STUDY UNIT DESCRIPTION

Faculty of Engineering

CODE

TITLE Engineering and computer graphics

LEVEL 01-Years 1,2 in Modular Undergraduate Course

ECTS CREDITS 5

DEPARTMENT

DESCRIPTION Introduction in descriptive geometry, practical exercises; studying course in Computer Aided Design.

The course of CAD includes all issues concerning model development, stress-strain state, product development and technical documents preparation.

Available CAD includes: AutoCad, Kompass-3D, Ansys, UM

Available studying packages: building CAD, engineering CAD, FEA.

Study-unit Aims:

This unit covers in depth the principles of CAD usage while developing a multiple engineering projects.

Learning Outcomes:

1. Knowledge & Understanding:
   By the end of the study-unit the student will be able to:
   - Understand the spatial constructions;
   - Develop 3D models and test them;
   - Provide computer simulation of complex mechanisms;
   - Develop FEA projects and test them in any conditions;
   - Develop engineering documentation.
2. Skills:
3. By the end of the study-unit the student will be able to:
   - Perform calculations relating to FEA and 3D modelling;
   - Develop a correct drawing and 3D model;
   - Understand ISO requirements.

Main Text/s and any supplementary readings:

- Pare E.G. Descriptive Geometry ISBN: 002391341X

- Mastering AutoCAD 2015 and AutoCAD LT 2015: Autodesk Official Press, ISBN-10: 1118862082.
- Xiaolin Chen, Yijun Liu, Finite Element Modeling and Simulation with ANSYS Workbench, CRC Press.

ADDITIONAL

NOTES Tutorial lessons at computer complex;

STUDY UNIT

TYPE Lecture and Tutorial

METHOD OF

ASSESSMENT

Assessment Component/s	Resit Availability	Weighting
Practical	Yes	10%