

Azerbaijan Technical University

The SDG Curriculum Map:



Aligning Courses with Global Goals

Education on Sustainability at Azerbaijan Technical University

Adherent to sustainable development priorities in both national and international context, Azerbaijan Technical University fosters the SDGs through teaching and research. To provide the hands-on knowledge on SDGs, the relevant subjects on SDGs have been included in the curriculum. There are 3 group of specialties with 6 sub-specialties taught at the master`s and bachelor levels at the Azerbaijan Technical University. Education on sustainable development provide learners with the knowledge and skills deal with global challenges including climate changes, unsustainable use of resources, inequality, loss of biodiversity and etc. [Click Here](#).

Today`s environmental situation is one of the most global problems in the world, and environmental problems continue to increase day by day. To solve the growing problems, specialist with relevant knowledge and skills are required. Ecologists and Ecological Engineers are such specialists. There is a great demand for people studying and improving their qualifications in the field of ecology in Azerbaijan, and the prospects of the field in our country are very great.

Specialty – Environmental engineering

Sub-specialties:

- Environmental protection and efficient use of natural resources
- Conservation of natural resources and recycling
- Transportation ecology
- Environmental protection in petrochemical industry

The main task of a chemical engineer is to plan the stages and choose production methods so that the result is a high-quality product with the desired properties. While chemical engineers work on the processes to make all these products, they also help manage the world`s resources, protect the environment, and ensure health and safety standards.

Specialty – Recycling and Recovery Technologies

Sub-specialty – Metallurgical waste recycling technologies Health & safety activities, as a field based on scientific knowledge, includes theoretical and practical rules for protecting people from dangerous and harmful factors in all fields of activity, and aims to protect their safety and health in their living environment. It is included in the safety of life activities.

Specialty – Emergency and Health & Safety Engineering

Sub-specialty – Health & Safety Protection

The specialty “Management” in master’s level has the “Labor economics and sustainable human development” subject in its curriculum. [Click Here](#). The objective is to consider the sustainable development in human context for future managers.

Sustainable development has been a paramount agenda for businesses throughout the world.

Sustainability in business context covers efficient resource consumption, environmental protection, The MBA Program of the International Business School has the following subjects on sustainable development. [Click Here](#).

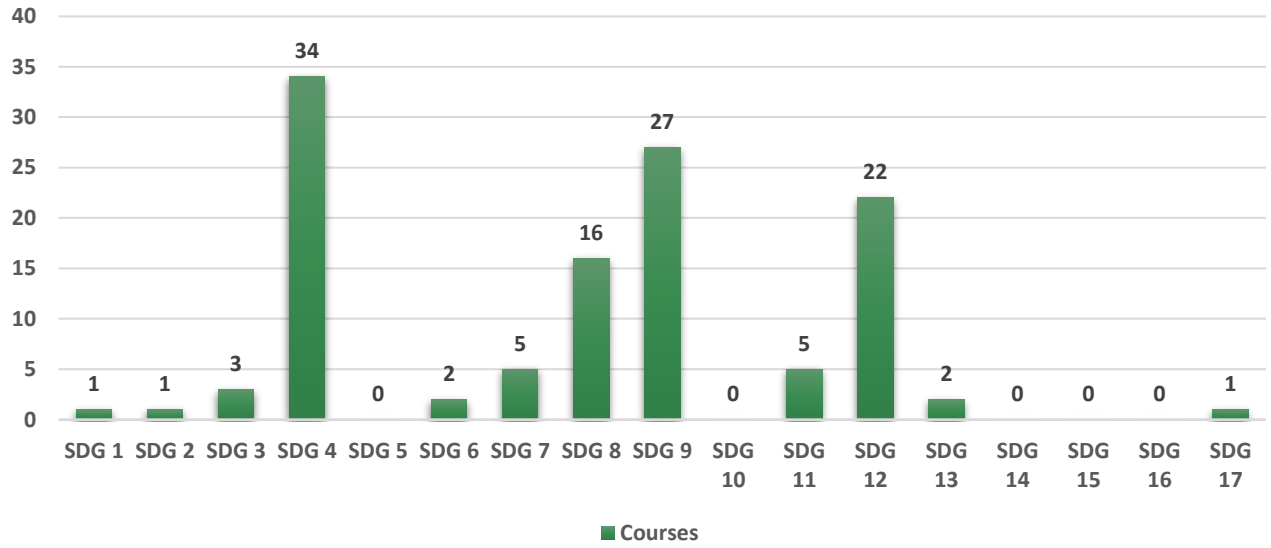
- Energy and environment
- Green economy
- Energy management
- Human development methodologies
- Health and Safety Fundamentals
- Green supply chain management

The Subject-SDG Correlation is vital for AzTU because it:





- Ensures education remains relevant and impactful in addressing global challenges.
- Encourages interdisciplinary and critical thinking across a range of subjects.
- Prepares students to become ethical leaders who are capable of addressing the world’s most pressing issues.
- Enhances the reputation of the institution as a leader in sustainable development and social responsibility.





SDG	Undergraduate Course
SDG 4 (Quality Education)	34
SDG 9 (Industry, Innovation, and Infrastructure)	27
SDG 12 (Responsible Consumption and Production)	22
SDG 8 (Decent Work and Economic Growth)	16
SDG 7 (Affordable and Clean Energy)	5
SDG 11 (Sustainable Cities and Communities)	5
SDG 16 (Peace, Justice, and Strong Institutions)	5
SDG 15 (Life on Land)	4
SDG 3 (Good Health and Well-being)	3
SDG 13 (Climate Action)	2
SDG 6 (Clean Water and Sanitation)	2
SDG 1 (No Poverty)	1
SDG 2 (Zero Hunger)	1
SDG 17 (Partnerships for the Goals)	1


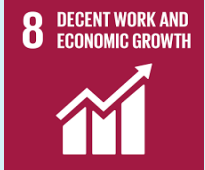




Undergraduate Courses at AzTU















Subject correlation by undergraduate level






The Faculty of Transport and Logistics	Specialties	SDGs related
<p>The Faculty of Transport and Logistics has been operating since 1950.</p> <p>In 1950 when the Azerbaijan Polytechnic Institute (now Azerbaijan Technical University) started to operate this faculty was called Mechanics. Later the name of the faculty was changed to Motor Transport, Transport, Auto Mechanics and Railway Transport. Since 2019 the faculty has been operating under the name of Transport and logistics.</p> <p>Education is conducted in Azerbaijani and Russian.</p>	<ul style="list-style-type: none"> • Engineering of logistics and transport technologies • Transport engineering • Transport services (by mode of transport) 	<div data-bbox="1263 485 1471 646"> <p>4 QUALITY EDUCATION</p>  </div> <div data-bbox="1263 653 1471 835"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div data-bbox="1263 842 1471 1024"> <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>  </div> <div data-bbox="1263 1031 1471 1213"> <p>15 LIFE ON LAND</p>  </div>
<p>The Faculty of Transport and Logistics</p>		


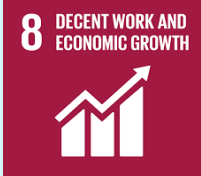



The Faculty of Power Engineering and Automation	Specialties	SDGs related
<p>was established in 1964 under the name of Electrical Engineering at the Azerbaijan Polytechnic Institute (now Azerbaijan Technical University) Since 2001, the faculty has been named the Faculty of Electrical Engineering and Energy. In 2021 changes by the decision of the Scientific Council the faculty was called Energetics and Automation.</p> <p>Education is conducted in Azerbaijani and Russian.</p>	<ul style="list-style-type: none"> • Power Engineering • Electrical engineering and electronics • Engineering physics 	<div data-bbox="1256 506 1461 674"> <p>4 QUALITY EDUCATION</p>  </div> <div data-bbox="1256 674 1461 856"> <p>7 AFFORDABLE AND CLEAN ENERGY</p>  </div> <div data-bbox="1256 856 1461 1031"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div data-bbox="1256 1031 1461 1213"> <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>  </div>
<p>The Faculty of Power Engineering and Automation</p>		

The faculty of special technique and technology	Specialties	SDGs related
<p>The faculty of special technique and technology was established by the decision of the Republic of Azerbaijan Cabinet of Ministers, No. 91 dated 06.07.2011 for the purpose of training highly qualified personnel for the Defense Industry Complex of the Republic of Azerbaijan. In addition to the university, theoretical and practical classes at the faculty are held once a week in factories under the Ministry of Defense Industry and in large auditoriums and production areas created in the training centers of the Ministry of Defense.</p>	<ul style="list-style-type: none"> • Weapons and weapon systems engineering • Systems engineering • Pyrotechnic and explosive engineering • Optotechnical engineering • Military composition materials engineering • Military communications engineering • Aerospace engineering 	     
<p>The Faculty of Special Technique and Technology</p>		

The Faculty of Metallurgy and Materials Science	Specialties	SDGs related
<p>The Faculty of Metallurgy and Materials Science, which prepares specialists in the field of metallurgy at Azerbaijan Technical University (AzTU), was established in February 1964. Graduates of this faculty can work in the largest metallurgical and machine-building plants, companies and scientific research laboratories of the republic. Education is conducted in Azerbaijani and Russian languages. Three self-financing scientific research laboratories operate at the faculty.</p>	<ul style="list-style-type: none"> • Environmental engineering • Chemical engineering • Life safety engineering • Materials engineering • Mining engineering • Metallurgical engineering 	      
<p>The Faculty of Metallurgy and Materials Science</p>		

<p>The faculty was established in 1964 under the name of the Faculty of Mechanical Engineering at the Azerbaijan Polytechnic Institute (now Azerbaijan Technical University) in order to meet the need for engineering personnel of the relevant industrial enterprises operating in our country. After the Republic of Azerbaijan gained its independence, the faculty was greatly expanded in accordance with the new modern specialties and it was crucial to make significant changes in the structure of the faculty. The faculty was named "Mechanical Engineering and Robotics" from 2019 by the decision of the Scientific Council of AzTU No. 01 dated 02.10.2019.</p>	<p style="text-align: center;">Specialties</p> <ul style="list-style-type: none"> • Machine engineering • Mechatronics and robotics engineering • Mechanical engineering • Device engineering • Food engineering • Industrial Engineering 	<p style="text-align: center;">SDGs related</p> <div style="display: flex; flex-direction: column; gap: 10px;"> <div data-bbox="1252 422 1455 604"> <p>2 ZERO HUNGER</p>  </div> <div data-bbox="1252 632 1455 814"> <p>3 GOOD HEALTH AND WELL-BEING</p>  </div> <div data-bbox="1252 842 1455 1024"> <p>4 QUALITY EDUCATION</p>  </div> <div data-bbox="1252 1041 1455 1224"> <p>8 DECENT WORK AND ECONOMIC GROWTH</p>  </div> <div data-bbox="1252 1251 1455 1434"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> </div>
<p>The Faculty of Mechanical Engineering and Robotics</p>		

<p>The faculty was established in 1961 at the Azerbaijan Polytechnic Institute (now Azerbaijan Technical University) under the name of the Faculty of Automation and Computing. In 2007, the name of the faculty was changed to Automation and computer engineering. In 2019, by the decision of the Scientific Council of Azerbaijan Technical University the faculty was called Information and Telecommunication Technologies. Education is conducted in Azerbaijani, Russian and English.</p>	<p style="text-align: center;">Specialties</p> <ul style="list-style-type: none"> • Information Security • Information Technologies • Computer Sciences • Computer Engineering • Radio Engineering and Telecommunication Engineering 	<p style="text-align: center;">SDGs related</p> <div style="display: flex; flex-direction: column; gap: 10px;"> <div data-bbox="1258 420 1469 598"> <p>4 QUALITY EDUCATION</p>  </div> <div data-bbox="1258 619 1469 798"> <p>8 DECENT WORK AND ECONOMIC GROWTH</p>  </div> <div data-bbox="1258 819 1469 997"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div data-bbox="1258 1018 1469 1197"> <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>  </div> <div data-bbox="1258 1218 1469 1417"> <p>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</p>  </div> </div>
<p>The Faculty of Information and Telecommunication Technologies</p>		

The German Engineering Faculty	Specialties	SDGs related
<p>The German Engineering Faculty is the youngest faculty of the Azerbaijan Technical University, established based on the decision of the University Scientific Council.</p> <p>The faculty collaborates successfully with leading universities of the Federal Republic of Germany in:</p> <ul style="list-style-type: none"> - Developing cooperation relations in relevant fields, - Implementing joint projects, - Preparing and implementing double diploma and double education programs, - Conducting research activities, - Creating opportunities for students with high proficiency in the German language to participate in scholarship programs of the German Academic Exchange Service (DAAD) and other funds. 	<ul style="list-style-type: none"> • Mechatronics and robotics engineering • Process automation engineering 	    
The Faculty of German Engineering		





<p>Highly qualified personnel in the field of management and business were required in our country, who have a deep knowledge of economic issues and have the ability to implement them. Considering this need, the Faculty of Engineering, Business and Management was established at Azerbaijan Technical University in 1995.</p> <p>As a result of the reforms carried out in the university in 2019, structural changes were made in the department, and by the decision of the Scientific Council of AzTU, the name of the faculty was changed to Economics and Management.</p> <p>Teaching is conducted in Azerbaijani and Russian languages at the faculty.</p>	<p style="text-align: center;">Specialties</p> <ul style="list-style-type: none"> ● Economy ● International trade and logistics ● Business management ● Marketing ● Management ● Statistics ● Finance 	<p style="text-align: center;">SDGs related</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #e91e63; color: white; padding: 5px; margin-bottom: 5px;"> <p>1 NO POVERTY</p>  </div> <div style="background-color: #e91e63; color: white; padding: 5px; margin-bottom: 5px;"> <p>4 QUALITY EDUCATION</p>  </div> <div style="background-color: #9c27b0; color: white; padding: 5px; margin-bottom: 5px;"> <p>8 DECENT WORK AND ECONOMIC GROWTH</p>  </div> <div style="background-color: #ff9800; color: white; padding: 5px; margin-bottom: 5px;"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div style="background-color: #1976d2; color: white; padding: 5px;"> <p>17 PARTNERSHIPS FOR THE GOALS</p>  </div> </div>
<p>The Faculty of Economics and Management</p>		










Specialty	Primary SDGs	Number of Specialties
Management	SDG 4, SDG 8, SDG 9	5
Business Administration	SDG 4, SDG 8	2
Computer Science	SDG 4, SDG 9	8
Material Science Engineering	SDG 4, SDG 9, SDG 12	3
Mining Engineering	SDG 4, SDG 8, SDG 12	1
Electro-energetics	SDG 4, SDG 7	3
Polar Engineering	SDG 4, SDG 7, SDG 12	2
Power Mechanical Engineering	SDG 4, SDG 9, SDG 12	3
Metallurgical Engineering	SDG 4, SDG 9, SDG 12	4
Mechanical Engineering	SDG 4, SDG 9, SDG 12	5
Railway Transport and Economic Engineering	SDG 4, SDG 9, SDG 12	2
Land Transport Engineering	SDG 4, SDG 9, SDG 11	5
Logistics and Transport Management Engineering	SDG 4, SDG 9, SDG 11	3
Device Engineering	SDG 4, SDG 12	1
Technological Machines and Equipment	SDG 4, SDG 9, SDG 12	6
Electrical Engineering	SDG 4, SDG 9, SDG 12	7
Electronics, Telecommunications, and Radio Engineering	SDG 4, SDG 9, SDG 12	17
Process Automating Engineering	SDG 4, SDG 9, SDG 12	4
Mechatronics and Robotics Engineering	SDG 4, SDG 9	3
Mechanical Engineering (sub-specialties)	SDG 4, SDG 9, SDG 12	8
Computer Engineering	SDG 4, SDG 9	6
Information Technologies and Systems Engineering	SDG 4, SDG 9	5
Food Products Engineering	SDG 2, SDG 3, SDG 4	3
Poligraphy Engineering	SDG 4, SDG 9	1
Engineering of Recycling and Recovery Technologies	SDG 4, SDG 12	2





Specialty	Primary SDGs	Number of Specialties
Metrology, Standardization, and Certification Engineering	SDG 4, SDG 9	3
Biomedical Technology Engineering	SDG 3, SDG 4, SDG 12	2
Environmental Engineering	SDG 4, SDG 9, SDG 12	4
Engineering for Emergency Situations and Protection of Lives	SDG 3, SDG 4	1
Logistics Service (by types of transport)	SDG 4, SDG 9, SDG 12	1
Weapons and Technologies for Production of Weapon	SDG 4, SDG 12	1
Opto-technics	SDG 4, SDG 9, SDG 12	1
Pyrotechnics Technologies	SDG 4, SDG 12	1
Development, Exploitation, and Maintenance of Multi-channel Radio Relay and Ground Equipment for Tropospheric Communication	SDG 4, SDG 9, SDG 12	1
Design and Production of Defense Products from Composite Materials	SDG 4, SDG 9, SDG 12	1
Information Security	SDG 4, SDG 9	1





Subject correlation by postgraduate level




The management specialty is one of the prospective fields with a wide range of career opportunities. Graduates of the management major can work as project managers, human resources managers, operations management managers, procurement managers, state and municipal employees, entrepreneurs, public relations managers in various government agencies, enterprises and organizations engaged in business and entrepreneurial activities.	Specialization	SDGs related
	<ul style="list-style-type: none"> ● Management (machine manufacturing) ● Management (quality and risk control in healthcare) ● Strategical management ● Staff management ● Innovation and project management 	<div style="display: flex; flex-direction: column; gap: 10px;"> <div data-bbox="1252 506 1453 678">  </div> <div data-bbox="1252 699 1453 871">  </div> <div data-bbox="1252 892 1453 1064">  </div> <div data-bbox="1252 1085 1453 1312">  </div> </div>
Management Specialty		





Business Administration program is the most popular and prestigious master's degree program available all over the world, organized for students to develop their skills in business, management, finance, marketing areas. The program gives qualified specialists with higher education the right to improve their leadership qualities, to teach systematic knowledge, business management skills and to continuously increase their qualifications, to study modern business information, to acquire the ability, to think analytically and make decisions, and enables them to hold responsible positions in the management of enterprises and organizations.	Specialization	SDGs related
	<ul style="list-style-type: none"> • Business administration • Executive administration 	  
Business administration Specialty		





The specialty of Computer Sciences	Specialization	SDGs related
<p>The specialty of Computer Sciences encompasses the theoretical and practical knowledge used in the fields of computing technology, programming, artificial intelligence, information systems, and technologies. It prepares undergraduates for a modern, promising, and continuously evolving field. This specialty provides students with a solid understanding of computer system architecture, system and application software, theory of algorithms, programming languages, databases, data structures and analysis, modeling, designing, computer networks, computer graphics, and more.</p>	<ul style="list-style-type: none"> • Intellectual systems • Computer modelling • Rational-economic methods of optimal management • System programming • Program optimization of computing systems and providers • Security of state information systems • Data analysis • Information technology of administration 	   
Computer Science Specialty		





<p>Young people who have chosen this specialty master the technologies of manufacturing products from metals and non-metals for various aim. Graduates perform engineering duties in industrial enterprises of the country.</p>	Specialization	SDGs related
	<ul style="list-style-type: none"> • Material science and material technology • Engineering materials science • Composition materials 	   
<p>Material science engineering Specialty</p>		





<p>The students who choose this specialty will master the processing technologies of rich minerals. Our graduates can work in the fields that ensure the development of oil, gas and ore fields.</p>	<p>Specialization</p> <ul style="list-style-type: none"> • Enrichment of minerals 	<p>SDGs related</p> <div style="display: flex; flex-direction: column; gap: 10px;"> <div data-bbox="1252 489 1453 661"> <p>4 QUALITY EDUCATION</p>  </div> <div data-bbox="1252 684 1453 863"> <p>8 DECENT WORK AND ECONOMIC GROWTH</p>  </div> <div data-bbox="1252 886 1453 1066"> <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>  </div> <div data-bbox="1252 1089 1453 1276"> <p>15 LIFE ON LAND</p>  </div> </div>
<p>Mining engineering Specialty</p>		





<p>This specialty involves training specialists in the design, production and technical operation of power supply systems, industrial electrical and electronic equipment, electronic devices in all areas of industry, including civil aviation.</p>	Specialization	SDGs related
	<ul style="list-style-type: none"> • Electro-energetics • Electrical network and systems • Electric supply 	  
Electro-energetics Specialty		





<p>his specialty involves training specialists in the design, installation and technical operation of power supply systems and equipment, their power units, automation, relay protection in industry and transport. Graduates of this specialty can work in various companies and enterprises specializing in electricity supply, airports, metro, railway administrations, as well as in various departments of the oil and gas industry.</p>	<p>Specialization</p>	
	<ul style="list-style-type: none"> • Renewable energy sources • Industrial heat energy 	   
<p>Power engineering Specialty</p>		






	Specialization	SDGs related
<p>This specialty is a broad-based specialty and includes the areas of design, creation, operation, management and control of mechanical devices (machines, equipment, instruments, devices, etc.) applied in all areas of modern industry and technology. Mechanical engineers also act as creative specialists in creating the scientific basis of mechanical systems and devices and conducting scientific research.</p>	<ul style="list-style-type: none"> • Internal combustion engines and their technical operation • Production of energy machines • Refrigerating machines and devices 	   
<p>Power mechanical engineering Specialty</p>		




<p>Students studying in this specialty learn the intricacies of manufacturing technologies of metal products from ores. A metallurgical engineer masters the processing methods of non-ferrous metals (gold, silver, copper, zinc, etc.) and can work as a specialist in this field.</p>	<p>Specialization</p> <ul style="list-style-type: none"> • Casting production of metals and alloys • Welding metallurgy, technology and equipment • Metallurgy and thermal processing of metals • Metal processing under pressure 	<p>SDGs related</p> <div data-bbox="1252 489 1451 661"> <p>4 QUALITY EDUCATION</p>  </div> <div data-bbox="1252 684 1451 863"> <p>8 DECENT WORK AND ECONOMIC GROWTH</p>  </div> <div data-bbox="1252 886 1451 1066"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div data-bbox="1252 1089 1451 1270"> <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>  </div>
<p align="center">Metallurgical engineering Specialty</p>		


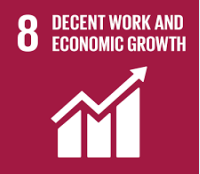


<p>From 1951 to 1996, 15,527 engineers specializing in Mechanical Engineering Technology, Metal-Cutting Machines, and Tools were trained at Azerbaijan Technical University (AzTU). Since 1992, the department has offered bachelor's degrees in the field of Mechanical Engineering and Materials Processing, and since 1998, it has also provided master's degree programs.</p>	<p>Specialization</p> <ul style="list-style-type: none"> • Mechanical engineering technology • Computer technologies in machine building • Machines and equipment of casting and welding production • Integrated and computerized bench systems • Designing technological complexes 	<p>SDGs related</p>
	   	
<p>Mechanical engineering Specialty</p>		

<p>This specialty trains professional personnel to conduct scientific research in the areas of production-vocation, organizational-management, organizational-administration, as well as in the field of transport. Students who complete this specialty can work in automobile and railway transport enterprises, car service centers, leasing, dealer and other organizations, state enterprises for the organization and safety of road traffic, higher and secondary vocational educational institutions in the field of transport, design and research institutes.</p>	Specialization	SDGs related
	<ul style="list-style-type: none"> • Railway economy and its operation • Wagon economy 	   
<p>Railway transport and economic engineering Specialty</p>		






<p>This specialty trains professional personnel to conduct scientific research in the areas of production-vocation, organizational-management, organizational-administration, as well as in the field of transport. Students who complete this specialty can work in automobile and railway transport enterprises, car service centers, leasing, dealer and other organizations, state enterprises for the organization and safety of road traffic, higher and secondary vocational educational institutions in the field of transport, design and research institutes.</p>	<p>Specialization</p> <ul style="list-style-type: none"> • Traffic organization and safety • Operation of automobile transport • Auto technical examination of traffic accidents • Certification and license of the traffic complex • Intelligent management of transport operations 	<p>SDGs related</p> <div data-bbox="1252 531 1453 705"> <p>4 QUALITY EDUCATION</p>  </div> <div data-bbox="1252 730 1453 905"> <p>8 DECENT WORK AND ECONOMIC GROWTH</p>  </div> <div data-bbox="1252 930 1453 1104"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div data-bbox="1252 1129 1453 1304"> <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>  </div>
<p style="text-align: center;">Land transport engineering Specialty</p>		






<p>Students studying in the field of logistics and transport technologies, in their professional activities, are able to solve reform, technical, technological, theoretical and practical issues in various fields of transport, conduct experimental analysis, create mutual relationships between modes of transport, obtain information from various sources and use it in logistics processes, in transport, as well as they study the safety of vehicles, the rules of technical operation, the organization of operations and traffic, knowledge of environmental safety and the organization of production activities. They can work in logistics companies operating in our country and around the world, logistics divisions of large holdings, companies engaged in international trade and other institutions. Their activities cover all types of transport available in our country, including road, railway, water and air transport.</p>	<p style="text-align: center;">Specialization</p> <ul style="list-style-type: none"> • Organization of urban transport network and transport service • Logistics and transport management (on road transport) • International road logistics 	<p style="text-align: center;">SDGs related</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #c00000; color: white; padding: 5px; margin-bottom: 5px;"> <p>4 QUALITY EDUCATION</p>  </div> <div style="background-color: #800040; color: white; padding: 5px; margin-bottom: 5px;"> <p>8 DECENT WORK AND ECONOMIC GROWTH</p>  </div> <div style="background-color: #ff8c00; color: white; padding: 5px; margin-bottom: 5px;"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div style="background-color: #ffcc00; color: white; padding: 5px; margin-bottom: 5px;"> <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>  </div> <div style="background-color: #003366; color: white; padding: 5px;"> <p>17 PARTNERSHIPS FOR THE GOALS</p>  </div> </div>
<p>Logistics and transport management engineering Specialty</p>		

	Specialization	SDGs related
<p>Graduates of the education program in the specialization " Device Engineering" can specialize in various fields such as measurement information technologies, knowledge in instrumentation engineering, and apply them in medical, aviation, aerospace, fuel-energy complexes including oil and gas, petrochemicals, food industry, aviation equipment production and operation industry, and other light and heavy industrial facilities, military industrial plants, environmental monitoring systems, ecological and metrological systems, medical and hydroacoustic information-measurement and control systems, conducting complex tests in object protection, quality control, diagnostics, and other systems, security systems, analog and digital electronics, metrology, photonics, industrial electrical systems and drives, digital systems and microcontrollers, hydraulics and pneumatics, and design preparation.</p>	<ul style="list-style-type: none"> • Device engineering technologies 	  
Device engineering Specialty		






<p>In June 2016, the Department of Special Technologies and Equipment started operating on the basis of the Department of Machine Reliability and Repair Technology.</p> <p>The "Technology of special purpose products" ETL, "Diffusion metallization", "Tribo-technics" and "Instruments and equipment" educational laboratories are operating under the department.</p> <p>Research directions of the department:</p> <p>Researches are carried out in the department on the topics of "Technological assurance of the reliability of machines and firearms" and "Recovery of machine parts by diffusion metallization", "Improving the efficiency of technological processes of machine recovery".</p>	<p style="text-align: center;">Specialization</p> <ul style="list-style-type: none"> • Lifting machineries and equipment • Technological machineries and equipment for food catering and trading industries • Technological machineries and equipment for light manufacturing and household services industries • Metal cutting machineries and tools • Machineries and equipment for processing of plastic mass and rubber • Manufacturing, repair and maintenance of technological machineries and equipment 	<p style="text-align: center;">SDGs related</p> <div style="text-align: center;">  <p>4 QUALITY EDUCATION</p> </div> <div style="text-align: center;">  <p>8 DECENT WORK AND ECONOMIC GROWTH</p> </div> <div style="text-align: center;">  <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> </div> <div style="text-align: center;">  <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> </div>
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Technological machines and equipment Specialty





<p>This specialty involves training specialists in the design, production and technical operation of power supply systems, industrial electrical and electronic equipment, electronic devices in all areas of industry, including civil aviation.</p>	<p style="text-align: center;">Specialization</p> <ul style="list-style-type: none"> ● Physics and technologies of cables and conductors ● Electrical devices ● Electric transport (metro transport) ● Optimization and modelling of electricity supply ● Automated electro-technological devices and systems ● Electronics and electric devices of vehicles (by types of transport) ● Automation and electric transmission at industrial facilities and technological complexes 	<p style="text-align: center;">SDGs related</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #c00000; color: white; padding: 5px; margin-bottom: 5px;"> <p>4 QUALITY EDUCATION</p>  </div> <div style="background-color: #ffc107; color: white; padding: 5px; margin-bottom: 5px;"> <p>7 AFFORDABLE AND CLEAN ENERGY</p>  </div> <div style="background-color: #fd7e14; color: white; padding: 5px; margin-bottom: 5px;"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div style="background-color: #ffc107; color: white; padding: 5px; margin-bottom: 5px;"> <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>  </div> <div style="background-color: #c07040; color: white; padding: 5px;"> <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>  </div> </div>
<p>Electrical engineering Specialty</p>		




Radio engineering and telecommunication engineering specialty: it involves specialist training in designing, manufacturing and technical operation of radio electronic equipment in television, radio, internet, mobile communication, aerospace field, as well as in all fields of industry.	Specialization	SDGs related
	<ul style="list-style-type: none"> • Radio communication, radio broadcasts and television • Radio engineering • Communication nodes and commutator systems • Electronic and postal communication • Radio-electronic systems • Specialized radio communication systems • Radio-electronic combat technologies • Management Information technologies • Multichannel telecommunication systems • Networks, communication systems and information distribution • Communication technologies for moving objects • Information security for telecommunication systems • Physics and technologies for optical communications • Extreme high frequency technics and technology • Power electronics • Electronic devices and devices • Industrial electronics 	<div data-bbox="1263 422 1468 590"> <p>4 QUALITY EDUCATION</p>  </div> <div data-bbox="1263 617 1468 785"> <p>7 AFFORDABLE AND CLEAN ENERGY</p>  </div> <div data-bbox="1263 821 1468 989"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div data-bbox="1263 1024 1468 1192"> <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>  </div> <div data-bbox="1263 1228 1468 1396"> <p>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</p>  </div>





Electronics, telecommunications and radio engineering Specialty





<p>This specialty involves the high degree of automation of modern production and technological processes, and specialist training in the design, production, and technical operation of technical tools, systems, and devices used in this automation process.</p> <p>As a result of the acquired knowledge, skills and habits graduates can work as highly qualified specialists in machine building, energy, transportation and other fields.</p>	<p style="text-align: center;">Specialization</p> <ul style="list-style-type: none"> • Automated management of energy systems • Automation and management of technological processes • Informatics and management in technical systems • Energy management 	<p style="text-align: center;">SDGs related</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #c00000; color: white; padding: 5px; margin-bottom: 5px;"> <p>4 QUALITY EDUCATION</p>  </div> <div style="background-color: #ffc107; color: white; padding: 5px; margin-bottom: 5px;"> <p>7 AFFORDABLE AND CLEAN ENERGY</p>  </div> <div style="background-color: #990033; color: white; padding: 5px; margin-bottom: 5px;"> <p>8 DECENT WORK AND ECONOMIC GROWTH</p>  </div> <div style="background-color: #ff7f0e; color: white; padding: 5px; margin-bottom: 5px;"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div style="background-color: #8c564b; color: white; padding: 5px;"> <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>  </div> </div>
<p>Process automating engineering Specialty</p>		



<p>One of the main directions of this specialty is related to robots and robotic systems.</p> <p>This includes industrial robots, mobile robots, healthcare robots, agricultural robots, military robots, household robots, etc. In terms of career, the specialty of mechatronics and robotics engineering, which is the specialty of the future, provides an opportunity to work in any field where there are technical devices with a mechanical base structure.</p>	<p style="text-align: center;">Specialization</p> <ul style="list-style-type: none"> ● Robots and robotic systems ● Artificial intelligence ● Mechatronics 	<p style="text-align: center;">SDGs related</p> <div style="text-align: center;">  <p>4 QUALITY EDUCATION</p> </div> <div style="text-align: center;">  <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> </div> <div style="text-align: center;">  <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> </div>
<p>Mechatronics and robotics engineering Specialty</p>		




<p>This specialty is a broad-based specialty and includes the areas of design, creation, operation, management and control of mechanical devices (machines, equipment, instruments, devices, etc.) applied in all areas of modern industry and technology. Mechanical engineers also act as creative specialists in creating the scientific basis of mechanical systems and devices and conducting scientific research.</p>	<p style="text-align: center;">Specialization</p> <ul style="list-style-type: none"> • Equipment for liquid and gas transportation • Tribo-technics • Theory of machines and mechanisms • Strength and dynamics of machines • Hydraulic machines, hydrointimals and hydropneumator • Dynamics and durability of lifting machines • Hydro-mechanic and hydraulic machines • Mechanical science 	<p style="text-align: center;">SDGs related</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #c00000; color: white; padding: 5px; margin-bottom: 5px;"> <p>4 QUALITY EDUCATION</p>  </div> <div style="background-color: #00a0c0; color: white; padding: 5px; margin-bottom: 5px;"> <p>6 CLEAN WATER AND SANITATION</p>  </div> <div style="background-color: #e67e22; color: white; padding: 5px; margin-bottom: 5px;"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div style="background-color: #d35400; color: white; padding: 5px;"> <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>  </div> </div>
<p>Mechanical engineering Specialty</p>		




Computer Engineering is a	Specialization	SDGs related
<p>specialty that embodies science and technology in the design, installation, application, and technical service of the program and hardware components of modern computing systems, computer-controlled equipment, and intelligent device networks.</p>	<ul style="list-style-type: none"> • Computer systems and networks • Designing and manufacturing of computer equipment • Multiprocessor systems and networks with dynamic architecture • Computer engineering • Knowledge acquisition systems • Computer security 	<div data-bbox="1263 422 1468 594"> <p>4 QUALITY EDUCATION</p>  </div> <div data-bbox="1263 617 1468 789"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div data-bbox="1263 800 1468 999"> <p>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</p>  </div>
<p>Computer engineering Specialty</p>		





Students specializing in Information Technologies deeply familiarize themselves with the fundamental concepts of modern information technologies, including information processes, information resources, information systems, databases of scientific and technical information, knowledge bases, and the market for information products and services. They also study the relationship between information systems and information technologies.	Specialization	SDGs related
	<ul style="list-style-type: none"> ● Information protection and security ● Information technologies and telecommunication systems ● Software for applications ● Information systems in management ● Informatics for economics 	<div data-bbox="1263 489 1471 663"> <p>4 QUALITY EDUCATION</p>  </div> <div data-bbox="1263 684 1471 861"> <p>8 DECENT WORK AND ECONOMIC GROWTH</p>  </div> <div data-bbox="1263 890 1471 1066"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div data-bbox="1263 1096 1471 1297"> <p>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</p>  </div>
Information technologies and systems engineering Specialty		




<p>In this specialty, theoretical and practical directions in the creation of modern food technologies, technological methods of modern research methods in the production of food products, food additives, safe product production, biochemical bases, existing international legislation in the field of food production, safety requirements for food products and establishments, knowledge of prevention, minimization and management of existing risks and hazards is obtained.</p>	<p>Specialization</p> <ul style="list-style-type: none"> • Food safety • Technology of bread, pasta, flour confectionery and food concentrates • Canning technology 	<p>SDGs related</p> <div data-bbox="1268 491 1468 674"> <p>2 ZERO HUNGER</p>  </div> <div data-bbox="1268 701 1468 884"> <p>3 GOOD HEALTH AND WELL-BEING</p>  </div> <div data-bbox="1268 911 1468 1094"> <p>4 QUALITY EDUCATION</p>  </div> <div data-bbox="1268 1121 1468 1304"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div>
<p>Food products engineering Specialty</p>		




Young people who have chosen this specialty master the technologies of manufacturing products from metals and non-metals for various aim. Graduates perform engineering duties in industrial enterprises of the country.	Specialization	SDGs related
	<ul style="list-style-type: none"> • Polygraphy machines and automated complexes 	 
Poligraphy engineering Specialty		




Metallurgical waste recycling technologies; safety activities, as a field based on scientific knowledge, includes theoretical and practical rules for protecting people from dangerous and harmful factors in all fields of activity, and aims to protect their safety and health in their living environment. It is included in the safety of life activities.	Specialization	SDGs related
	<ul style="list-style-type: none"> • Recycling technology for metallurgical waste • Technology and equipment for improving the resistance to corrosion and recovering parts of machine and hardware 	  
Engineering of recycling and recovery technologies Specialty		




<p>Students gain experience in production, research, standardization and certification centers, instrument and equipment testing laboratories, testing laboratories, and product quality control bodies.</p> <p>The employment rate of students is very high. Thus, due to the fact that meteorological standardization and certification engineering are not limited to the fields of application of the specialty and students have good theoretical and practical knowledge, they are able to build their future careers from their student years.</p>	<p style="text-align: center;">Specialization</p> <ul style="list-style-type: none"> ● Metrology and metrological service ● Quality control, diagnostic methods and systems ● Standardization and certification (in the field of mechanical engineering) 	<p style="text-align: center;">SDGs related</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #c00000; color: white; padding: 5px; margin-bottom: 5px;"> <p>4 QUALITY EDUCATION</p>  </div> <div style="background-color: #ff8c00; color: white; padding: 5px; margin-bottom: 5px;"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div style="background-color: #4f7942; color: white; padding: 5px;"> <p>13 CLIMATE ACTION</p>  </div> </div>
<p>Metrology, standardization and certification engineering Specialty</p>		




<p>The department has established a strong scientific school in various fields such as semiconductors and dielectrics, electronic devices, industrial electronics, power electronics, electronic engineering, the physics and technology of materials and components, construction of electronic computing machinery and devices, bioengineering devices and apparatus, service for biomedical and radio-electronic devices, medical and technical diagnostic methods and devices, engineering work in biological and medical practice, etc. Thousands of engineering professionals have been trained here.</p>	<p style="text-align: center;">Specialization</p> <ul style="list-style-type: none"> • Maintenance biomedical services and radio-electronic devices • Methods and devices for medical and technical diagnostics 	<p style="text-align: center;">SDGs related</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #28a745; color: white; padding: 5px; margin-bottom: 5px;"> <p>3 GOOD HEALTH AND WELL-BEING</p>  </div> <div style="background-color: #dc3545; color: white; padding: 5px; margin-bottom: 5px;"> <p>4 QUALITY EDUCATION</p>  </div> <div style="background-color: #ffc107; color: white; padding: 5px; margin-bottom: 5px;"> <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>  </div> <div style="background-color: #8d6e14; color: white; padding: 5px;"> <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>  </div> </div>
<p>Biomedical technology engineering Specialty</p>		




<p>This specialty encompasses the evaluation of environmental conditions using contemporary methods and tools aimed at environmental preservation. It involves identifying and mitigating sources of pollution, analyzing the adverse effects of industries on both human health and the ecological landscape, and investigating and forecasting the drivers of global warming. Moreover, it incorporates the development of mathematical models for environmental processes, physical observations, and specialist training in environmental impact assessment through measurement techniques.</p>	<p style="text-align: center;">Specialization</p> <ul style="list-style-type: none"> • Environmental protection and efficient use of natural resources • Protection and reprocessing of natural resources • Logistics ecology • Environmental protection in oil and chemical fields 	<p style="text-align: center;">SDGs related</p> <div style="text-align: center;">  <p>4 QUALITY EDUCATION</p> </div> <div style="text-align: center;">  <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> </div> <div style="text-align: center;">  <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> </div>
<p>Environmental engineering Specialty</p>		

<p>Students enrolled in this specialty focus on fire safety, emergency protection, and safety measures for life activities within technical contexts, as well as the safety of production and technological processes. Graduates of this program have career opportunities in both the educational sector, where they can pursue roles in teaching and research, and in engineering positions across various institutions.</p>	Specialization	SDGs related
	<ul style="list-style-type: none"> Protection of livelihoods 	  
<p>Engineering for emergency situations and protection of lives Specialty</p>		




<p>Students studying in this specialty acquire knowledge and skills related to types of transportation, the transport process, transportation documents, and the use of modern technologies in organizing transportation. As a result of the acquired knowledge, skills and abilities, students develop highly qualified specialists in the field of conditions for ensuring optimal service infrastructure, the use of information systems and technologies in the service sector, transport support for tourism, and legal relations in transport, principles of choosing vehicles suitable for the transportation process, optimization of transport services in market conditions.</p>	<p style="text-align: center;">Specialization</p> <ul style="list-style-type: none"> Technologies for vehicle maintenance 	<p style="text-align: center;">SDGs related</p> <div style="text-align: center;">  <p>4 QUALITY EDUCATION</p> </div> <div style="text-align: center;">  <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> </div> <div style="text-align: center;">  <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> </div>
<p>Logistics service (by types of transport) Specialty</p>		




<p>It teaches the field of production of weapons and weapon systems, basic and auxiliary materials for the production of special purpose products, development and automation, operation and reconstruction of the military industry.</p>	Specialization	SDGs related
	<ul style="list-style-type: none"> Manufacturing technologies for firing, artillery and missile 	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="background-color: #c00000; color: white; padding: 5px; text-align: center;"> 4 QUALITY EDUCATION  </div> <div style="background-color: #e67e22; color: white; padding: 5px; text-align: center;"> 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE  </div> <div style="background-color: #8e6c3a; color: white; padding: 5px; text-align: center;"> 12 RESPONSIBLE CONSUMPTION AND PRODUCTION  </div> </div>
Weapons and technologies for production of weapon Specialty		

<p>It teaches engineering knowledge related to designing optical-electronic devices and complexes, installation and sustainable operation of devices and device complexes used in various fields of engineering and technology, development and application of additive technologies based on rapid prototyping and 3D modeling in the production of optical equipment.</p>	Specialization	SDGs related
	<ul style="list-style-type: none"> • Optic materials, optic-electronic devices and systems 	  
Optotechnics Specialty		




<p>To prepare bachelors and masters with professional skills for solving theoretical and applied issues in the field of creating energy-efficient materials and improving their technology.</p> <p>The educational program is relevant for a certain field of employment: educational and scientific-research areas, as well as the, Ministry of Defense Industry, Ministry of Emergency Situations manufacturing enterprises.</p> <p>According to the structure of Program, all subjects have counterparts in the programs of foreign universities. In terms of the content of subjects, consistency is observed mainly in fundamental issues.</p> <p>Explosives and pyrotechnics are used today in various fields: various enterprises of chemical, mining, defense, mining, aerospace industries.</p>	Specialization	SDGs related
	<ul style="list-style-type: none"> Technologies for explosive products 	  

Pyrotechnics technologies Specialty

	Specialization	SDGs related
<p>It covers the classification of signals, their mathematical models, spectral analysis, types of modulation, pulse, transition and frequency characteristics, filtering, issues of radio reception immunity, organization of work in the design of military communication tools, issues of drawing up electrical schematics, structural and electrical installation calculation, basics of television and video technology, television broadcast systems, reception and formation of signals in the DVB-T system, applied television systems.</p>	<ul style="list-style-type: none"> • Military communication systems 	  
<p align="center">Development, exploitation and maintenance of multi-channel radio relay and ground equipment for tropospheric communication Specialty</p>		

<p>Composite materials are modern materials for structural purposes, consisting of dissimilar substances, the particles of which are interconnected by a matrix substance (polymer, metal or ceramic) and give the material properties that differ from the properties of the individual component. The components can be polymers of various modifications, special structural ceramics, high-strength glass, carbon or boron fibers, metal powders of various compositions, as well as fibers and particles of plant origin, including waste from wood processing and industrial agricultural crops.</p>	<p>Specialization</p> <ul style="list-style-type: none"> • Production of military products from metal-based composite 	<p>SDGs related</p> <div data-bbox="1268 562 1468 730"> <p>4 QUALITY EDUCATION</p>  </div> <div data-bbox="1268 758 1468 926"> <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>  </div> <div data-bbox="1268 961 1468 1129"> <p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p>  </div>
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Design and production of defense products from composite materials Specialty

<p>The specialty of Information Security trains students how to protect computer operating systems and computer networks, as well as ways to prevent cyberattacks and protect people’s information and privacy. It also shows them how to reduce security threats in information systems through regular monitoring.</p>	Specialization	SDGs related
	<ul style="list-style-type: none"> Organization of data protection 	  
Information security Specialty		