MM2441

Study program / course: **Mechanical Engineering**

The type and level of study: **Master academic studies**

Name objects**: Process machines and plants**

Teacher: **Babic J. Milun**

Status: **Obligatory for module M_4 , II semester**

ECTS: **6**

Condition: **None**

Aim

The subject of "Process machines and plants" aims to prepare future engineers who will work in the private sector, state and the public sector, NGO, as well as in the education system, to use modern methods of calculation, the number and the actual experiment, and with the help of computer, perform the following tasks: explore the market in the field of process technology, work study opportunities, design of process equipment and process plants which are used for treatment heterogeneous systems (type: solid material-solid material, gas-solid material, liquid-solid material, liquid gas, liquid-liquid, liquid-gas-solid material), examining procedural devices and processing plants, dealing with the placement of process equipment and process plants and appropriate post-sales activities.

The outcome of the case

After completing the course, students will be able to team and independently involved in resolving problems relating to equipment and systems for mechanical, hydro-mechanical, heat and diffused technological operations that are used in the following sectors: processing industry, chemical industry, metal, pharmaceuticals, agriculture, environmental protection, energy, thermo-techniques, the food industry in agriculture, waterpower engineering, forestry, mining, production of the means of transportation ...

Content items

Theoretical and practical teaching:

The process machines and plants (PMP) and their analysis and synthesis (specific properties, the performance criteria), methods of analysis and syntheses PMP, mathematical model of PMP (formal description of the system), methods of obtaining information about the PMP on the basis of mathematical models (analytical and numerical methods for mathematical modeling), thermodynamic analysis and synthesis PMP (thermo dynamical performance criteria, the application of methods thermo dynamical analysis), common modes of the PMP, design, exploitation and maintenance of PMP, PMP and life environment, optimal methods of managing the work of PMP.

Training: Exercises, other forms of teaching, Study Research

References:

1.Babić M. Manage Energy-environmental projects, script, 2005;
2.Voronjec D.: Technological processes, Faculty of Mechanical Engineering, Belgrade, 1993.

Number of active teaching				Other classes
Lectures: **2**	Exercises:**1.6**	Other forms of teaching: **0.4**	Study Research: **0**	**1**

Methods of teaching: Interactive classroom lectures and exercises, creating the so-called two editorial seminars and one final work.

Score of knowledge (the maximum number of points 100)

Examination obligations	**Points**	**Final exam**	**Points**
Activity during lectures	10	Written exam	
Practical teaching		Oral exam (presentation of final seminar work)	40
Tests:		.....	
Seminars (two seminar's work)	50		