SYLLABUS

1. Course title:

Production Technologies

2. Code:

3. Cycle of study:

1

4. ECTS credits:

5

5. Type of course:

(●) Mandatory ( ) Elective

6. Prerequisites:

7. Class restrictions:

8. Duration / semester:

1 V

9. Weekly contact hours:

9.1. Lectures: 3

9.2. Seminars: 1

9.3. Laboratory/Practice classes: 0

10. Faculty:

Faculty of mechanical engineering

11. Department/study program:

Mechatronics

12. Lecturer:

Prof.Ph.D Muhamed Mehmedović

13. Lecturer's e-mail:

muhamed.mehmedovic@untz.ba

14. Web site:

http://mf.untz.ba/

15. Course aims:

The basis aims of this course realization are:
to introduce students with production technology definition and its importance as well as production technologies classifications,
to introduce students with fundamentals of some mostly used of production technologies from our industrial environment,
to introduce students with principles and ways of some mostly used of production technologies functioning as well as techniques of their modeling and optimization,
to introduce students with principles of CNC machines control and programming as the object for production technologies realization, as well as with possibilities of improving of their using by CAD/CAM systems application.

16. Learning outcomes:

At the end of this course, the students should be able to:
Identify inputs variables and outputs for : material removal technology, metal forming and sheet metalworking technology and welding technology.
Investigate intensity and nature of influences of inputs variables to the output, define mathematical model of output as a function of inputs variables of analyzed process.
Understand of CNC machines elements as well as logic of CNC machines programming.
Create feedback control system of analyzed process with the goal of process regulation and control.
Determine of the optimum of solutions and to make optimal of process control.

17. Course content:

Introduce, Technology definition, Criteria of technologies classifications,
Fundamentals of material removal technology,
Material removal technologies classification and fundamentals of the most used of machining processes,
Fundamentals of metal forming and sheet metalworking processes,
Metal forming and sheet metalworking technologies classification and fundamentals of the most used of plastic deformation processes,
Fundamentals of welding technology,
Welding technologies classification and fundamentals of the most used of welding processes,
Computer numerical control (CNC) Machines,
CNC machines programming,
CNC machines programming by CAD/CAM Systems application,
Experimental methods of investigation of production processes ,
Experimental and analytic methods of production processes modeling,
Production technologies control and regulation.

18. Learning methods:

The following methods are planned for successful learning:

- Lectures with the use of multimedia equipment and learning technique with active participation and student discussions,
- Laboratory exercises,
- Graphic papers preparation and working

19. Assessment methods:

Activities during lectures realization and exercises realization,
Semester's paper/homework,
Partially exams during lectures realization,
Final exam at the end of course,
Remedial exams.

Above mentioned assessments are taken into account as a cumulative exam only if the result is positive after each partial exam, and if its portion is more then 50% of the total of required knowledge and skills of this activities. The exam is successful finished if student has minimum 54% of cumulative points.

20. Assessment components:

Obligations of the student	Points
Presence and activities during course	5
Graphic papers	10
Tests from the theory	20
Tests from the exercises	20
Final examination	45

21. Required reading list:

Ekinović S. : „Material removal processes“, Faculty of Mechanical Engineering in Zenica, 2003.
G.Meden, A. Pavelić, D. Pavletić, : Basics of Welding processes, Technical Faculty, Rijeka, 2000.
H.Đukić, P.Popović: " Metal forming and Sheet metalworking processes", Faculty of Mechanical Engineering, Mostar.

22. Web sources:

23. Applicable starting from the academic year:

2015/16

24. Adopted in the Faculty/Academy session: