Course Unit Descriptor

Study Programme: Biotechnology

Course Unit Title: Biotechnological Production Planning

Course Unit Code: M1B2

Name of Lecturer(s): Associate Professor Bojana Bajić, Associate Professor Damjan Vučurović

Type and Level of Studies: Master Academic Degree

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: 7

Prerequisites: None

Course Aims:

Acquisition of scientific and professional knowledge and skills in the field of biotechnological production planning with the aim of applying them when planning and scheduling production in the existing production system or during the development of a new production system.

Learning Outcomes:

Understanding the basic principles of biotechnological production planning, characteristics of production systems, capacity planning, material needs, labor force, equipment, as well as introduction to adequate software tools used for planning, organization and monitoring of biotechnological production.

Syllabus:

Theory

Planning and organization of biotechnological production. Production systems. Location of production systems. Development of biotechnological products and their exchange on the market. Basic concepts and analysis of the production program. Forecasting market needs, determination of production capacity, long-term and short-term plans. Defining the logical sequence of activities in the biotechnological production process together with the time plan, required resources and corresponding costs. Biotechnological production forecasting and aggregate planning. Master production scheduling. Resource demand planning. Biotechnological production capacity planning and inventory planning. Methods of planning and organization of biotechnological production. Implementation of planning and organization of biotechnological production. Planning and organization of biotechnological production using software packages. Planning and organization of production in biotechnology.

Practice

Computer exercises in the field of biotechnological production planning.

Required Reading:

1. Dileep R. Sule: Production planning and Industrial scheduling: Examples, Case studies and Applications, 2nd edition, CRC Press, 2008.
2. Stephen N. Chapman: The fundamentals of production planning and control, Pearson/Prentice Hall, 2006.

Weekly Contact Hours: 6	**Lectures:** 3	**Practical work:** 3

Teaching Methods:

Interactive lectures using video presentations, computer exercises, consultations.

Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	**Final exam**	points
Active class participation		written exam	
Practical work	50	oral exam	50
Preliminary exam(s)			
Seminar(s)			
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			