

Course title: STEEL STRUCTURES 1 (ONLY CLASSES)

ECTS credit allocation (and other scores): 5

Semester: autumn

Level of study: ISCED-6 - first-cycle programmes (EQF-6)

Branch of science: Engineering and technology

Language: English

Number of hours per semester: 30

Course coordinator/ Department and e-mail: andrzej.rutkiewicz@uwm.edu.pl, Institute of Building Engineering

Type of classes: classes

Substantive content

CLASSES: Work in a form of performing exercises on load bearing of cross sections, elements and simple welded joints, as well as, verifying the ultimate and serviceability limit states. Shaping and designing the details of compressed double branched column and large span welded beam with slender web are discussed.

LECTURES: -

Learning purpose: The main purpose is to introduce the steel design in accordance to the European standards. Focus in undertaken on simple and complex elements design, especially compressed and bended, being a part of civil engineering structures.

On completion of the study programme the graduate will gain:

Knowledge: The student knows the basic standards and guidelines for the design of simple structural elements, as well as, knows the principles of constructing and dimensioning more complex elements.

Skills: The student is able to integrate knowledge in order to formulate and solve engineering task. The student can design selected load bearing simple and complex elements, being a part of civil engineering structures.

Social Competencies: The student is able to perform specific tasks, work independently and in team, adopting to specific role in this team. Moreover, the student is aware of the need to improve professional and personal competences.

Basic literature:

1. EN-1993-1-1: Design of steel structures: General rules and rules for buildings;
2. EN-1993-1-5: Design of steel structures: General rules – Plated structural elements
3. EN-1993-1-8: Design of steel structures: Design of joints
4. N.S. Trahair, M.A. Bradford, D.A. Nethercot, L. Gardner: The behavior and design of steel structures to EC3. Taylor & Francis, London and New York, 2008, ISBN 0-203-93593-4.

Supplementary literature:

5. Ch. Arya: Design of structural elements- Concrete, steelwork, masonry and timber designs to British standards and eurocodes. Spon Press, London and New York, 2009, ISBN 0-203-92650-1.
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The allocated number of ECTS points consists of: 5

Contact hours with an academic teacher: appointed by e-mail in any case



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Student's independent work: 30