

REPUBLIC OF UZBEKISTAN
MINISTRY OF HIGHER EDUCATION, SCIENCE AND INNOVATIONS
FERGANA STATE TECHNICAL UNIVERSITY

Engineering survey work at the construction site
MODULE HANDBOOK

Field of knowledge:	700000	- Engineering and construction industries
Field of Education:	730 000	- Architecture and construction
Educational Program:	60730300	- Civil Engineering

Module title	Engineering survey work at the construction site
Code (if available)	EEWCT34
Semester(s) of module teaching	3
Responsible for the module	Kayumov Odiljon Abduraufovich Associate Professor of the Department of Geodesy, Cartography and Cadastre
Language of instruction	Uzbek
Connection to the curriculum	selection
Teaching methods	lecture, practical training, independent study.
Study load (including classroom and independent study hours)	Total hours: 120 hours Auditorium hours: 48 hours lecture – 16 hours, practical training-32 hours, Independent study – 72 hours.
Credit units	4
Required and recommended prior knowledge for studying the module	Mathematics, Civil Geodesy, Remote Sensing and Photogrammetry, Soil Science
Module objectives/intended learning outcomes	The purpose of the module: The goal of our republic is to deepen the economic reforms of the national economy and improve the organization of the effective use of all its resources in the development of the construction sector. Therefore, the achievements of the discipline "Engineering Surveys at the Construction Site" are currently widely used in the construction of buildings, structures and roads. Taking into account the fact that the construction sector cannot be imagined without the discipline "Engineering Surveys at the Construction Site", special attention is paid to the study of this discipline in our country. When training specialists in this area, they are required to study this discipline in depth. This discipline is considered a general professional discipline and is an integral part of the construction of buildings, structures and roads in production. The purpose of the course is to provide students studying in the field of construction with an understanding of the shape and size of the earth, its internal and external structure, the processes taking place there, rocks, minerals, groundwater, soils in the area and their physical and mechanical properties; to provide knowledge such as conducting engineering and geological surveys at construction sites and using their results in the design, construction and operation of buildings and structures. This science program was developed for students studying in the field of Geodesy, Cartography and Cadastre (by function) and related fields.
Content	Module 1. The origin and age of the Earth. The origin of the Earth. Time in geology and its units. Geochronological table. The internal structure of the Earth. The internal boundaries of the Earth. A brief description of the geosphere. Physical properties of the Earth's geosphere. Module 2. Internal and external dynamic processes on the Earth Forms of magmatism. Intrusive magmatismz Effusion magmatism and volcanism. Metamorphism of rocks.

	Module 3. Groundwater State and types of water in rocks. Syzot waters. Artesian waters. The impact of groundwater on construction work. Module 4. Sedimentary rocks and their depositional forms Stages of the formation of sedimentary rocks. Mineral composition, structure and texture of sedimentary rocks. Depositional forms of sedimentary rocks. Use of sedimentary rocks in construction Module 5. Physical and mechanical properties of rocks Physical properties. Mechanical properties. Water properties Module 6. Engineering geological phenomena Earthquake characteristics and their distribution. Earthquake recording. Earthquake prediction. Landslides. Module 7. Engineering geological surveys and their types Geological surveys at the construction site. Soil sampling from the construction site. Hydrogeological surveys at the construction site.
Forms of assessment	oral, presentation, written work, practical assignments, and final exams.
Requirements for study and assessment	To successfully complete the module, the student must attend classes and achieve the minimum scores in the current, intermediate and final assessments.
Bibliography	1. Butyugin V.V., Lolaev A.B. <i>Engineering geology</i>, M. Izd-vo Infra-Ingenernaya, 2022, 256 p. 2. Saparov A.S., Rakhimbabaeva M., Rakhmatullaeva I. <i>Geology and geomorphology</i>, Tashkent, 2019 Izd-vo obshchestva filosofov Uzbekistana, 208 p. 3. Richard G. Craig, Jesse L. Craft - "Applied Geomorphology Binghamton Geomorphology Symposium 11" 2021, Routledge 4. Ananov V.P., Patapov A.D. <i>Engineering geology</i> M., Vysshaya shkola, 2008 5. Irgashev I. <i>Engineering geology and hydrogeology</i> T., Teacher, 1990 6. Irgashev I. <i>Practical training on the basics of engineering geology and hydrogeology</i>. T., Teacher, 1990 7. Sedenko M.V. <i>Hydrogeology and engineering geology</i>. M., Nedra, 1971, 272 p 8. Charygin M.M. dr. <i>Obshchaya i istoricheskaya geology</i>. M., Nedra, 1977 472 p. 9. Solodukhin M.A. <i>Injenerno-geologicheskie izyskaniya dlya promyshlennogo i grazhdanskogo stroitelstva</i>, M., Nedra, 1975, 191 p.
Reviewers	K. Khakimova - Fergana State Technical University, Associate Professor of the Department of "Geodesy, Cartography and Cadastre"; A. Marupov - Associate Professor of the Department of "Geodesy, Cartography and Cadastre";