

**Non-profit Joint-stock Company  
Abylkas Saginov Karaganda Technical University**

**APPROVED by**  
Member of the Board –  
Vice-rector for EW

\_\_\_\_\_  
\_\_\_\_\_ 2022

**SYLLABUS**

**Educational course “Service to the Nation”**

Discussed and recommended at the meeting of the Moral Education Board

Minutes No \_\_\_\_\_ dated \_\_\_\_\_ 2022

Karaganda 2022

## 1. Information of the developers

Developers of the course: Research Institute of Patriotic Education.

Location: building 4 (58, Nursultan Nazarbayev Ave.), room 206.

Contact phone: +7 7212 56-51-89, internal number 2035.

Email address: [niipatriot\\_kstu@mail.ru](mailto:niipatriot_kstu@mail.ru) .

## 2. Labor intensity of the educational course

Mode of training	Term	Curator hours	Testing	Total hours
Full time /shortened	1-7	87	7	94

## 3. Characteristic of the educational course

The educational course "Service to the Nation" is needed for the general development, the formation of intellectual culture, cognitive interest, active life and citizenship of students.

As a result of studying the educational course, students should acquire knowledge on the political, economic and social life of the country, on the fundamental rights and obligations of a citizen, the protection of health and the environment.

The educational course consists of curator hours, which are held by curators in the form of lectures, conversations, discussions (disputes), meetings with interesting people, excursions, etc.

The effectiveness of mastering the educational course is determined by testing at the end of each semester.

The results of mastering the material of the educational course are a key component of the social competence indicator (SCI) of students (50%).

## 4. The purpose of studying the educational course

The educational course "Service to the Nation" aims at the comprehensive, harmonious development of the personality of a future specialist - a patriot of the country, with a high spiritual, moral and legal culture, an active civic position, a progressive worldview.

## 5. The tasks of the educational course

5.1. Formation of a positive attitude of students towards the university and their chosen profession on the example of the achievements of prominent teachers and scientists of the university.

5.2. Education of citizenship, patriotism, respect for human rights and freedoms.

5.3. Formation of value orientations, attitudes towards the world around, events and phenomena taking place in the country and the world.

5.4. Development of the ability to independently search for information, analyze, build statements, argue one's opinion by creating conditions for the formation and manifestation of the student's individuality, his intellectual and creative abilities.

5.5. Assimilation by students of knowledge about the historical and cultural heritage, socio-economic development of Kazakhstan, the basics of legal culture and a healthy lifestyle, the state of the environment.

## 6. Learning outcomes of the educational course

By the end of this course, the student is expected to know:

6.1. The important milestones in the history of the development and formation of the university, prominent teachers and scientists who became part of the history of KTU

6.2. Fundamentals of legal culture

6.3. Problems and prospects for the development of the healthcare system and improvement of the environment

6.4. The place of Kazakhstan in world politics, features of the modernization of the political system of the Republic of Kazakhstan, the basis and progress of the national project "Ultyk Ruhani Zhangyru"

6.5. The role and contribution of the first engineers to the industrialization of Kazakhstan

6.6. Prospects for innovative development of the industry of the Republic of Kazakhstan

6.7. World development trends

## 7. Topical plan of the educational course

Name of the section	Curator hours
1. Abylkas Saginov Karaganda Technical University	12
2. Fundamentals of the legal awareness	13
3. Nation health and ecology	12
4. Kazakhstan in the global world: pertaining the identity. "Ruhani Zhangyru" program	13
5. Outstanding engineers' contribution into the country industrialization	12
6. Innovative development of Kazakhstan industry	13
7. World trends of development	12
<b>TOTAL:</b>	<b>87</b>

## 8. The educational course policy

When studying the educational course "Service to the Nation", the following rules must be observed:

8.1 Do not be late for class.

8.2 Do not miss classes without a good reason, in case of illness, submit a certificate, in other cases - an explanatory note.

8.3 From the first day, get involved in serious work on studying the topics of the educational course, be able to work in a team.

8.4 In accordance with the policy of academic integrity, all students must exercise personal integrity, respect the honor, dignity and rights of other students, and help create and maintain an environment in which all can succeed through joint efforts.

## 9. Criteria and policy of assessment

### 9.1. Assessment scale

Grade	Digital equivalent	Grade points (% content)
A	4,0	95-100
A-	3,67	90-94
B+	3,33	85-89
B	3,0	80-84
B-	2,67	75-79
C+	2,33	70-74
C	2,0	65-69
C-	1,67	60-64
D+	1,33	55-59
D	1,0	50-54
FX	0,5	25-49
F	0	0-24

### 9.2. Assessment policy

#### 1, 3, 5, 7 terms

Kinds of work	Academic period of studying, week														Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Preparing materials, presentations, reports	-	Points are put by the curator once according to the term outcomes												Testing	0-100
Attendance and activeness	-	Points are put by the curator at the end of each curator hour. The absence of a student at the curator hour is counted as 0 points.													0-100
<b>Testing outcomes</b>														0-100	

## 2, 4, 6 terms

Kinds of work	Academic period of studying, week														Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Preparing materials, presentations, reports	Points are put by the curator once according to the term outcomes and depend on the report quality													Testing	0-100
Attendance and activeness	Points are put by the curator at the end of each curator hour. The absence of a student at the curator hour is counted as 0 points.														0-100
<b>Testing outcomes</b>												0-100			

Scoring for attendance and activeness is available for the current and previous weeks.

Score for testing is the percentage of the number of correct answers to 25 testing questions.

### 9.3. Formula of calculating the average score for a term

$$\text{Result} = \frac{\text{Sum of points at the curator hours}}{\text{Total number of curator hours}} \times 0.3 + \text{point for the report} \times 0.3 + \text{point for testing} \times 0.4$$

### 10. Schedule of conducting classes in the course

Name of the topic	Week	Note
<b>1 TERM – ABYLKAS SAGINOV KARAGANDA TECHNICAL UNIVERSITY</b>		
Freshman's week: familiarization with the activities of the University, internal regulations, rules for living in dormitories, the Code of honor of a student of KTU	2	
Scholarship programs. About the work of student clubs, sports sections of KTU	3	
Volunteer movement. Youth charitable organization "Akniet"	4	
Military Department of KTU	5	
Karaganda is the mining capital	6	
The main stages of the creation and development of KTU: yesterday, today, tomorrow	7	
Academician A. Saginov as a scientist and organizer of higher technical education in Kazakhstan, founder of Karaganda Technical University	8	
History of faculties and graduating departments (according to the profile of the EP)	9	
My profession is a step into an innovative future. Successful people of our time who have made their profession interesting and in demand	10	
The first Kazakh professor of mathematics A.A. Ermekov	11	
The contribution of outstanding scientists and teachers to the development of KTU: 1) Lebedev S.A. - Honorary architect of Kazakhstan, Nemen V.N. – scientist, mentor, teacher (ASF); 2) Popov I.I. - the founder of the mine surveying scientific school in Central Kazakhstan. Kvon S.S. - scientist-teacher, founder of the scientific school for the design of mines. The life and career of the professor of mine surveying R.P. Okatova (GF); 3) Shevtsov E.I. – metallurgist, scientist, teacher (MF); 4) An outstanding teacher, scientist and head of the scientific school of mining transport of Kazakhstan Daniyarov A.N. (RTF); 5) Kogai L.I. – scientist-teacher, poet (FIT); 6) Kashik Sh.K. – mentor, scientist-economist (FIEM); 7) Byrka V.F. – scientist-organizer, teacher (FEAT)	12	
The contribution of outstanding scientists and teachers to the development of KTU: 1) Bakirov Zh. B., Battakov S. B. – scientists, teachers of KTU (ASF); 2) Grashchenkov N.F. and Akimbekov A.K. - organizers of the Kazakh scientific school of occupational	13	

safety. Corresponding member Academy of Sciences of KazSSR, professor, doctor of geological and mineralogical sciences Ermekov M.A. (GF); 3) Piven G.G. - Professor, Doctor of Technical Sciences, Rector of KSTU from 1994 to 2008. (MF); 4) Yantsen I.A. – founder of the scientific school of road construction machines (RTF); 5) Baitleuov I.S. – founder of the specialty of automation and telemechanics KTU (FIT); 6) Togaibayev K.B. and Kim Yu.M. – scientists-economists, mentors, teachers (FIEM); 7) Breido I.V. - Professor, Doctor of Technical Sciences, Academician of KazNAEN, from 1994 to 2021. Head of the Department of Automation of Production Processes (FEAT)		
<b>Testing</b>	14	
<b>2 TERM – FUNDAMENTALS OF LEGAL AWARENESS</b>		
Rights and obligations of a man and citizen	1	
Respect for the symbols of the state	2	
The right to education. National project "Quality Education "Educated Nation"	3	
Defense of the Fatherland is a sacred duty	4	
The fight against corruption is one of the key priorities of state policy	5	
Regulation of labor relations	6	
Financial pyramid, scam, internet scam	7	
Protection of sexual integrity. Early marriages and domestic violence.	8	
Illicit trafficking in narcotic drugs and psychotropic drugs	9	
Deviant behavior and antisocial actions. Extortion and hooliganism	10	
Religious extremism and false terrorism	11	
Insult: humiliation of honor and dignity, bullying and cyberbullying	12	
Illegal human trafficking	13	
<b>Testing</b>	14	
<b>3 TERM – NATION HEALTH AND ECOLOGY</b>		
The healthcare system in Kazakhstan. National project "Quality and affordable healthcare for every citizen "Healthy Nation"	2	
Prevention of alcoholism and smoking	3	
Proper and balanced nutrition is the basis of health	4	
A healthy family is a healthy nation. HIV prevention	5	
Ecological situation in Kazakhstan	6	

In the context of indivisible security: anti-nuclear initiatives of Kazakhstan	7	
Environmental problems of the mining and metallurgical complex and the oil and gas industry of Kazakhstan	8	
Problems of the Lake Balkhash	9	
The Aral Sea is a global environmental problem	10	
The Caspian Sea is the largest enclosed body of water in the world	11	
Problems of transboundary rivers of Kazakhstan	12	
Waste-free production as one of the factors for solving environmental problems	13	
<b>Testing</b>	14	
<b>4 TERM – KAZAKHSTAN IN THE GLOBAL WORLD: PERTAINING THE IDENTITY. “RUKHANI ZHANGYRU” PROGRAM</b>		
Outstanding state and political person D.A. Kunayev	1	
N.A. Nazarbayev - First President of the Republic of Kazakhstan	2	
Independence is above all. Kazakhstan in the system of world politics	3	
Modernization of the political system of Kazakhstan	4	
Harmony and unity are the basis of our development. Assembly of the People of Kazakhstan	5	
Program "Rukhani Zhangyru": main directions, special projects. National project "Ulttyk ruhani zhangyru"	6	
Abai Kunanbayev - a great thinker and humanist (special project "Great Names of the Great Steppe")	7	
The Alash movement is an example of statehood and selfless service to the Motherland. A. Baitursynov, A. Bukeikhanov, M. Dulatov (special project "Great Names of the Great Steppe")	8	
Geography of sacred places in Kazakhstan (special project "Sacred Geography")	9	
Monuments of history and culture of medieval Kazakhstan (special project "Genesis of the Turkic world")	10	
Culture, traditions and identity of the Kazakh people (special project "Dastur men ғырп")	11	
Oral folklore and traditional musical art (special project "Thousand Years of Steppe Folklore and Music")	12	
Development of national culture (special project "Modern Kazakh culture in the global world")	13	
<b>Testing</b>	14	
<b>5 TERM – OUTSTANDING ENGINEERS’ CONTRIBUTION INTO THE COUNTRY INDUSTRIALIZATION</b>		
Satpayev K.I. - statesman, scientist and organizer of science	2	
Tynyshbayev M.T. - the first Kazakh railway engineer	3	
Gapeyev A.A. - geologist and organizer of geological research of the Karaganda coal basin. Zyryanov G.G. – the discoverer of the Zyryanovsk deposit	4	



Utebayev S.U. – organizer of the oil industry of Kazakhstan	5	
Bassenov T.K. - architect, founder of the Kazakh architectural school	6	
Chokin Sh.Ch. - energy scientist and organizer of the energy complex of Kazakhstan.	7	
Berdus I.V. – power engineer, organizer of the Leninogorsk HPP cascade	8	
Baikonurov O.A. – mining engineer, creator of innovative technologies for the extraction of non-ferrous metal ores, chemical raw materials and non-metallic materials in Kazakhstan. Gurba V.V. – Mining organizer and outstanding mining engineer	9	
Bitny M.A. - one of the founders of the Almaty plant of heavy engineering	10	
Zhunossov T.Zh. – civil engineer, founder of earthquake-resistant construction in Kazakhstan	11	
Sagingaliyev B.S. - Honored Oilman of the Kazakh SSR, discoverer of Tengiz	12	
Dzholdasbekov U.A. – mechanical engineer, founder of the Kazakh scientific school in the field of the theory of machines and mechanisms	13	
<b>Testing</b>	14	
<b>6 TERM – INNOVARIVE DEVELOPMENT OF KAZAKHSTAN INDUSTRY</b>		
Economic strategy of Kazakhstan. National project "Sustainable economic growth aimed at improving the welfare of Kazakhstanis"	1	
Development of the mining and metallurgical complex - a key sector of the economy of Kazakhstan	2	
Current state and prospects for the development of mining and mining and processing industries in Kazakhstan	3	
Current state and prospects for the development of the machine-building complex of Kazakhstan	4	
Development of the fuel and energy and oil and gas complex of the Republic of Kazakhstan	5	
Transport and logistics systems in the development of Kazakhstan	6	
Current state and development prospects of the construction industry of the Republic of Kazakhstan	7	
Digital transformation of Kazakhstan. National project "Technological breakthrough through digitalization, science and innovation"	8	
Development of infrastructure in Kazakhstan. National project "Strong regions - the driver of the country's development"	9	
Development of the aerospace industry. Baikonur Cosmodrome	10	
Prospects for the development of alternative energy sources in Kazakhstan. National project "Green Kazakhstan"	11	
Modernization of agriculture in Kazakhstan. National project for the development of the agro-industrial	12	

complex		
Entrepreneurship is the leading force of the national economy. National Entrepreneurship Development Project	13	
<b>Testing</b>	14	
<b>7 TERM – WORLD TRENDS OF DEVELOPMENT</b>		
Nanotechnologies: global development trends. The Role of nanomaterials in the development of the 6th Technological Order	2	
The global market and trends in the development of robotics	3	
Trends in the development of global and applied space programs	4	
IT technology trends in Industry 4.0. Bill Gates is the founder of Microsoft	5	
The main trends in the development of the solar energy market. Wind power is the energy of the future	6	
Unmanned vehicles of the future	7	
The global trend is the production of biofuels	8	
Eco-technologies - the global trend of total industrialization and industrial growth	9	
"Green" construction is the main trend in the global market	10	
World trends in the development of biotechnology. Biopreparations for industrial use	11	
History, state and prospects for the development of automation. Henry Ford - the founder of the scientific organization of labor	12	
Modern trends in the development of cyber-physical systems and artificial intelligence. Steve Jobs - founder of the Apple Corporation	13	
<b>Testing</b>	14	

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