



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
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FACULTY OF METALLURGY

UNDERGRADUATE UNIVERSITY STUDY
PROGRAM METALLURGY

Orientation: METALLURGICAL ENGINEERING

1. YEAR

I. semester

Course	Hours per week			ECTS
	L	S	E	
Mathematics 1	2	0	3	6
Physics	2	0	3	6
General chemistry	2	1	2	6
Introduction to metallurgy	2	0	0	3
Introduction to industrial ecology	2	0	0	3
Ethics and communication skills	1	1	0	2
English language 1	1	0	1	2
Physical training 1	0	0	2	1
	25			29

II. semester

Course	Hours per week			ECTS
	L	S	E	
Mathematics 2	2	0	3	6
Inorganic chemistry	2	1	2	6
Engineering drawing and computer graphics	2	0	2	5
Mineralogy and ore deposits	2	0	1	4
Fundamentals of electrical engineering	2	0	1	4
Quality management	2	0	1	3
English language 2	1	0	1	2
Physical training 2	0	0	2	1
	27			31

2. YEAR

III. semester

Course	Hours per week			ECTS
	L	S	E	
Physical chemistry	2	1	2	6
Fundamentals of physical metallurgy	2	1	2	6
Fundamentals of metallurgical processes	2	1	2	5
Engineering thermodynamics	2	0	2	5
Engineering mechanics	2	0	2	5
Computer application	2	0	2	4
	27			31

IV. semester

Course	Hours per week			ECTS
	L	S	E	
Metallurgy of iron	2	1	1	5
Metallurgy of non-ferrous metals	2	1	1	5
Fundamentals of heat treatment and welding	2	1	1	5
Chemical analysis techniques	2	0	2	4
Fundamentals of theory of metal forming	2	0	2	4
Machinery elements	2	0	1	3
Computer aided design	1	0	2	3
	26			29

3. YEAR

V. semester

Course	Hours per week			ECTS
	L	S	E	
Metallurgy of steel	3	1	1	6
Heat and mass transfer	3	0	2	5
Fundamentals of metal casting	3	0	1	5
Materials testing	2	0	2	5
Refractory and carbon materials	2	1	1	5
Fuels and combustion	2	0	1	4
Introduction to entrepreneurship	2	1	0	3
	28			33

VI. semestar

Course	Hours per week			ECTS
	L	S	E	
Metal forming technologies	2	1	2	5
Fundamentals of metal solidification	2	1	1	5
Thermodynamics of materials	2	0	1	4
Bachelor thesis	0	5	0	5
Student practice*				4
ELECTIVE COURSES (choose one)				
Computer programming	2	0	1	4
Health and environment	2	1	0	4
Labeling of products and packaging	2	0	1	4
Recycling of electrical and electronic waste	2	0	1	4
Sustainability of foundry processes	2	0	1	4
Waste characterization	2	0	1	4
Rational use of energy	2	0	1	4
Modern procedures of materials processing	2	0	1	4
Introduction to numerical simulations	2	0	1	4
Metallurgy of ferroalloys	2	0	1	4
	20			27

L – lectures, S – seminars, E – exercises

* Student practice – 21 working days or 168 hours



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**UNDERGRADUATE UNIVERSITY STUDY
PROGRAM METALLURGY**

Orientation: INDUSTRIAL ECOLOGY

1. YEAR

I. semester

Course	Hours per week			ECTS
	L	S	E	
Mathematics 1	2	0	3	6
Physics	2	0	3	6
General chemistry	2	1	2	6
Introduction to metallurgy	2	0	0	3
Introduction to industrial ecology	2	0	0	3
Ethics and communication skills	1	1	0	2
English language 1	1	0	1	2
Physical training 1	0	0	2	1
	25			29

II. semester

Course	Hours per week			ECTS
	L	S	E	
Mathematics 2	2	0	3	6
Inorganic chemistry	2	1	2	6
Engineering drawing and computer graphics	2	0	2	5
Mineralogy and ore deposits	2	0	1	4
Ecotoxicology	2	0	1	4
Fundamentals of industrial production	2	1	0	3
English language 2	1	0	1	2
Physical training 2	0	0	2	1
	27			31

2. YEAR

III. semester

Course	Hours per week			ECTS
	L	S	E	
Physical chemistry	2	1	2	6
Fundamentals of physical metallurgy	2	1	2	6
Fundamentals of metallurgical processes	2	1	2	5
Engineering thermodynamics	2	0	2	5
Organic chemistry	2	0	2	4
Computer application	2	0	2	4
	27			30

IV. semester

Course	Hours per week			ECTS
	L	S	E	
Production of iron and steel	3	1	1	6
Metallurgy of non-ferrous metals	2	1	1	5
Hazardous substances in the environment	2	1	1	5
Chemical analysis techniques	2	0	2	4
Air pollution and protection	2	1	0	4
Machinery elements	2	0	1	3
Computer aided design	1	0	2	3
	26			30

3. YEAR

V. semester

Course	Hours per week			ECTS
	L	S	E	
Heat and mass transfer	3	0	2	5
Fundamentals of metal casting	3	0	1	5
Materials testing	2	0	2	5
Sustainable waste management	2	1	1	4
Industrial processes and environment	2	1	0	4
Fuels and combustion	2	0	1	4
Introduction to entrepreneurship	2	1	0	3
	26			30

VI. semester

Course	Hours per week			ECTS
	L	S	E	
Metal forming technologies	2	1	2	5
Water pollution and protection	2	1	0	4
Pollution and protection of soil	2	1	0	4
Materials recycling	2	1	0	4
Bachelor thesis	0	5	0	5
Student practice*				4
ELECTIVE COURSES (choose one)				
Computer programming	2	0	1	4
Health and environment	2	1	0	4
Labeling of products and packaging	2	0	1	4
Recycling of electrical and electronic waste	2	0	1	4
Sustainability of foundry processes	2	0	1	4
Waste characterization	2	0	1	4
Rational use of energy	2	0	1	4
Modern procedures of materials processing	2	0	1	4
Introduction to numerical simulations	2	0	1	4
Metallurgy of ferrous alloys	2	0	1	4
	22			30

L – lectures, S – seminars, E – exercises

* Student practice – 21 working days or 168 hours