



SVEUČILIŠTE U ZAGREBU
METALURŠKI FAKULTET

UNIVERSITY OF ZAGREB
FACULTY OF METALLURGY

„NEW REVISED“ STUDY PROGRAM
STARTING WITH THE ACADEMIC YEAR
2017/2018



SVEUČILIŠTE U ZAGREBU
METALURŠKI FAKULTET

UNIVERSITY OF ZAGREB
FACULTY OF METALLURGY

GRADUATE UNIVERSITY STUDY PROGRAM
METALLURGY

Subject oriented field: METALLURGICAL ENGINEERING

FIRST YEAR

I. semester

Course	Hours per week			ECTS
	L	S	E	
Physical metallurgy	3	0	2	5
Industrial furnaces	3	0	2	5
Theory of metal forming	2	2	0	5
Theory of metallurgical processes	2	0	2	5
Non-ferrous metals and their alloys	2	1	1	4
Engineering mathematics	2	0	1	4
Hydrometallurgy	2	0	1	3
	28			31

II. semester

Course	Hours per week			ECTS
	L	S	E	
Metal corrosion and protection	2	0	2	5
Materials characterization	2	0	2	4
Automation and computer control of production processes	2	1	1	4
Theory of metals solidification	2	1	0	4
Heating technology of industrial furnaces	2	0	1	4
Numerical modelling of metallurgical processes	2	0	1	4
Techniques of joining and cutting	2	0	1	4
	24			29

2. YEAR**III. semester**

Course	Hours per week			ECTS
	L	S	E	
Heat treatment and special steels	3	1	1	5
Secondary metallurgy and continuous casting	3	0	1	5
Energy management	2	1	0	4
Casting of ferrous metals	2	0	1	4
Casting of non-ferrous metals	2	0	1	4
Experimental techniques in metallurgy	2	0	1	4
Optimisation of casting forming	2	0	1	4
	24			30

IV. semester

Course	Hours per week			ECTS
	L	S	E	
The best available techniques in metallurgy	3	1	1	5
Shaping of non-ferrous metals and their alloys	2	0	1	4
Surface treatment	2	1	0	3
Master thesis	0	5	0	6
ELECTIVE COURSES (choose three)				
Analysis of casting defects	2	0	1	4
Modern technologies of metal casting	2	0	1	4
Solidification simulation	2	0	1	4
Powder metallurgy and sinter materials	2	0	1	4
Advanced metallic materials	2	0	1	4
Modern tool steels	2	1	0	4
Metal forming machines	2	0	1	4
Roll forming of metals	2	1	0	4
Metal tube and profile forming	2	1	0	4
Nanostructured materials	2	0	1	4
Semicontinuous casting of aluminium alloys	2	0	1	4
	25			30

L – lectures, S – seminar, E – exercises



SVEUČILIŠTE U ZAGREBU
METALURŠKI FAKULTET

UNIVERSITY OF ZAGREB
FACULTY OF METALLURGY

„NEW REVISED“ STUDY PROGRAM
STARTING WITH THE ACADEMIC YEAR
2017/2018



SVEUČILIŠTE U ZAGREBU
METALURŠKI FAKULTET

UNIVERSITY OF ZAGREB
FACULTY OF METALLURGY

GRADUATE UNIVERSITY STUDY PROGRAM
METALLURGY

Subject oriented field: INDUSTRIAL ECOLOGY

FIRST YEAR

I. semester

Course	Hours per week			ECTS
	L	S	E	
Physical metallurgy	3	0	2	5
Industrial furnaces	3	0	2	5
Theory of metal forming	2	2	0	5
Theory of metallurgical processes	2	0	2	5
Non-ferrous metals and their alloys	2	1	1	4
Engineering mathematics	2	0	1	4
Hydrometallurgy	2	0	1	3
	28			31

II. semester

Course	Hours per week			ECTS
	L	S	E	
Metal corrosion and protection	2	0	2	5
Materials characterization	2	0	2	4
Automation and computer control of production processes	2	1	1	4
Theory of metals solidification	2	1	0	4
Heating technology of industrial furnaces	2	0	1	4
Numerical modelling of metallurgical processes	2	0	1	4
Techniques of joining and cutting	2	0	1	4
	24			29

2. YEAR

III. semester

Course	Hours per week			ECTS
	L	S	E	
Heat treatment and special steels	3	1	1	5
Secondary metallurgy and continuous casting	3	0	1	5
Energy management	2	1	0	4
Casting of ferrous metals	2	0	1	4
Casting of non-ferrous metals	2	0	1	4
Experimental techniques in metallurgy	2	0	1	4
Optimisation of casting forming	2	0	1	4
	24			30

IV. semester

Predmet	Sati tjedno			ECTS
	P	S	V	
The best available techniques in metallurgy	3	1	1	5
Corporate social responsibility	2	1	0	4
Surface treatment	2	1	0	3
Master thesis	0	5	0	6
ELECTIVE COURSES (choose three)				
The life cycle of metal products	2	1	0	4
Utilization of metallurgical production remains	2	1	0	4
Renewable energy sources	2	0	1	4
Circular economy	2	1	0	4
Environmental law	2	1	0	4
Low-emission combustion	2	0	1	4
Packaging materials	2	1	0	4
Light pollution	2	1	0	4
	25			30

L – lectures, S – seminar, E – exercises