SYLLABUS

1. Course title:

Metal removal process II

2. Code:

3. Cycle of study:

I

4. ECTS credits:

5

5. Type of course:

Mandatory

6. Prerequisites:

7. Class restrictions:

8. Duration / semester(s):

1 | VI

9. Weekly contact hours and student workload:

				(for two-semester courses)	Workload: (hours)	
Semester (1)	VI	Semester (2)				
9.1. Lectures	3				Classes:	45
9.2. Seminars	0				Individual work:	101,9
9.3. Laboratory / Practice classes	1				In total:	146,9

10. Faculty:

Faculty of mechanical engineering

11. Department/study program:

Production mechanical engineering

12. Lecturer:

Ph.D Muhamed Mehmedović, associate prof.

13. Course aims:

The basis aims of this course realization are:
to introduce students with importance of experimental investigations of machining processes,
to introduce students with basic methodologies of modeling and optimization of machines processes,

to introduce students with conventional machining processes,
to introduce students with non conventional machining processes,
to introduce students with advanced machining processes,
to introduce student with possibilities of machining processes application for manufacturing of complexity geometrical shapes for wide range different materials.

14. Learning outcomes:

At the end of this course, the students should be able to:
Understand importance an possibilities of experimental investigations from the aspects of modeling and optimization analyzed machining process,
Understand importance an possibilities of machining technologies application from the aspects of industrial requirements,
Understand of conventional as well as non conventional machining processes,
Choose of the appropriate machining technology as well as make plan of machining for the desired product,
Make analysis of machining processes with the goal of their improving.

15. Course content:

1. Structural elements of experiment, types of experiments and experimental designs,
2. Analytical, experimental and experimental -analytical methods of modeling and optimization machining processes,
3. Classifications of metal removal processes (machining processes),
4. Turning operations, definition, process, types,
5. Planing operations, definition, process, types,
6. Drilling and and associated machining operations, definition, process, types,
7. Test 1, Milling operations, definition, process, types,
8. Broaching machining processes,
9. Saw machining processes,
10.Grinding operations associated machining operations, definition, process, types,
11.Other abrasive machining processes,
12.Nontraditional machining, Mechanical machining processes,
13.Thermal machining processes,
14. Electromechanical and Chemical machining,
15.Test 2

16. 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

17. 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.

Grading system: (5) + (10) + (40) + (45) = (100) points

Grade	Descriptive	Verbal	For the number of points achieved
5 (five)	"does not satisfy"	"F"	0-53 points
6 (six)	"sufficient"	"E"	54-63 points
7 (seven)	"good"	"D"	64-73 points
8 (eight)	"excellent"	"C"	74-83 points
9 (nine)	"outstanding"	"B"	84-93 points
10 (ten)	"excellent"	"A"	94-100 points

18. 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

19. Mandatory reading list:

Ekinović S. : „Material removal processes“, Faculty of Mechanical Engineering in Zenica, 2003.

20. Additional reading list:

Cukor G.: „Calculations in to metal removal processes“, Technical faculty Rijeka, Croation, 2006.

21. Web sources:

22. Applicable from the academic year:

2025/26

23. Adopted in the Faculty/Academy session:

29.04.2025