

## Tárgytematika / Course Description

### Engineering Structures 3

EKNB\_SETA014

**Tárgyfelelős neve /**

**Teacher's name:** dr. Bukovics Ádám

**Félév / Semester:** 2021/22/1

**Beszámolási forma /**

**Assesment:** Folyamatos számonkérés

**Tárgy heti óraszám /**

**Teaching hours(week):** 2/2/0

**Tárgy féléves óraszám /**

**Teaching hours(sem.):** 0/0/0

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### OKTATÁS CÉLJA / AIM OF THE COURSE

Aim of the course:

Behavior and properties of timber

Introduction of timber structures and buildings

Introduction of the concept of design of timber structural members for buildings subjected to tension, compression, shear and bending

Design of connections

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### TANTÁRGY TARTALMA / DESCRIPTION

Main topics of the presentations:

Introduction of timber structures

Structural system of timber buildings and timber structures

Advantages and disadvantages of timber structures

Characteristics of timber

Types of timber

Central tension

Central compression

Buckling resistance of compressed members

Bending moment and shear

Lateral torsional buckling

Deformation

Glued-laminated timber

Connections

Preservative treatment for timber

Fire safety and resistance

Roof structures

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## **SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD**

Assesment's method

Preparation of design works (4 pieces)

The finished design works must be show at least in the 14. weeks of the semester.

Written exam at the end of the semester.

Calculation of the final note:

Design works (maximum 200 points)

Grading:

0-109 points 1

110-129 points 2

130-149 points 3

150-169 points 4

170-200 points 5

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## **KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL**

Recommended materials and standards:

Jack Porteous and Abdy Kermani: Structural Timber Design to Eurocode 5, Blackwell Publishing, 2007, ISBN: 978-0-470-67500-7

EN 1995 EUROCODE 5: Design of timber structures – Part 1-1: General – Common rules and rules for buildings

Simon Aicher Harald, W. Reinhardt, Harald Gerecht: Materials and Joints in Timber Structures, Springer, 2016, ISBN: 9402406913