

Tárgytematika / Course Description

Steel structures

NGB_SE104_3

Tárgyfelelős neve /

Teacher's name: dr. Bukovics Ádám

Félév / Semester: 2016/17/2

Beszámolási forma /

Assesment: Vizsga

Tárgy heti óraszám /

Teaching hours(week): 2/1/0

Tárgy féléves óraszám /

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

OKTATÁS CÉLJA / AIM OF THE COURSE

Aim of the course:

- Behavior and properties of steel
- Introduction of steel structures and buildings
- Introduction of the concept of design of steel structural members for buildings subjected to tension, compression, shear and bending
- Design of welded and bolted connections

TANTÁRGY TARTALMA / DESCRIPTION

Description

Main topics of the presentations

Introduction of steel structures

Structural system of steel buildings and steel structures

Advantages and disadvantages of steel

The required properties of steel

Alloying and polluter

Rolled products

Material quality of structural steel

Viewpoints of material selection

Stress-strain diagram

Classification and combination of actions

Material models
Central tension
Residual stresses
Central compression
Buckling resistance of compressed members
Bending moment and shear
Lateral torsional buckling
Welded connections
Bolted connections

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD

Assesment's method

Preparation of a design work

The finished design work 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:

50% design work (maximum 100 points)

50% written exam (maximum 100 points)

Grading:

0-109 points 1

110-129 points 2

130-149 points 3

150-169 points 4

170-200 points 5

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

Recommanded materils and standards:

- European Steel Design Educational Programme (ESDEP) (<http://www.fgg.unilj.si/kmk/ESDEP/master/toc.htm>)
- The free enciklopedia for UK steel construction information (steelconstruction.info)
- Daniel L. Schodek: Structures, An Introduction to Structural Analysis

- Mete A. Sozen, Toshikatsu Ichinose: Understanding Structures
- EN 1990 EUROCODE 0: Basic of structural design
- EN 1991 EUROCODE 1: Actions of structures
- EN 1993 EUROCODE 3: Design of steel structures