Course Unit Descriptor

Study Programme: Mechanical Engineering; Garment engineering		
Course Unit Title: Machines and Devices		
Course Unit Code: OAS058		
Name of Lecturer(s): Professor Slavica Prvulovic, PhD		
Type and Level of Studies: Bachelor Academic Degree		
Course Status (compulsory/elective): Compulsory		
Semester (winter/summer): Summer		
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: Training students to calculate machines and devices used in manufacturing processes as integral parts of technological systems and production lines, in order to select standard equipment.		
Learning Outcomes: The study of machines and devices should enable students in the field of: designing technological systems, leading engineering development processes and projects in the function of technical and technological development. Students get the necessary knowledge for the calculation, selection, use and maintenance of machines and devices in industrial processes.		
Syllabus: *Theory* Machines and devices for hydro mechanical operations (precipitation and precipitators, filtering and filters, centrifuging and centrifuges, mixers for liquids, pressurized containers). Machines and devices with heat exchange (heat exchangers, condensers). Machines and devices with diffusion operations (absorption, distillation, boil down, crystallization). Machines and devices with mass transfer operations (drying and dryers, contact cylindrical dryers, convective dryers with pneumatic transport of materials, spiral contact dryers, spray dryers, rotary dryers). Clip machines and turbo machines (pumps, compressors, fans, steam turbines). Steam boilers. *Practice* Students work on the calculation of basic Machines and Devices in the field of hydro mechanical operations, heat operations, mass transfer operations, clip machines and turbo machines. Carry out the selection of standard equipment.		
Required Reading: 1. Tolmac D.: Machines and Devices, University of Novi Sad, Technical faculty "Mihajlo Pupin", Zrenjanin, 2009 2. Tolmac D.: Machines and Devices – Collection of Solved Problems, University of Novi Sad, Technical faculty Mihajlo Pupin", Zrenjanin, 2006 3. Robert H. Perry, Don W. Green, James O. Maloney : Perry's chemical engineers' handbook, 1997 4. Marchildon K., Mody D., Pumps, Fans, Blowers, and Compressors, Mechanical Engineers' Handbook: Energy and Power, Canada, 2006. 5. Mujumdar A. S., Classification and selection of industrial dryers, Canada, 2000.		
Weekly Contact Hours: 4	**Lectures:** 2	**Practical work:** 2
Teaching Methods: Lectures, auditory exercises, consultations. Theoretical part, accompanied with characteristic examples, is presented in		

lectures. The exercises work out the theoretical part of the material.			
Knowledge Assessment (maximum of 100 points): 100			
Pre-exam obligations	points	**Final exam**	points
Active class participation	10	Written exam	30
Test	30	Oral exam	20
Practical teaching - seminary work realization	10		