Course Unit Descriptor

Study Programme: Mechanical Engineering

Course Unit Title: Mechanical Engineering in Practice

Course Unit Code: OAS233

Name of Lecturer(s): Associate Professor Eleonora Desnica

Type and Level of Studies: Bachelor academic degree

Course Status (compulsory/elective): Compulsory

Semester (winter/summer): Winter

Language of instruction: English

Mode of course unit delivery (face-to-face/distance learning): face-to-face

Number of ECTS Allocated: 6

Prerequisites: None

Course Aims:
Acquiring knowledge of design, operation and maintenance of industrial systems machines and equipment, which are used in industry.

Learning Outcomes:
Students acquire knowledge and skills in solving real problems in practice related to the design, exploitation and maintenance of systems and plants in industry - this primarily refers to the construction, production of machine parts, the selection of mechanical materials, replacement of spare parts and legal regulations.

Syllabus:

Theory

Theory
Mechanics and mechanisms as part of mechanical engineering; Engineering graphic communications in mechanical engineering – Standardization, Tolerance, Creation of technical drawings; Basics of machine design; Maintenance of technical systems – Planning of current, preventive and investment maintenance; Engineering materials and their application in mechanical engineering; Production technologies in mechanical engineering; Legal regulations.

Practice
Through exercises (and seminar work), students deal with concrete examples in machine industry by working on CAD systems - AutoCAD, AutoCAM Mechanical software. CAD/CAE packages for engineering design support - AutoCAD, AutoCAM Mechanical software.

Required Reading:

1. Tehnical Pocket Guied, Schaellfer Technologies GmbH and Co.KG, Herzogenaurach, 2014.
2. Budynas, R., Nisbett, K., Shigley's Mechanical Engineering Design - Ninth Edition, McGraww-Hill, New York, 2011.
3. Stephenson, D.A., Agapiou, J.S., Metal Cutting Theory and Practice-Third edition, CRC Press, New York, 2016.
4. Radhakrishnan, P., Subramanyan, S., Raju, V., CAD/CAM/CIM, New Age International, New Delhi, 2008.

Weekly Contact Hours: 4	**Lectures: 2**	**Practical work: 2**

Teaching Methods:

Illustrative teaching methods. Demonstration teaching methods. Laboratory and experimental. Development of project (practical) work.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation	10	written exam	
Practical work	50	oral exam	40

Preliminary exam(s)			
Seminar(s)			