Course Unit Descriptor

Study Programme: Production engineering

Course Unit Title: Method of Experiment Planning And Processing

Course Unit Code: P2617

Name of Lecturer(s): Gostimirović Marin, Savković Borislav, Štrbac Branko

Type and Level of Studies: bachelor

Course Status (compulsory/elective): elective

Semester (winter/ summer): winter

Language of instruction: english

Mode of course unit delivery (face-to-face/distance learning): face-to-face

Number of ECTS Allocated: 5

Prerequisites: none

Course Aims:.

Mastering the content in the field of planning methods and experiments.

Learning Outcomes:
The competence to critically analyze the existing solutions and synthesize the original solutions in the field of computer integration of production systems.

Syllabus.
Mathematical theory of the experiment. Displaying the results of experimental research. The process of realization plans experiment. Distribution of experimental plans. One factor plans (regression analysis, dispersion analysis). Determining more effective parameters depending on the one factor experiment. Multifactor plans. Multifactor plans second order. Partial factor plans. Taguchi plans conclusively. Determination of the model by applying artificial intelligence methods. Analysis and interpretation of experimental data.

Required Reading:
Cus F. Modeling and optimization of metal cutting Faculty of Mechanical Engineering 2005
Box, G.E. ; Hunter, W.G.; Hunter, J.S. Statistics for Experimenters: Design, Innovation, and Discovery John Wiley & Sons, Inc. New York 2005
Zörnig P. Probability Theory and Statistical Applications: A Profound Treatise for Self-Study Berlin/Boston; De Gruyter 2016

Weekly Contact Hours:2	**Lectures: 2**	**Practical work: 1**

Teaching Methods:
Lectures are realized interactively through lectures, auditory, laboratory and computer practical classes.

Knowledge Assessment (maximum of 100 points):

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