

Assessment of the technical condition of buildings and structures

MODULE HANDBOOK

Field of knowledge:	700000	- Engineering, processing and construction industries
Field of education:	730 000	- Arcitecture and construction
Educational Program::	60730300	- Civil Engineering

Module title	<i>Assessment of the technical condition of buildings and structures</i>
Code (if available)	ATCBST84
Semester(s) of module teaching	8
Responsible for the module	<i>Abobakirova Zebuniso Asrorovna, Department of Civil Engineering, PhD, Associate Professor</i>
Language of instruction	<i>O'zbek</i>
Connection to the curriculum	<i>Elective</i>
Teaching methods	<i>Lecture, practical training, independent learning.</i>
Study load (including classroom and independent study hours)	<i>Total hours: 120 hour Auditorium hours: 48 hour lecture – 14 hour, practical training – 36 hour, independent learning – 72 hour.</i>
Credit units	4
Required and recommended prior knowledge for studying the module	<i>Building structures, building mechanics, theoretical mechanics, soil mechanics</i>
Module objectives/intended learning outcomes	<i>The purpose of the module: To provide students with knowledge, skills and qualifications appropriate to the specialist profile in assessing the technical condition of special buildings and structures, including damage, deterioration, deformation in the structural elements of buildings and structures, their classifications, and causes of their origin.</i> <i>- to teach the use of modern methods and experiences based on specific conditions in assessing the technical condition of buildings and structures.</i> <i>- to know the factors affecting the structures of buildings and structures, their classification, various types of damage occurring in the structure: damage, deterioration, deviation, deformation, types of accidents, their causes, including types of natural (physical) deterioration of buildings, methods for their determination, standard and actual service life of building structures, residual service life of the building, quality indicators of the building - its reliability and durability</i> <i>The following requirements are imposed on the knowledge, skills and qualifications of students in the subject. The student:</i> <i>• should be able to study scientific and technical literature on project design calculations, one of the main issues in the process of designing buildings and structures, write a summary summary or abstract, apply the methods of conducting them; be able to summarize and analyze the results of theoretical and practical research; should have the skills to use computers based on computational techniques when processing the results,</i> <i>• should have the basic concepts, terms and rules for assessing the technical condition of buildings and structures, be able to take into account norms and rules, and be able to use construction standards,</i> <i>• should have the skills to understand the influence of the natural-climatic and socio-economic characteristics of the republic on urban planning systems, and to select areas for urban settlement.</i>
Content	Module 1. <i>Assessment of the technical condition of buildings and structures</i> <i>Introduction. The purpose of assessing the technical condition of</i>

	<i>buildings and structures. Inspection of structures and assessment of their technical condition. Physical deterioration of the building.</i> Module 2. Concrete and reinforced concrete <i>Deterioration of concrete and reinforced concrete, metal and wooden structures. Normative and actual service life of buildings.</i> Module 3. Factors negatively affecting the building. <i>Damage and accidents due to soil deformation. Damage to wall and roof structures. Damage to foundation structures.</i> Module 4. Certification of buildings and structures. <i>Methods and tools used in inspection work. Technical conclusion on the inspection of the building. Criteria for determining the percentage of wear used to assess the technical condition of buildings and structures.</i> Module 5. Damage to buildings and structures and methods for their elimination. <i>Types of defects, damage and deformations of walls and methods for their elimination. Causes of deformations of columns and beams and methods for their elimination. Common types of defects, damage and deformation of roofs and methods for their elimination.</i>
Forms of assessment	<i>oral, presentation, written work, practical assignments, and final exams..</i>
Requirements for study and assessment	<i>Modulni muvaffaqiyatli tamomlash uchun talaba darslarda ishtirok etishi, joriy, oraliq va yakuniy baholashlardan belgilangan minimal ballarni to'plashi lozim.</i>
Bibliography	1. Sh.A.Umarov, Z.A.Abobakirova "Assessment of the technical condition of buildings and structures" - Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan - F.: "CLASSIC" publishing house, 2022.-236 pages. 2. M.B.Allanyazov "English-Russian-Uzbek dictionary of terms for architectural and construction specialties", TAQI, Tashkent-2021. 3. T.G.Kasyanenko, G.A.Makhovikova, V.E.Esipov, S.K.Mirzazhanov "Real estate appraisal", Textbook, Moscow-2018. 4. A.T.Khotamov and others "Engineering improvement of highways", Tashkent, Malik Print Go, Monograph, 2021. 5. V.M. Kalinin, S.D. Sokova "Otsenka tekhnicheskogo sostoyaniya zdaniy", Uchebnik, Moscow, Infra-M, 2017
Reviewers	S.M.Mirzababayeva - Associate Professor of the Department of "Civil Engineering" of Fergana State Technical University; O.J.Rakhmonov - Head of the Territorial Inspection for Construction and Housing and Communal Services of the Fergana Region, Head of the Construction Testing Laboratory and Department for the Study of the Technical Condition of Buildings and Structures;