Course title: Operations research (ID115)

Lecturer(s): Sanja Đ. Rapajić

Status: (obligatory/elective): elective

ECTS: 7

Requirements:

Learning objectives

Acquiring knowledge about network models and mathematical models relating to some problems from economy and industrial engineering, which could be solved by operations research methods. Introduction to the well-known optimization software.

Learning outcome

The basic knowledge about constrained optimization problems. Acquiring skills about different techniques in specific fields of operations research, and their applications in practice by using appropriate software.

Syllabus

The methodology of operations research. Linear programming. Duality. Transportation problems. Multi-criteria programming. Allocation problems. Network models. Dynamic programming. Game theory.
Students will present their software solutions through seminar papers.

Recommended literature

1. W. L. Winston, *Operations Research-Applications and Algorithms,* Duxbary Press, 2003.
2. F.S. Hillier, G.J.Lieberman, *Introduction to Operations Research,* McGraw -Hill Science, 2005.

Weekly teaching load	Lectures: 3	Student research: 0

Teaching methodology

Part of teaching is done in the computer classroom using appropriate software. Student is required to complete a seminar paper.

Grading method (maximal number of points 100)

Seminar paper 60, Oral exam 40