

STUDY PROGRAMME CURRICULUM

MECHANICAL ENGINEERING - RESEARCH AND DEVELOPMENT PROGRAMME

Name of study programme	Mechanical engineering - research and development programme
Programme characteristics	
Type	academic
Cycle	bachelor
University of Ljubljana members	• Faculty of Mechanical Engineering, Aškerčeva 6, 1000 Ljubljana, Slovenija

Year 1

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0562738	Calculus and ordinary differential equations	Aljoša Peperko, Darja Rupnik Poklukar, Janez Žerovnik	75		60			90	225	9	1st semester	no
2.	0562739	Physics	Rok Petkovšek	45		30			75	150	6	1st semester	no
3.	0562740	MEASUREMENTS IN MECHANICAL ENGINEERING	Gregor Bobovnik, Jože Kutin	30		30			65	125	5	1st semester	no
4.	0562741	Statics and kinematics	Gregor Čepon, Miha Boltežar	45		30			50	125	5	1st semester	no
5.	0577579	Technical drawing and computer aided modelling of geometry	Damijan Zorko, Nikola Vukašinović, Robert Kunc, Samo Zupan	45		30			50	125	5	1st semester	no
6.	0562743	Linear algebra and vector analysis	Aljoša Peperko,	60		45			70	175	7	2nd semester	no

			Darja Rupnik Poklukar, Janez Žerovnik										
7.	0562744	Strength of materials	Miha Brojan	30		30			40	100	4	2nd semester	no
8.	0562745	Non-metallic materials - RRP	Lidija Slemenik Perše	45		30			50	125	5	2nd semester	no
9.	0562746	Thermodynamics	Božidar Šarler, Matjaž Perpar	45		30			75	150	6	2nd semester	no
10.	0577584	METALS - RRP	Roman Šturm	30		30			40	100	4	2nd semester	no
11.	0562748	ELECTRICAL ENGINEERING	Marjan Jenko	30		30			40	100	4	2nd semester	no
Total				480	0	375	0	0	645	1500	60		

Year 2

				Contact hours									
University Course Code	Course title	Lecturers		Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study	Individual student work	Total hours	ECTS	Semesters	Elective
1.	0562749	Integral transformations and Fourier analysis	Aljoša Peperko, Boštjan Gabrovšek, Darja Rupnik Poklukar, Janez Žerovnik	45		45			60	150	6	1st semester	no
2.	0562750	Rigid body dynamics	Janko Slavič, Miha Boltežar	45		30			75	150	6	1st semester	no
3.	0562751	Fluid statics and dynamics	Božidar Šarler	45		30			50	125	5	1st semester	no
4.	0601059	Numerical methods	Janko Slavič	45		30			50	125	5	1st semester	no
5.	0562753	MACHINE ELEMENTS 1 - RRP	Jernej Klemenc, Marko Nagode	45		30			50	125	5	1st semester	no
6.	0545374	Discipline related electives1		15		15			45	75	3	1st semester	yes

7.	0577592	Partial differential equations, complex analysis and optimization	Aljoša Peperko, Boštjan Gabrovšek, Darja Rupnik Poklukar, Janez Žerovnik	45		45			35	125	5	2nd semester	no
8.	0562756	MACHINE ELEMENTS 2 - RRP	Jernej Klemenc, Marko Nagode	30		30			40	100	4	2nd semester	no
9.	0562757	Production technologies 1	Franci Pušavec, Tomaž Pepelnjak	45		30			50	125	5	2nd semester	no
10.	0562758	Heat transfer	Iztok Golobič	45		30			50	125	5	2nd semester	no
11.	0577596	CONTROL TECHNOLOGY	Drago Bračun, Janez Diaci	30		30			40	100	4	2nd semester	no
12.	0545375	Discipline related electives2		15		15			45	75	3	2nd semester	yes
13.	0562761	Engineerig Design Methodology - RRP	Janez Benedičič, Nikola Vukašinić	30		30			40	100	4	2nd semester	no
Total				480	0	390	0	0	630	1500	60		

Year 2, Electives 1

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0545347	Engineering reporting - RRP	Franc Majdič, Miha Brojan, Nikola Vukašinić, Rok Vrabič	15		15			45	75	3	1st semester	yes
Total				15	0	15	0	0	45	75	3		

Elective 1 (3 ECTS) is selected by student from any programme, faculty or university. Listed is the subject, offered by FS.

Year 2, Electives 2

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0545355	Innovation in Mechanical Engineering - RRP	Borut Likar	15		15			45	75	3	2nd semester	yes
Total				15	0	15	0	0	45	75	3		

Elective 2 (3 ECTS) is selected by student from any programme, faculty or university. Listed is the subject, offered by FS.

Year 3

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0562764	Numerical modelling methods	Miroslav Halilovič, Nikolaj Mole	30		30			65	125	5	1st semester	no
2.	0562765	Tribology	Mitjan Kalin	30		30			40	100	4	1st semester	no
3.	0562766	MANUFACTURING TECHNOLOGIES 2	Damjan Klobčar, Joško Valentinčič	45		30			50	125	5	1st semester	no
4.	0562767	Hydraulics and Pneumatics - RRP	Franc Majdič, Niko Herakovič	30		30			40	100	4	1st semester	no
5.	0577605	DRIVES	Mitjan Kalin, Tomaž Kutrašnik	30		30			40	100	4	1st semester	no

6.	0562769	ENERGY MACHINES AND APPLIANCES - RRP	Mihael Sekavčnik	30		30			40	100	4	1st semester	no	
7.	0545376	Discipline related electives3		30		30			40	100	4	1st semester	yes	
8.	0545377	Discipline related electives4		30		30			40	100	4	2nd semester	yes	
9.	0577609	Data processing and validation	Edvard Govekar	30		30			40	100	4	2nd semester	no	
10.	0577610	MECHATRONICS AND LASER TECHNOLOGIES	Janez Diaci, Matija Jezeršek	45		30			50	125	5	2nd semester	no	
11.	0545378	Discipline related electives5		15		15			45	75	3	2nd semester	yes	
12.	0545379	Discipline related electives6		30		15			55	100	4	2nd semester	yes	
13.	0562776	FINAL THESIS	Vsi nosilci v programu			35			70	145	250	10	2nd semester	no
Total				375	35	330	0	70	690	1500	60			

Year 3, Electives 3

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0562777	High-end computing tools	Janez Povh, Leon Kos	30		30			40	100	4	1st semester	yes
Total				30	0	30	0	0	40	100	4		

Elective 3 (4 ECTS) is selected by student from any programme, faculty or university. Listed is the subject, offered by FS.

Year 3, electives 4

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					

1.	0562778	PRODUCTION ENGINEERING	Janez Kušar, Niko Herakovič	30		30			40	100	4	2nd semester	yes
Total				30	0	30	0	0	40	100	4		

Elective 4 (4 ECTS) is selected by student from any programme, faculty or university. Listed is the subject, offered by FS.

Year 3, Electives 5

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0545370	Interdisciplinary project - RRP	Božidar Šarler, Edvard Govekar, Franci Pušavec, Iztok Golobič, Janez Diaci, Lidija Slemenik Perše, Marko Nagode, Miha Boltežar, Mihael Sekavčnik, Mitjan Kalin, Niko Herakovič, Nikola Vukašinović, Robert Kunc, Rok Petkovšek, Roman Šturm, Sašo Medved	15		15			45	75	3	2nd semester	yes
Total				15	0	15	0	0	45	75	3		

Elective 5 (3 ECTS) is selected by student from any programme, faculty or university. Listed is the subject, offered by FS.

Year 3, Discipline related electives6

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					

1.	0562780	ENVIRONMENTAL ENGINEERING	Iztok Golobič, Sašo Medved	30		15			55	100	4	2nd semester	yes
Total				30	0	15	0	0	55	100	4		

Elective 6 (4 ECTS) is selected by student from any programme, faculty or university. Listed is the subject, offered by FS.