



FSR

FAKULTET STROJARSTVA
I RAČUNARSTVA
SVEUČILIŠTA U MOSTARU

CURRICULUM

UNDERGRADUATE STUDY PROGRAM OF MECHANICAL ENGINEERING



FACULTY OF MECHANICAL ENGINEERING AND COMPUTING

Students at the Faculty of Mechanical engineering and computing University of Mostar are educated, within university and professional studies, in the fields of:

mechanical engineering and
computing

In the third semester students of mechanical engineering choose one of the following majors:

Production engineering
Construction design
Industrial engineering and
Mechatronics

Degree:

Mechanical engineering: Bachelor of mechanical engineering
Master of mechanical engineering

Computing: Bachelor of computing
Master of computing **Duration:**

Mechanical engineering: 3+2 (bachelor and master study)

Computing: 3+2 (bachelor and master study)

Status of study: Full time study **Entry
requirements:**

Undergraduate study: General college entrance requirements with additional qualifications in Mathematics and Physics only for computing study.

Graduate study: successfully finish undergraduate study – 180 ECTS for mechanical engineering and 180 for computing

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Undergraduate study of Mechanical Engineering

I. SEMESTER

Code	Course	P+V	Exam	ECTS
SO001	Mathematics I	3+3	1	8
SO002	Mehanika I	3+3	1	7
SO003	Physic	3+3	1	6
SO004	Technology and Society	2+0	1	4
SO005	Engineering graphics and CAD	2+3	1	4
SO006	Physical Education	0+2	0	1
Total:		27	5	30

II. SEMESTER

Code	Course	P+V	Exam	ECTS
SO007	Matematics II	3+3	1	8
SO008	Computer Aided Design	1+2	1	5
SO009	Material Science	2+2	1	5
SO010	Mechanics II	3+2	1	7
SO011	Basic of management	2+1	1	4
SO012	Physical Education	0+2	0	1
Total:		22	5	30

III. SEMESTER

Code	Course	P+V	Exam	ECTS
SO013	Matematics III	2+2	1	5
SO014	Material Science II	2+2	1	6
SO015	Design elements I	3+2	1	6
SO016	Strength of materials	3+2	1	6
SO017	Basic of thermodynamics	3+3	1	5
SO018	Technical English I	1+1	0	2
Total:		26	5	30

IV. SEMESTER

Code	Course	P+V	Exam	ECTS
SO019	Technology I	3+2	1	6
SO020	Electrical Engineering	2+2	1	5
SO021	Fluid Mechanics	2+2	1	5
SO022	Design elements II	2+2	1	6
SO023	Technology II	3+2	1	6
SO024	Technical English II	1+1	0	2
Total:		24	5	30

Major: Production engineering

V. SEMESTER

Code	Course	P+V	Exam	ECTS
SO025	Optimization and economics of production	2+2	1	4
SO026	Theory and technique of measurements	2+2	1	6
SO027	Metal forming processes	2+2	1	6
SO028	Welding and Assembling	3+2	1	6
SO029	Material removal processes	2+2	1	6
SO030	Technical English II	1+1	0	2
Total:		23	5	30

VI. SEMESTER

Code	Course	P+V	Exam	ECTS
SO031	Machine Tools	2+2	1	4
SO032	Automation of production systems	3+2	1	5
	Elective non-technical course	2+2	1	4
	Elective technical course	2+2	1	4
SO033	Industrial skills*	0+6	0	3
SO034	Final project	0+6	1	10
Total:		29	5	30

*duration of industrial skills is 182 hours in fabric

Major: Design Construction

V. SEMESTER

Code	Course	P+V	Exam	ECTS
SO035	Computer Aided Design CAD	2+2	1	4
SO036	Vibration of mechanical constructions	2+2	1	5
SO037	Mechanisms Design	2+2	1	5
SO038	Čvrstoća konstrukcija	2+2	1	4
SO039	Pneumatics and Hidraulics	2+2	1	6
	Elective technical course I	2+2	1	4
SO030	Technical English III	1+1	0	2
Total:		26	6	30

VI. SEMESTER

Code	Course	P+V	Exam	ECTS
SO040	Methodic Design	2+2	1	5
SO041	Programming and algorithms	2+2	1	4
SO042	Lifting and Conveying Machinery	2+2	1	4
	Elective technical course II	2+2	1	4
SO033	Industrial skills**	0+6	0	3
SO034	Final project	0+6	1	10
Total:		24	5	30

** duration of industrial skills is 182 hours in fabric

Major: Industrial Engineering and Management

V. SEMESTER

Code	Course	P+V	Exam	ECTS
SO025	Organization and Economic of production	2 + 2	1	4
SO043	Introduction to Information Systems	2 + 2	1	6
SO044	Machining device and systems	2 + 2	1	6
SO045	Fundamentals of designing	2 + 2	1	6
	Elective technical course I	2 + 2	1	4
	Elective non-technical course I	2 + 2	1	4
Total:		24	6	30

VI. SEMESTER

Code	Course	P+V	Exam	ECTS
SO046	Management	2 + 2	1	4
SO047	Manufacturing system planning	2 + 3	*	5
SO048	Maintenance	2 + 1	*	4
	Elective technical course II	3 + 2	1	4
SO033	Industrial skills**	0 + 6	0	3
SO034	Final project	0 + 5	1	10
Total:		28	3	30

* continous

**duration of industrial skills is 182 hours in fabric

Major: Mechatronics

V. SEMESTER

Code	Course	P+V	Exam	ECTS
SO035	Computer Aided Design CAD	2+2	1	4
SO049	Sensors	2+2	1	5
SO039	Pneumatics and Hidraulics	2+2	1	6
SO050	Production processes, machinery and equipment	2+2	1	6
SO051	Kinematics and dynamics of mechanisms	2+2	1	5
SO030	Technical English III	1+1	0	2
Total:		22	5	30

VI. SEMESTER

Code	Course	P+V	Exam	ECTS
SO052	Automatic control	2+3	1	5
	Elective technical course I	2+2	1	4
	Elective technical course II	2+2	1	4
	Elective non-technical course	2+2	1	4
SO033	Industrial skills**	0+6	0	3
SO034	Final project	0+6	1	10
Total:		29	5	30

** duration of industrial skills is 182 hours in fabric

Elective course

Elective courses at Mechanical Engineering Faculty are divided into following groups:

- Elective technical courses
- Elective non-technical courses

Elective technical courses

Elective technical courses can occur in two forms, which are presented in Tables 1 and 2.

Table 1. Students can choose elective technical course from other majors that are momentary in the semester

Code	Course	P+V	Sem.	ECTS
PI01	Metal forming processes	2+2	5	4
PI02	Welding and Assembling	2+2	5	4
PI03	Machining Processes	2+2	5	4
DK01	Vibration diagnosis machines and constructions	2+2	5	4
DK02	Strength of construction	2+2	5	4
DK03	Methodic Design	2+2	6	4
IIM01	Organization and Economic of production	2+2	5	4
IIM02	Introduction to Information Systems	2+2	5	4
IIM03	Management	2+2	6	4
IIM04	Manufacturing system planning	2+3	5	4
ME01	Sensors	2+2	5	4
ME02	Pneumatics and Hidraulics	2+2	5	4
ME03	Automatic control	2+2	6	4

Table 2. Students can choose elective technical course not included in Table 1.

Code	Course	P+V	Sem.	ECTS
PI04	Water technology	2+2	5 or 6	4
PI05	New molding methods	2+2	5 or 6	4
DK04	Safety in the transport and handling of hazardous substances	2+2	5 or 6	4
DK05	Fatigue strenght	2+2	5 or 6	4
DK06	Basic of vibrations diagnostics	2+2	6	4
DK07	Ecodesign	2+2	6	4
IIM05	Quality management	2+2	5 or 6	
ME04	Automotive mechatronic systems	2+2	5 or 6	4

Elective non-technical courses

Students choose elective non-technical courses from Table 3. But also they can choose any other course from other facultyes in agremeent with mentor and respective teacher.

Table 3. Students choose non-technical courses from list

Code	Course	P+V	Sem.	ECTS
SI37	IT and entrepreneurship	2+1	5 ili 6	4
SI38	Communications skills in organization	2+1	5 ili 6	4
SI39	Technological Development and European Integration I	2+1	5 ili 6	4
SI40	Technological Development and European Integration II	2+1	5 ili 6	4
SI41	German	2+1	5 ili 6	4