Syllabus

Course Description

Course Title	Laboratory of Mechanics of Structures
Course Code	42638
Course Title Additional	
Scientific-Disciplinary Sector	NN
Language	German
Degree Course	Professional Bachelor in Wood Technology
Other Degree Courses (Loaned)	
Lecturers	Dott. Thomas Franz Xaver Moosbrugger, ThomasFranzXaver.Moosbrugger@unibz.it https://www.unibz.it/en/faculties/engineering/academic-staff/person/42499
Teaching Assistant	
Semester	First semester
Course Year/s	2
CP	2
Teaching Hours	0
Lab Hours	20
Individual Study Hours	30
Planned Office Hours	6
Contents Summary	1. practical determination of material parameters using simple fracture tests 2. project work „Timber construction” a. Design of a simple timber construction b. Model assumptions c. Structural analysis 3. Dimensioning of the designed structure.
Course Topics	Elaboration of the fundamentals for the design of timber structures based on the basic mechanical principles of elastostatics. Insight into the essential standards of Eurocode 0, 1, and 5.

Keywords	Statics, structural design, ULS and SLS verification, timber construction, laboratory exercises
Recommended Prerequisites	None.
Propaedeutic Courses	
Teaching Format	Seminar work supervised in the lecture room.
Mandatory Attendance	Recommended.
Specific Educational Objectives and Learning Outcomes	Specific educational objectives The course aims to teach participants the basic formal relationships of structural design, primarily in timber construction, and practical methods for solving problems in these contexts. Knowledge and understanding: • Understanding of the basic design concept for load-bearing structures - based on limit states - and the necessity of safety factors. • Basic knowledge of modeling buildings and load-bearing structures in structural engineering. Applying knowledge and understanding: • Basic knowledge of real load-bearing behavior and necessary simplified model approaches • Application of theoretical content through exercises, case studies and project work as well as understanding the problems presented. Theoretical content is illustrated by means of calculation exercises using practical examples. Making judgments: • Based on what they have learned, students are able to describe the function of real load-bearing systems. Communication skills: • The students are able to actively participate in subject-specific discussions using the specific terminology based on what they have learned. Learning skills • Students learn the subject matter both through frontal teaching (theoretical part) and through exercises in the lecture hall (practical exercises) • Students are able to expand their acquired knowledge through self-taught self-study and consultation of scientific and technical texts.

Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	Assessment of the written seminar thesis as part of the attendance in the laboratory units and final presentation of the small project.
Evaluation Criteria	Assessment: pass/fail. The final mark is determined 100% from the results of the laboratory/seminar work. Criteria for assessment: Correctness of the individual tasks, impression and cooperation in the context of the laboratory units, impression and correctness of the written laboratory work.
Required Readings	Teaching material L-P03.
Supplementary Readings	Colling, F.: Holzbau: *Grundlagen und Bemessung nach EC 5*, Springer Vieweg; Auflage: 5., überarb. und akt. Aufl. 2016 (7. Oktober 2016), ISBN-10: 3658142324 Niemz, P., Sonderegger, Walter, U.: 2011, *Physik des Holzes*. Hanser Fachbuchverlag, ISBN 978-3-446-876 44526-0, doi:10.3139/9783446445468. ÖNORM EN 1995-1-1 2019 06 01: *Eurocode 5: Bemessung und Konstruktion von Holzbauten - Teil 1-1: Allgemeines - Allgemeine Regeln und Regeln für den Hochbau (konsolidierte Fassung)*, 2019.
Further Information	
Sustainable Development Goals (SDGs)	Industry, innovation and infrastructure