Course Unit Descriptor

Study Programme: Production engineering

Course Unit Title: Basic manufacturing technologies I

Course Unit Code: M2061

Name of Lecturer(s): Gostimirović Marin, Kovačević Lazar

Type and Level of Studies: bachelor

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: 4

Prerequisites: none

Course Aims:.

Acquiring basic knowledge in casting technologies and gaining basic knowledge in area of machining processes, and which are used in product design and selection of optimal methods and processes in manufacturing.

Learning Outcomes:
Upon successful completion of this course, the student will be able to: name and describe basic casting processes; identify potential ways to improve manufacturability of cast components. Gained knowledge in machining technologies should enable designers of equipment and other devices to properly design products, and technologists to properly design phases and selection of optimal process parameters.

Syllabus.
Overview of basic casting processes. Sand casting. Gravity die casting. High pressure die casting. Investment casting. Manufacturability analysis of cast products. Importance and application of cutting technologies. Description of cutting systems. Basics of cutting processes (chip forming process, productivity, quality and precision). Turning machining. Drilling machining. Milling machining. Grinding machining. Non-convention machining. Technological machining processes and assembly. Fixtures for machining and assembly. Measurement and control.

Required Reading:
Trent, E.M. Metal Cutting Butterworhs, London 1977
Beeley, P.R. Foundry technology Butterworths 1972

Weekly Contact Hours: 2	**Lectures: 2**	**Practical work: 0**

Teaching Methods:
Interactively in form of lectures and laboratory practical exercises

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Attendance			
Computer exercises			
Tests (4x)			