Study program / course: Mechanical Engineering	
Type and level of study: Bachelor academic studies	
Course: Engineering software	
Lecturers: Vanja M. Šušteršič, Ph.D., Dušan R. Gordić, Ph.D.	
Status of course: Elective for module M$_4$, VI semester	
Number of ECTS: 6	
Precondition: /	

The objective of course

To acquire essential knowledge concerning acquisition, processing and ways of presenting data in different software packages such as: EXCEL, MATLAB, MATHCAD.

The outcome of course

To have necessary knowledge about engineering software, as well as its implementation to solving concrete problems in the field of mechanical engineering, calculations, etc.

Syllabus

Theoretical study

Processing and presentation of information. Operating systems and techniques to use. Techniques of using the service program for data processing with specific concerns for the field of mechanical engineering and energy and process technique. Working with data and mathematical terms. Printing and graphic representation of data. Defining the variables and the functions. Work with matrices and vectors. Creating graphs. Programming in MathCAD. Statistical methods for data processing. Monte Karlo methods.

Practical classes

Recommended reading

1.V. Šušteršič, D. Gordić: "Engineering software for mechanical engineering students," script, 2009 (in Serbian)

2. Latinka Ćalasan, Menka Petkovska: "MATLAB," Micro books, Belgrade, 1995, (in Serbian)

3. Dusko Milinčić: "MathCAD 2001 Professional", a manual, 2001, (in Serbian)

The number of hours of active teaching:				Other classes: 1
Theory: 3	Practical classes: 1,6	Other forms of teaching: 0,4	Research study: 0	

Methods of teaching

Interactive work during the classes in computer classroom, doing two homeworks, three tests and a final work.

Evaluation of knowledge			
Pre-final exam obligations	**points**	**Final exam**	**points**
Activities during the classes:	**10**		
Practical classes:		Final work	**35**
Colloquiums(s) :	**3*15**		
Seminar(s) :	**2*5**		