

SYLABUS

For the course:

“ CAD, CAM, CAE Systems. CATIA ”

FACULTATEA DE MECANICĂ// FACULTY OF MECHANICAL ENGINEERING

DOMENIUL MECATRONICĂ ȘI ROBOTICĂ// MECHATRONICS AND ROBOTICS STUDY DOMAIN

Anul de studii// Year of study: (1)

Semestrul// Semester: (2)

Titularul cursului// Teacher of the course: Prof. Dr. ing. Lia DOLGA

Colaboratori/ Collaborators: -

Numar de ore/saptamana/Verificarea/Credite// Number of classes/ week/ Assessment/ Credit points/					
Curs/ Course	Seminar/ Seminar	Laborator/ Laboratory	Proiect/ Project	Examinare/ Assessment form	Credite/ Credit points
1	0	1	2	E	8

A. OBIECTIVELE CURSULUI// COURSE GOALS

The schooling and the education on how to consistently approach an industrial product, all along the life cycle (PLC). The study of correlations and influences of each stage of the PLC. The development of the competence to realistically manage and consider the design challenges, in correlation with the available manufacturing resources, an acceptable level of cost, a reduced response time to the customer requests and a competitive efficiency. Improving the skills to use specific software: CAD (CATIA), CAM (DELMIA), CAE (SIMULIA), PLM (ENOVIA).

B. SUBIECTELE CURSULUI/ COURSE SUBJECTS

Introduction: The Product life cycle of a product. The requirement for a consistent and correlated management. Specific software tools. PLM packages. **Conceptual design:** Features, methods, Dedicated software. **Detailed design:** Working environment, Methods, Specific software for CAD. The parametric and feature- based modelling. Data exchange with other software environments. **Product model analysis:** CAE, requests and benefits, Methods, Specific software, Types of product model analyses, simulations, the stages of the CAD process (pre-processing, analysis completion, post-processing). **Computer aided- prototyping and manufacturing:** CAM, the interdependency with the engineering field, Specific software. **The data exchange between different CAx modules:** The reasons, the requests, Interchangeable data formats, Specific standards. **The integrated management of the product life cycle:** Requests, Virtual entities, Virtual procedures, Parallel and concurrent ongoing of several stages during the product life cycle. “Embedded systems” entities within the structure of the industrial products.

C. SUBIECTELE APLICATIILOR (laborator)// APPLICATION SUBJECTS (LABORATORY CLASSES THEMES)

Laboratory working subjects that concretize the taught subjects. Miniprojects to develop the creation aptitude and to improve the team working skills.

D. BIBLIOGRAFIE// REFERENCES

1. Dassault systèmes: www.3ds.com
2. Novak, J., Designing for Change and Manufacturing, Editura Amazon.com, 2005,
3. Kunwoo, L., Principles of CAD/CAM/CAE, Prentice Hall, US Ed Edition, 2000

E. PROCEDURA DE EVALUARE// ASSESSMENT PROCEDURE

Final examination with applied subjects: blend model presented in public-0.3%, Distributed assessment with the following weights: Project I- 0.25%, Project II- 0.3%, Personal progress15%..

F.COMPATIBILITATE INTERNATIONALA// INTERNATIONAL COMPATIBILITY

- Vanderbilt University, Nashville, SUA,
- University of California, Berkeley, SUA,
- University of Florida, Gainesville, SUA,
- Royal Institute of technology, Stockholm, Suedia.

Data: 05.01.2016

TITULAR DE DISCIPLINĂ,
Prof. Dr. ing. Lia DOLGA