

Course Unit Descriptor

Study Programme: Engineering Management			
Course Unit Title: Basics of LEAN production			
Course Unit Code: III1057			
Name of Lecturer(s): Milovan Lazarević			
Type and Level of Studies: bachelor			
Course Status (compulsory/elective): elective			
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: The objective of the course is to enable students to master basic knowledge of the different Lean philosophy instruments that enable increased competitiveness of the company and acquire competences for identifying, formulating and applying different instruments and basic principles of Lean philosophy in production and in service systems.			
Learning Outcomes: Upon completing the course, students will be trained to understand and apply different concepts-Lean production philosophy instruments; analyze production production and service processes, identify losses within them, and apply appropriate Lean philosophy instruments to enhance efficiency and effectiveness; design and revitalize production and service systems of different types.			
Syllabus. Introduction to Lean approach. Kaizen. Continuous improvement. Muda, Mura, Muri. Value stream mapping (Value Stream Map - VSM). Lean principles. Lean tools. Visual Management and 5S. The losses in the production process. Standard procedures. Quick tool change (SMED). JIT. Kanban. Quality (Quality Assurance). Continuous flow (Heijunka). Kaizen. Design of work stations.			
Required Reading: Relevant literature in English, tbd			
Weekly Contact Hours:2	Lectures: 2	Practical work: 2	
Teaching Methods: In order to achieve the goals of learning outcomes in the teaching process there is a combination of lectures, exercises, laboratory exercises and case studies to overcome the different chapters in a subject. In addition there is a regular term for consultation. Some of the material contains basic theoretical knowledge related to different production strategies. The second part of the material which expands the matter relating to the various production strategies, allowing students to transfer the knowledge that they can analyze the specific engineering problems related to the production systems and manufacturing in general, and then make the appropriate conclusions. Case studies are used to integrate these topics and shows students how the various techniques are interrelated and applied in real-life situations.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Attendance			
Computer exercises			
Tests (4x)			

