



Kyrgyz Republic
Ministry of Education and Science



N.Isanov Kyrgyz State University of Construction,
Transport and Architecture (KSUCTA)



Academic programs and GeoTAK Team



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Kick-Off Meeting of the Erasmus+ CBHE Project:

Developing Interdisciplinary Postgraduate Programmes and Strengthening
Research Networks in Geoinformation Technologies in Armenia and
Kyrgyzstan" (GeoTAK), February 10-12, 2021



ABOUT THE KYRGYZ STATE UNIVERSITY OF CONSTRUCTION, TRANSPORT AND ARCHITECTURE (KSUCTA) named after N.ISANOV



The university has been training more than 6 thousand students, undergraduates, Master and PhD students on 62 profiles and 25 fields. Areas of research excellence extend from Engineering, Architecture, Information Technologies, and Ecology to the Humanities and Social Sciences. It consists of 7 institutes, 6 international joint centres, 42 academic departments and a college with .



- Institute of Architecture and Design
- Institute of Construction and Technology
- Institute of Transport and Ecology
- Institute of Innovative Professions
- Institute of New Information Technologies
- Institute of Economics and Management
- Scientific-Research Institute for Seismic Resistant Construction”
- Institute of Master programs
- Department of PhD/Doctoral Programs



KSUCTA PROJECT TEAM



Dr. Akylbek Chymyrov



Dr. Erkin Boronbaev



Dr. Mirlan Dyldaev



Dr. Muratbek Koshoev



MSc. Tatygul Urmambetova



MSc. Adilet Bekturov



GEODESY AND GEOINFORMATICS DEPARTMENT



- The Department dates back to the founding of the "Engineering Geodesy" Department based in the Civil engineering faculty of Frunze politechnic institute (FPI) in 1961. Recent history of department begins from July 2006 under the new name "Geodesy and Geoinformatics".
- Creation of the new department was made possible by the EC TEMPUS Project "Education in Geodesy and Geoinformatics", realized at KSUCTA within the European Commission TEMPUS project in 2005-2007, coordinated by Dr. Huaan Fan from the Royal Institute of Technology (KTH), Sweden.





Tempus

INTERNATIONAL PROJECTS



TEMPUS-TACIS JEP-25129-2004 «EDUCATION ON GEODESY AND GEOINFORMATICS», 2005-2007

New Curricula for Bachelor and Master Programs in Geodesy have been developed; also teaching staff have undertaken training courses at European universities, modern geodetic equipment is purchased.





Tempus

INTERNATIONAL PROJECTS



GEOINFORMATICS: MANAGING ENERGY, RESOURCES, ENVIRONMENT (GEM), 2010 – 2013

Project aim is working out MSc new program for Geoinformatics and enhancing academic process at Central Asian Universities by implementing ECTS and modern teaching methods. Project was coordinated by Prof. Josef Strobl, Z_GIS, University Salzburg, Austria.

Master Program has started in 2012, with annual enrollment 8-10 MSc students. We have purchased GIS/geodetic equipment, software, literature etc.

Intl mobility of KSUCTA students and staff:

Kazakhstan– 18 persons – 2011–2013

Tajikistan – 4 persons - 25.09.2011–01.10.2011

Austria - 5 persons - 04.12.2011–10.12.2011

Hungary – 6 persons - 12.08.2012–19.08.2012


















INTERNATIONAL PROJECTS



“gSMART - SPATIAL ICT INFRASTRUCTURES FOR SMART PLACES”, 2013-2017

The gSmart initiative aims at longer-term study periods for geospatial Bachelor, PhD and Post-Doc including full graduate qualifications for MSc, for academic teachers at target group institutions, plus similar academic expertise for industry and public institutions.

These qualifications based on mobility and study periods at European partners and sustained through an already established community of practice. Project was coordinated by Z_GIS, University Salzburg, Austria.

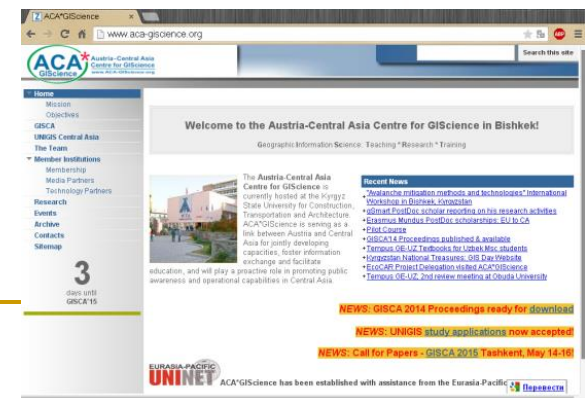
KazNU		Al-Faraby Kazakh National University	KZ
KKSU		Korkyt Ata Kyzylorda State University	KZ
ENU		L.N. Gumilyov Eurasian National University	KZ
KSUCTA		Kyrgyz State University of Construction, Transport and Architecture	KG
KRSU		Kyrgyz Russian Slavic University	KG
OSU		Osh State University	KG
BHU		Bishkek Humanities University	KG
OTU		Osh Technological University	KG
KSU		Khorog State University	TJ
RTSU		Russian-Tajik Slavonic University	TJ
TSU		Turkmen State University	TM
KarSU		Karakalpak State University	UZ
NUU		National University of Uzbekistan	UZ



“AUSTRIA-CENTRAL ASIA CENTRE FOR GIScience” (ACA*GIScience)



- The Austria-Central Asia Centre for GIScience is officially established in 2008 and currently hosted at the Kyrgyz State University for Construction, Transport and Architecture and includes partners from Central Asia and Austria.
- ACA*GIScience is serving as a link between Austria and Central Asia for jointly developing capacities, foster information exchange and facilitate education, and plays a proactive role in promoting public awareness and operational capabilities in Central Asia.





RESEARCH – EDUCATION - COMMUNICATION



- International Projects

- TEMPUS

- GSDI

- Erasmus Mundus



- Erasmus +

- DAAD

- Volkswagen Foundation

- Eurasia-Pacific UNINET

- Workshops and Trainings

- UNIGIS Distance Learning Study Centre

- GIS in Central Asia Conferences, 2005-2020



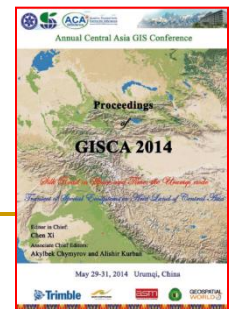
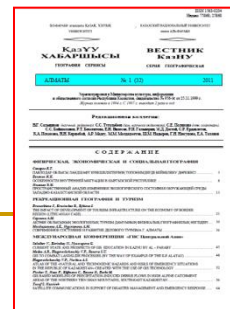
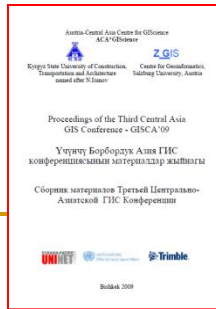


GIS IN CENTRAL ASIA CONFERENCES, GISCA 2005 - 2021

The main objectives of these English language conferences are to bring together GIS academics, researchers and practitioners from the Central Asian and other countries and to encourage international cooperation and knowledge exchange in GIS education and science. GIScience as a conceptual foundation, Geoinformatics as a methodology and GIS as software are powerful instruments for linking information from different sources by location. This is exactly what is needed to manage our environments and natural resources, and to assess arising natural, technical and social risks. The next GISCA is in May 30-June 2, 2021!



<https://www.aca-giscience.org/pages/gisca-2021>





HIGHER EDUCATION SYSTEM IN THE KYRGYZ REPUBLIC

In accordance with the Governmental Resolution of the Kyrgyz Republic No 496 of August 23, 2011 “On establishing a two-level structure of the higher professional education in the Kyrgyz Republic”, a two-level structure of higher professional education was set for 2012-2013 academic year with an award of academic degrees “Bachelor” and “Master”, except for certain specialties. Models of state education standards for higher professional education were approved.

Level 1 includes: Bachelor programs - duration: 4 years - **240 credits.**

Level 2 includes: Master programs – duration: 2 years - **120 credits.**

Level 3 includes: 1 PhD programs – duration: 3 years - **180 credits.**



ACADEMIC PROGRAMS OF KSUCTA ON GEOSCIENCES

Secondary professional education (college):

- Applied Geodesy, since 2017

Undergraduate program:

- Geodesy and Remote Sensing, since 2005

Master programs:

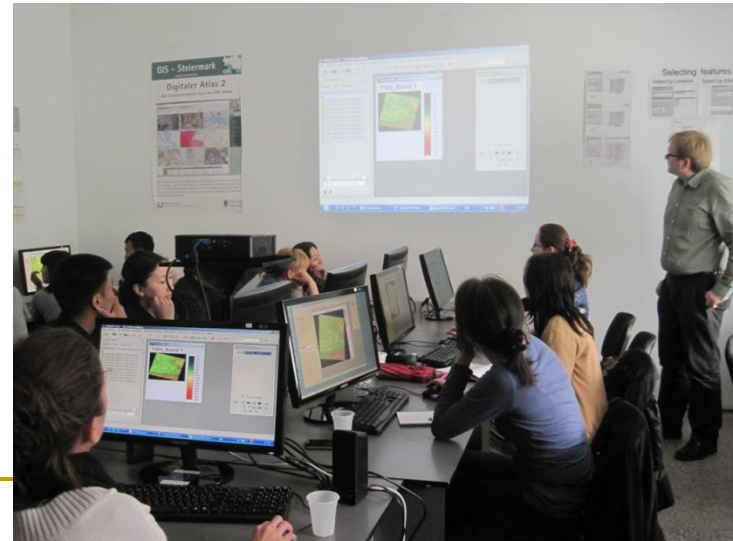
- Geodesy and Remote Sensing, since 2011
- Geoinformatics, since 2012





SECONDARY PROFESSIONAL AND UNDERGRADUATE STUDENTS OF THE GEODESY PROGRAMS

Programme	2018	2019	2020
College of KSUCTA	24	30	30
Undergraduate	129	115	141





MASTER STUDENTS OF THE GEODESY AND GEOINFORMATICS DEPARTMENT

Programme	2018	2019	2020
Geodesy MSc	20	11	15
Geoinformatics MSc	5	7	5





CURRICULUM OF THE GEODESY MASTER PROGRAM - 1

MINISTRY OF EDUCATION AND SCIENCE OF THE KYRGYZ REPUBLIC

INDICATIVE CURRICULUM

Field: 620100 – Geodesy and Remote Sensing

Qualification: Master

Normative program duration: 2 years

#	Name of learning subjects	Total volume		Teaching per semesters			
		In credits (ECTS)	In hours	1 Semester	2 Semester	3 Semester	4 Semester
				Number of weeks			
				16	16	16	16
1	2	3	4	5	6	7	8
M.1.	GENERAL SCIENTIFIC CYCLE						
	Compulsory subjects (required by the State Education Standard)	14	420				
M.1.1.	Kyrgyz language (Professional)	3	90	x			
M.1.2.	Technical foreign language	3	90	x			
M.1.3.	Philosophic problems of the science and techniques	4	120	x			
M.1.4.	Research methodology	4	120	x			
	Elective subjects (to be selected by university)	23	690	x	x		
	Subtotal:	37	1110				



CURRICULUM OF THE GEODESY MASTER PROGRAM - 2

#	Name of learning subjects	Total volume		Teaching per semesters			
		In credits (ECTS)	In hours	1 Semester	2 Semester	3 Semester	4 Semester
				Number of weeks			
		16	16	16	16		
M.2.	PROFESSIONAL CYCLE						
	Compulsory subjects (required by the State Education Standard)	8	240				
M.2.1.	Methods of establishment and development of the State Geodetic Networks	4	120	x			
M.2.2.	Automated systems for the collection and processing of Remote sensing data	4	120		x		
	Elective subjects (to be selected by university)	27	810	x	x	x	
	Subtotal:	35	1050				
	PRACTICAL AND RESEARCH WORK						
П.1	Scientific-Industrial internship	10			x		
П.2	Pedagogical practice	5				x	
П.3	Scientific-Research practice	10					x
П.4	Scientific-Research practice (in 1, 2, 3 semesters)	3		x	x	x	
	Subtotal:	28	840				
	FINAL STATE CERTIFICATION						
ГА.1	State exam on the profile						x
ГА.2	Preparation and defense of the Diploma work	20	600				x
Total in the Program duration:		120	3600	30	30	30	30



CURRICULUM OF THE GEODESY MASTER PROGRAM - 3

ELECTIVE SUBJECTS

B.1	<u>GNSS</u> Technology	5
B.2	Remote Sensing II	6
B.3	Geoinformation Technologies	6
B.4	Reference systems and Earth Gravitational Models	5
B.5	Project management and organization	5
B.6	Data acquisition and integration	4
B.7	Digital photogrammetry	4
B.8	Information technology in Geodesy and Remote sensing	4
B.9	Geodetic maintenance of construction	5
B.10	Spatial data models	5
B.11	Cartography and <u>geovisualization</u>	4
B.12	Spatial analysis	6
B.13	Geodatabase and distributed architectures	5
B.14	Web-GIS	4



NATIONAL LEGISLATION OF PHD PROGRAMS

The Government of the Kyrgyz Republic has issued the **Decree #601 from December 11, 2020** “The legislation of the postgraduate professional education (PhD/Doctoral) programs and award of PhD/Doctoral Degrees”. Doctoral program (PhD) - doctorate is a professional scientific and educational program of postgraduate education aimed to train scientific and pedagogical staff with the normative period of study for at least 3 years with further award of a scientific degree “Doctor of Philosophy (PhD)”.



ПРАВИТЕЛЬСТВО КЫРГЫЗСКОЙ РЕСПУБЛИКИ

ПОСТАНОВЛЕНИЕ

от 11 декабря 2020 года № 601

Об утверждении актов, регулирующих вопросы подготовки доктора философии (PhD)/
доктора по профилю



THIRD CYCLE (PHD) PROGRAMS – CREDO PROJECT

KSUCTA has started developing a PhD Program within the TEMPUS project “Creation of third cycle studies - Doctoral Programme in Renewable Energy and Environmental Technology (CREDO)”, 2010-2013.

In 2013, the implementation of a pilot PhD programs was launched as part of the TEMPUS pilot projects in 7 higher education institutions of the country, including KSUCTA. For the purpose of their implementation “Temporary State Requirements for Pilot Doctoral Programs of postgraduate professional education (PhD)” were approved by the Decree #311/1 of the Ministry of Education and Science of the Kyrgyz Republic from 31 May 2013.



THIRD CYCLE (PHD) PROGRAMS – E+ DERECKA PROJECT

KSUCTA is a partner university in the Erasmus+ Project: “Development of Doctoral Education and Research Capacities of Kyrgyzstani Academia (DERECKA)”, 2020-2023. The project consortium is coordinated by local university - the International University of Kyrgyz Republic.

The aim of the project is strengthening and expanding PhD system in Kyrgyzstan. The curricula of the new PhD Programs will comply with the National educational standard and the Regulations of the PhD program of the Kyrgyz Republic. The results of the pilot TEMPUS project on the implementation of the PhD Program 2013-2016 will be taken into account.



PLANNED PHD PROGRAM IN GEODESY

KSUCTA is planning to develop and implement PhD program in Geodesy within the GeoTAK project in 2021-2024. The expected academic and scientific support from the European universities in the frame of Erasmus+ GeoTAK project will be very appreciated because of the strong expertise and rich experience of European partners.

There are no existing PhD programs on Geodesy, GIS and Remote Sensing in Kyrgyzstan and existing demand for the highly qualified researchers in these fields is very high.





Thank you for your attention!

Questions?