MM3321

Study program / course: Mechanical Engineering

Type and level of study: Master academic studies

Course: Light-weight structures

Lecturers: Ružica R. Nikolić

Status of course: Elective for module M_2, III semester

Number of ECTS: 6

Prerequisite: None

The course objective

Introducing the students with properties and types of the lightweight structures. Enabling students to calculate and design the light-weight structures

The course outcome

Students are able to study, calculate and design the light-weight structures

Syllabus

Theoretical study

The area of application, properties and types of the lightweight structures. Lightweight versus the massive building. Spatial truss systems. Sectorial characteristics of the cross-section. The free and warping torsion of the thin-walled girders. Calculation of the thin-walled girders loaded in warping torsion. Aluminum structures. Wooden structures.

Practical classes

Problems solving, homeworks, tests and colloquia. (Same areas as for theoretical lecturing).

Recommended reading

1. Georgijevski V., Lightweight Metal Structures, The Civil Engineering Book, Belgrade, 1990. (In Serbian)
2. Nikolić R., Light-weight Structures, Lecture notes (In E-form).
3. Milosavljevic M., M. Radojkovic, B. Kuzmanovic, Steel Structures Fundamentals, The Civil Engineering Book, Belgrade, 1986. (In Serbian)
4. Brčić V., Strength of Materials, BIGZ, Belgrade, 1970. (In Serbian)

The number of hours of active teaching:				Other classes:
Theory: 3	Practical classes: 1.4	Other forms of teaching: 0.6	Research study:	1

Methods of teaching

Evaluation of knowledge			
Pre-final exam obligations	**Points**	**Final exam**	**Points**
Activities during the classes:	**10**	final test	**50**
Tests:	**20**		
Colloquia:			
Homeworks:	**20**		