SYLLABUS

1. Course title:

Flexible manufacturing system

2. Code:

(max. 20 characters)

3. Cycle of study:

1

4. ECTS credits:

5

5. Type of course:

(●) Mandatory ( ) Elective

6. Prerequisites:

(max. 110 characters)

7. Class restrictions:

None

8. Duration / semester:

1 8

9. Weekly contact hours:

9.1. Lectures: 3

9.2. Seminars: 0

9.3. Laboratory/Practice classes: 1

10. Faculty:

Faculty of Mechanical Engineering Tuzla

11. Department/study program:

Mehtronics

12. Lecturer:

dr. sc. Edin Cerjaković, doc.

13. Lecturer's e-mail:

edin.cerjakovic@untz.ba

14. Web site:

www.mf.untz.ba

15. Course aims:

The main goal of this course is to show students and understanding of all aspects of the realization of the production process with both macro and micro levels in order to gain a realistic picture of integrated production process. Students will be presented to the continuous improvement of all elements of the production process and production processes, and will acquire the necessary knowledge to determine the structure, process and design of flexible manufacturing systems, and methods of modeling and simulation of production systems, and the advantages and disadvantages of their use.

16. Learning outcomes:

Students will successfully coursework of exams have competence to: determine the parameters of production, projected production organization, depending on the input parameters, controls the production, technology, preparation of production, carry out technical preparation of production, the application of group technology, application methods of lean production, designed, managed and analyzed material flow, choose the method of modeling and simulation of production.

17. Course content:

Theory of manufaturing systems (3)
Types of manufaturing (3)
Manufaturing parameters (3)
Production preparation (3)
Flexible manufacturing systems (3)
Multiple access in forming processing (3)
Lean manufaturing(5)
Types of material flow (3)
Continuous flows of material (6)
Cyclic flows of material (6)
AGV systems (3)
Modeling and simulation of the production system (4)

18. Learning methods:

LECTURES - theoretical lectures with the aim of acquiring theoretical skills supported by usage of multimedia tools and applying of active two-way communication on relation student - professor; AUDITORIAL EXERCISES – solving of practical calculation tasks related to to the subject matter of attached items, supported by of active two-way communication on relation student - assistant; LABORATORY EXERCISES - work in the laboratory and in the field with the aim of acquiring practical skills related to the subject matter of attached items; Preparation and presentation of Seminar paper, Report about solving of practical problem and Reports on laboratory exercises - activities based on solving specific project issues from subjects of studie

19. Assessment methods:

PRE-EXAM REQUIREMENT: Students write two tests from Lecture - theoretical part (after half semester - first test and at the end of the semester - second test) and two tests from the auditorial exercises (after half semester - first test and at the end of the semester - second test). Tests include previously treated topics within lectures and auditorial exercises. Theories tests are consist from of multiple choice tasks, tasks of simple recollection or essay tasks, where each correct answer is scored with 1 point, ie., the student can collect up to 8 points per test - 16 points for two tests. Tests from auditorial exercises are consist from calculation tasks, where each correct solution is scored with 1 point, ie., the student can collect up to 5 points per test - 10 points for two tests. All the tests are taken by all students in the course at the same time thereby achieving uniformity of the level of knowledge that is being tested, as well as the conditions under the which a students takes the exam.
As part of the pre-exam requirement, students are required to prepare an individual seminar paper and Report about solving of practical problem that will cover a specific topic from the content of the subject. The same must be submitted in writing to the subject teacher for review, evaluation and presentation. For the Seminar paper, respectively, Report about solving of practical problem the student can collect a maximum of 5 points for each obligation. Students prepare, submit and presents a Report from laboratory exercises for which they can collect a maximum of 4 points.
For a continuous activity on lectures and exercises throughout the semester, the student can collect 15 points in lectures, 7,5 points at auditorial exercises, and 7,5 points at laboratory exercises.
The exam is oral. The right to access to the exam have a students who have fulfilled all the pre-exam requirement with more than 50% success, and were present in more than 70% of lectures and exercises. At the oral examination the student answers on five questions from the program of the subject treated in lectures and exercises. An oral exam can be passed if the student answers to all questions. The maximum number of points that student can achieve at the oral exam is 30 points. Checks on all forms of knowledge are recognized as a cumulative exam. In order to pass the course student must achieve a minimum of 54 cumulative points.

20. Assessment components:

The requirement for a signature in Index - presence in 70% of the lectures. The rating is based on the total number of points which student earned by completing pre-exam requirements and on exam. The maximum number of points are 100. Points are collected by fulfilling the obligations according to the following scale: attendance to the lecture (7,5 points), tests from theory (2 tests × 7,5 points), Seminar paper (10 points), a attendance to the Laboratory Exercise (5 points), Calculation tasks tests (2 tests ×7,5 points), Report about solving of practical problem (12,5 points), Exam (35 points)

GRADING SYSTEM:

from 0 to 53 points - grade: 5 (five)
from 54 to 63 points - grade: 6 (six)
from 64 to 73 points - grade: 7 (seven)
from 74 to 83 points - grade: 8 (eight)
from 84 to 93 points - grade: 9 (nine)
from 94 to 100 points - grade: 10 (ten)

21. Required reading list:

1. Dž. Tufekčić, M. Jurković (1999): Fleksibilni proizvodni sistemi, Mašinski fakultet, Tuzla
2. R. Šelo, Dž. Tufekčić (2002): Fleksibilni transport, Mašinski fakultet, Tuzla
3. F. Kekez (2002): Proizvodni sustavi, Slavonski Brod

22. Web sources:

http://ptp.fsb.hr

23. Applicable starting from the academic year:

2015/2016.

24. Adopted in the Faculty/Academy session:

03.06.2015.