

## DESCRIPTION OF A STUDY COURSE – SYLLABUS

<b>Title of a course</b>	Systems for managing manufacturing processes				
<b>Head of course</b>	MSc Vesna Krajčí, Lecturer				
<b>Study programme</b>	Specialist professional graduate study of Information Technology in Business Systems				
<b>Status of a course</b>	Obligatory				
<b>Year of study</b>	1.	Semester	I	ECTS credits	4
<b>Teaching plan (L + E + S+ Pr)</b>	1+2+0+0				
<b>Goals of a course</b>					
Acquisition of specific competences in the field of planning of production process management systems and application of new technologies in modern production systems and services. Within general competences develop the ability to analyze and synthesize, work independently and work in small groups (team work) and present the achieved results.					
<b>Conditions for enrolling course</b>					
No conditions					
<b>Learning outcomes on a level of a study programme which includes course</b>					
Outcome 6: Apply appropriate tools in the implementation of information and communication systems. Outcome 10: Explain the basic concepts of computer-controlled complex, process and production systems. Outcome 15: Analyse and recommend the use of IT tools within a business organization. Outcome 17: Present development and software solutions within a business organization. Outcome 18: Present ICT solutions in a business organization.					
<b>Expected learning outcomes on a level of a course</b>					
1. Analyse different types of production, production systems layouts and their balancing. 2. Plan a production system and production projects using a structural matrix and network diagrams. 3. Explain the hierarchy of complex production systems and SCADA systems, as well as computer integrated production. 4. Apply new technologies in modern production systems and services. 5. Select the appropriate automation and communication system in the production process.					
<b>Content of a course</b>					
Classification of manufacturing processes. Terms such as process and business systems. Hierarchical structuring of levels of management and business functions in relation to current normative recommendations. A model of hierarchical structure of organizational units and equipment of manufacturing and business processes. A basic definition of process at certain functional levels. Information technologies as support for process management. Basic settings of a model of objectively based components. SCADA systems. Systems of advanced management.					
<b>Teaching modes</b>	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> auditory exercises <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> distance learning <input type="checkbox"/> field classes		<input checked="" type="checkbox"/> individual assignments <input type="checkbox"/> multimedia and network <input type="checkbox"/> laboratory <input type="checkbox"/> supervisor's work <input type="checkbox"/> other _____		
<b>Comments</b>					
<b>Students' obligations</b>					
<b>Grading, evaluation and monitoring of students' work continuously during lectures and exams</b>					
Grading is based upon evaluation of course's learning outcomes' adoption. Grading is performed continuously during lectures and/or during exam, in compliance with the provisions of Regulation on the assessment of					

students.

#### Continuous check-up:

Outcomes	Pre-exam I	Pre-exam 2	Project task	Threshold	Max
Outcome 1	16 %	-	4 %	10 %	20 %
Outcome 2	16 %	-	4 %	10 %	20 %
Outcome 3	-	16 %	4 %	10 %	20 %
Outcome 4	-	16 %	4 %	10 %	20 %
Outcome 5	-	16 %	4 %	10 %	20 %
Percentage of ECTS	1.28	1.92	0.8	-	-
Total	32 %	48 %	20 %	50 %	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

#### Exam term:

Outcomes	Written exam	Oral exam	Max
Outcome 1	16 %	4 %	20 %
Outcome 2	16 %	4 %	20 %
Outcome 3	16 %	4 %	20 %
Outcome 4	16 %	4 %	20 %
Outcome 5	16 %	4 %	20 %
Percentage of ECTS	3.2	0.8	-
Total	80 %	20 %	100 %

A student has passed the exam if he has acquired a percentage of credits for each learning outcome higher or equal to defined threshold.

#### Grading:

A student has passed the exam if he has acquired at least 50% of anticipated credits of a specific learning outcome.

If a student has passed learning outcomes of all courses, the accomplished credits (percentages) of all passed learning outcomes are being added, while the final grade is defined upon following table:

Range of credits (percentages)	Numerical grade	ECTS grade
90,00 – 100,00	Excellent (5)	A
75,00 – 89,99	Very good (4)	B
60,00 – 74,99	Good (3)	C
50,00 – 59,99	Sufficient (2)	D
0,00 – 49,99	Insufficient (1)	F

#### Obligatory literature

1. Bogdan, S.; Petrović, T.: Projektiranje proizvodnih sustava, Fakultet elektrotehnike i računarstva, Zagreb, 2012.
2. Mikac, T.; Blažević, D.: Planiranje i upravljanje proizvodnjom, Tehnički fakultet, Rijeka, 2007.
3. Kovačić, Z.; Bogdan, S.; Krajić, V.: Osnove robotike, Graphis, Zagreb, 2002.

#### Additional literature

1. Majdandžić, N.: Upravljanje proizvodnjom, Strojarski fakultet, Slavonski Brod, 2001.
2. Perić, N.; Petrović, I.; Vašak, M.: Procesna automatizacija, Fakultet elektrotehnike i računarstva, Zagreb, 2013.



