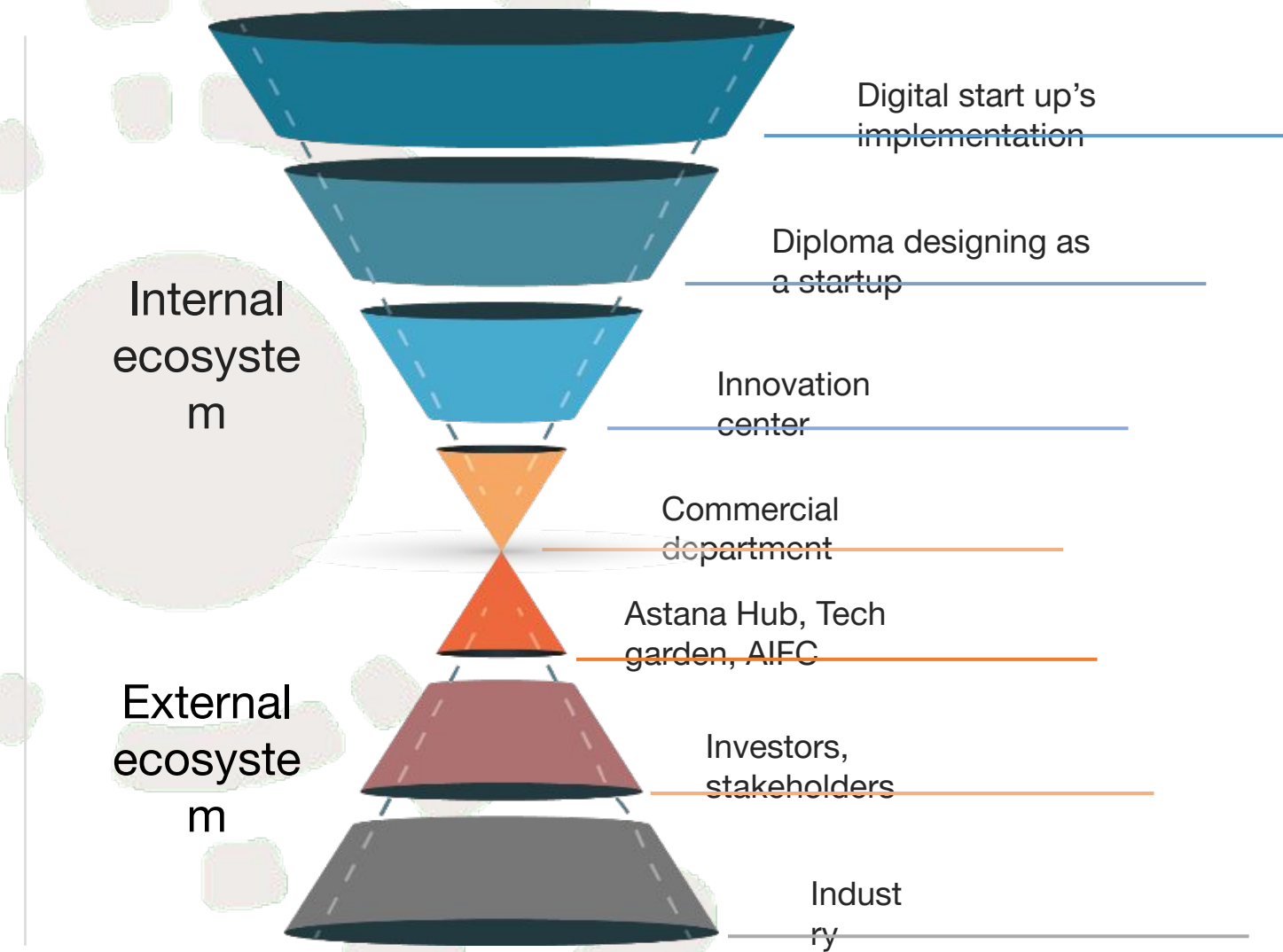
VSRO - leading platform for continuous professional development in information and communication technology, investment, asset management accounting finance, marketing, English law human resources and corporate management in Kazakhstan



AIFC
PROFESSIONALS



Innovation Ecosystem Center



Akimat of Nur-Sultan city



Education and Science
Ministry of the Republic
of Kazakhstan



Ministry of information
and social development
of the RK

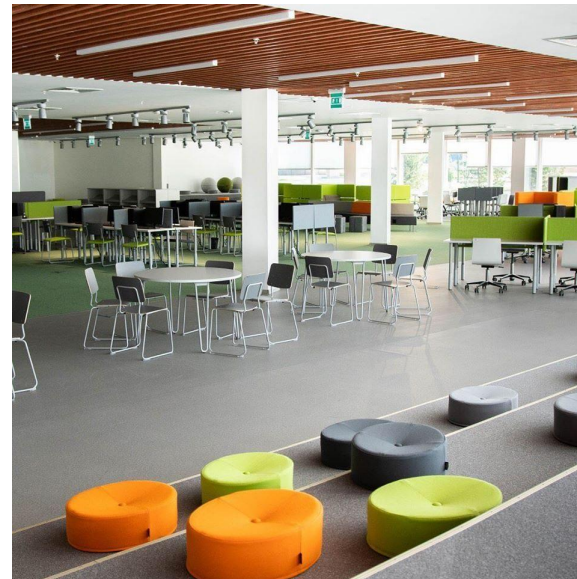


Ministry of digital
development, innovations
& aerospace industry of
the RK

AITU SPECIALIZED LABORATORIES FROM VENDOR COMPANIES:

- **HP (Hewlett Packard)** - Memorandum of cooperation signed
- **1C Education and Entertainment software program** - signed a Memorandum of cooperation, opened a laboratory "1C"
- **SAP University Alliances** -the University became a member of the SAP University Alliance
- **ASBIS (authorized distributor of "Apple")** - signed a Memorandum of cooperation, considering the possibility of opening "Apple Authorized Training Center"
- **Qaz Tech Ventures** -Memorandum of cooperation signed
- **Qazaq Cybersport Federation** - agreed draft Memorandum, plans to open an *ESports Academy*
- **Cisco** signed a Memorandum and open lab Cisco
- **Huawei** - opened Huawei laboratory
- **Kaspersky** - Kaspersky lab opens
- **KPMG** agreed project Memorandum is to be signed on October, 15, 2019
- **Oracle**-draft Memorandum for approval by lawyers. Oracle Academy registration process started

AITU INFRASTRUCTURE





**Участие в четвертьфинале
Чемпионата мира ACM ICPC 26.10.2019**



Лаборатория CISCO



Лаборатория HUAWEI



**Встреча студентов с президентом
Республики Казахстан**



**Призеры XI Евразийской олимпиады
по информатике**



**Полуфинал Чемпионата мира
ACM ICPC 01.12.2019**