

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

Wood constructions
MODULE HANDBOOK

Field of Knowledge :	700000	- Engineering, machining and construction industries
Field of education:	730,000	- Architecture and construction
Education program :	60730300	- Civil Engineering

Module title	<i>Wood constructions</i>
Code (if available)	<i>WCT56</i>
Semester(s) of module teaching	<i>5</i>
Responsible for the module	<i>Mirzababayeva Owner Mirzaakbarovna , Construction engineering department , associate professor</i>
Language of instruction	<i>Uzbek</i>
Connection to the curriculum	<i>Elective</i>
Teaching methods	<i>lecture , practical training , independent education .</i>
Study load (including classroom and independent study hours)	<i>Total hours : 180 hours Auditorium Hours : 72 hours Lecture – 30 hours , practical training – 42 hours , independent training - 72 hours .</i>
Credit units	<i>6</i>
Required and recommended prior knowledge for studying the module	<i>Construction structures , construction mechanics , groundwork mechanics</i>
Module objectives/intended learning outcomes	<i>The purpose of the module: To teach</i> students the basic information about the design of buildings and structures, wood and plastics, the main types of compounds used in structures and methods of their calculation, the basic information about common structures used in the restoration of buildings and structures, the rules for their calculation and design, and the full consideration of the requirements of regulatory documents in the processes of their use. The purpose of the course is to teach students the types and areas of application of wooden structures; calculation and design of wooden structures; types and areas of application of buildings restored from ecologically pure clay and stone; calculation and design of buildings with clay and stone structures. To achieve the above goal, the subject must provide students with theoretical knowledge, practical skills, and a thorough mastery of the necessary basic formulas; be able to correctly select calculation schemes for wooden structures, and use the course's calculation formulas and modern calculation methods to solve practical problems. The following requirements are imposed on the knowledge, skills, and qualifications of students in the subject. <i>The student:</i> <i>scientifically based theory of calculating wooden structures using the limit state method study;</i> <i>The aim is to teach students how to use building designs in the construction and erection of buildings, and to find effective solutions in the form of wood for commonly used structural solutions.</i> <i>structural properties of wood and its performance under loads;</i> <i>classification of wooden structures used in buildings and structures;</i> <i>Knowledge of calculating and designing wooden structural elements using the limit state method;</i>

	• They should be able to supplement their knowledge with technical tools and information from the Internet regarding the calculation of wooden structures; • Knowledge of calculating and designing wooden structural elements in accordance with regulatory documents; • the student will be able to make technical, economic and constructive decisions about the wooden structures being produced and used; • the worker must be able to read construction drawings; • must have the skills to supplement their knowledge with information obtained from the Internet on the calculation of wooden structures; • Must have the skills to effectively use wooden structures in specific construction situations, use wooden structures in conjunction with various load-bearing structures, and design wooden structures.
Content	Module 1. Brief history of the development and application of wooden structures A brief history of the development and application of wooden structures. Scientists who contributed to the development of wooden structures. Types of wooden structures and areas of application Materials for wooden and plastic structures. Wood and of plastics physical-mechanical properties Module 2. Design of wooden elements according to limit states Seismic scales Calculation of wooden elements according to limit states . Calculation and design of wooden structures, their working, manufacturing, transportation and installation conditions, types of dimensions, measures to ensure their durability, strength and integrity . Calculation of wooden elements for compression and elongation . Calculation of wooden structural elements for bending Module 3. Wood constructions of elements compounds Or a goat. constructions elements direct and indirect attachment Glue and nail joints Module 4. Roof panels, beams, columns and beams design and calculation Wooden panels and floors, load-bearing elements of wooden coverings . Design and calculation of wooden columns. Types of wooden columns: solid section, glued, joint section and lattice . Design and calculation of wooden and plywood beams. Rafters beams design and calculation sloping rafters . Module 5. Wooden arches , wooden frames , wooden farm and the porches design and calculation . Types of spatial structures Design and calculation of wooden arches. Constructions of wooden arches: from solid wood, glued wood, glued plywood . Calculation of wooden arches. Calculation of a three-hinged frame made of bent and glued boards . Wooden truss and the porches calculation and Design . Structural forms of domes and cupolas . Module 6. Repair and strengthening of wooden structures Repair and strengthening of wooden structures. Service life of wooden structures in structures according to the QMQ and

	<i>methods and schemes for strengthening wooden structures.</i>
Forms of assessment	<i>oral, presentation, written work, practical assignments, and final exams.</i>
Requirements for study and assessment	<i>To successfully complete the module, the student must attend classes and achieve the minimum scores set in the current, midterm, and final assessments.</i>
Bibliography	1. Donald E Breyer, P.E., Kelly E Cobeen, Kenneth J Fridley, PH.D. <i>Design of Wood Structures – ASD / LRFD 7th Edition USA</i>. 2. S.M.Mirzababayeva “Yog’och konstruksiyalari”, Darslik, Farg’ona “Glebe EDIT”, ISBN: 978-620-0-64030-7. Nashr ruxsatnomasi №388-150, 2022. 3. Y.M.Maxkamov, S.M.Mirzababayeva “Yog’och konstruksiyalari”, O’quv qo’llanma, F., “Classik”, ISBN: 978-9943-7300-5-3. Nashr ruxsatnomasi №237-700, 2021. 4. T.Махматқулов. Ёфоч конструкциялари (лойиҳалаш асослари). Ўқув қўлланма, Самарқанд, 2021.-207 б.
Reviewers	ZAAbobakirova - Fergana State Technical University, Department of “ Civil Engineering ” associate professor (PhD); O. J. Rakhmonov - Head of the Territorial Control Inspectorate in the field of construction and housing and communal services of the Fergana region, the construction testing laboratory and the department for studying the technical condition of buildings and structures ;