

**Valahia University of Târgoviște**  
**Faculty of Materials Engineering and Mechanics**

Domain: **Materials Engineering**  
 Study program: **Materials Science**  
 Duration of studies: **4 years**  
 Education form: **continuous (B.Sc.)**

**MATERIALS SCIENCE (B.Sc.)**

**1<sup>th</sup> YEAR**  
 Semester I

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LMA1BF01	Linear Algebra, Analytic and Differential Geometry	2	2	-	-	E	5
LMA1BF02	Technical Chemistry	2	-	2	-	E	5
LMA1BF03	Descriptive Geometry	2	-	2	-	C	5
LMA1BF04	Programming and Computer's Use	2	-	2	-	C	5
LMA1BD05	Materials Study	2	-	2	-	E	4
LMA1BF06	Physics I	2	1	1	-	E	4
LMA1BC07	English Language 1 /French Language 1	-	2	-	-	C	2
LMA1BC08	Physical Education and Sport 1	-	1	-	-	V(A/R)	3

**1<sup>th</sup> YEAR**  
 Semester II

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LMA1BF09	Mathematical Analysis	2	2	-	-	E	4
LMA1BD10	Mechanics 1	2	1	-	-	E	4
LMA1BF11	Technical Drawing	2	-	1	-	C	4
LMA1BD12	Materials Technology	2	-	1	-	E	4
LMA1BF13	Numerical Methods	2	-	1	-	C	4
LMA1BF14	Computer Programming and Programming Language	2	-	2	-	C	4
LMA1BF15	Physics 2	2	1	1	-	E	4
LMA1BC16	English Language 2 /French Language 2	-	2	-	-	C	2
LMA1BC17	Physical Education and Sport2	-	1	-	-	V(A/R)	3

**Valahia University of Târgoviște**  
**Faculty of Materials Engineering and Mechanics**

**2<sup>nd</sup> YEAR**  
**Semester I**

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LMA2BD20	Mechanics 2	2	2	-	-	E	4
LMA2BD21	Thermotechnics	3	-	1	-	E	4
LMA2BD22	Cristalography	2	-	1	-	E	4
LMA2BD23	Chemistry - Physics	2	-	2	-	C	4
LMA2BD24	Strength of Materials	3	-	1	-	E	4
LMA2BD25	Physical Metallurgy I	2	-	1	-	E	4
LMA2BD26	Fluid Mechanics	2	-	1	-	C	4
LMA2BC27	English Language 3 /French Language 3	-	2	-	-	C	2
LMA2BC28	Physical Education and Sport 3	-	1	-	-	V(A/R)	3

**2<sup>nd</sup> YEAR**  
**Semester II**

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LMA2BD29	Electrotechnics and Electrical Machines	2	1	1	-	C	4
LMA2BD30	Processes Theory at High Temperature	2	1	1	-	E	4
LMA2BF31	Computer Aided Graphics (AUTOCAD)	2	-	2	-	C	5
LMA2BD32	Mechanisms and Machine Tools	2	-	-	2	E	5
LMA2BS33	Corrosion and Anticorrosive Protection of Materials	2	-	2	-	E	4
LMA2BD34	Properties of Materials	2	-	2	-	E	4
LMA2BC35	English Language 4 /French Language 4	-	2	-	-	C	2
LMA2BC36	Physical Education and Sport 4	-	1	-	-	V(A/R)	3
LMA2BD37	Practice Skills					C	2

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**3<sup>rd</sup> YEAR**  
**Semester I**

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LMA3BS40	Structure Theory of Materials	2	2	-	-	C	4
LMA3BD41	Physical Metallurgy II	2	-	1	-	C	4
LMA3BS42	Nanocrystalline Materials	2	-	2	-	E	4
LMA3BD43	Plastic Deformation Methods	2	-	2	-	E	4
LMA3BS44	Analysis Techniques	2	-	1	-	E	3
LMA3BS45	Measurement Technique and Experimental Data Processing	2	-	1	-	C	3
LMA3OD46	Process Heat Basics	2	-	2	-	C	4
LMA3OD47	Fracture of Materials						
LMA3OS48	Magnetic and Resistive Materials	2	-	1	-	C	4
LMA3OS49	Transfer Processes						

**3<sup>rd</sup> YEAR**  
**Semester II**

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LMA3BD50	Alloys Manufacture I	2	-	-	2	E	4
LMA3BD51	Heat Treatment	2	-	1	-	E	4
LMA3BS52	Technology of Hot Plastic Deformation	2	-	1	2	C	4
LMA3BS53	Smart Materials	2	1	-	-	E	4
LMA3BD54	Theoretical Bases of Casting	2	-	2	-	C	4
LMA3BS55	Powder Metallurgy	2	-	2	-	C	4
LMA3BS56	Biomaterials	2	-	1	-	E	4
LMA3BD57	Practice Skills					C	2

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**Faculty of Materials Engineering and Mechanics**

**4<sup>th</sup> YEAR**  
**Semester I**

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LMA4BD61	Alloys Manufacture II	2	-	2	1	E	5
LMA4BS62	Thin Film Technology	2	-	-	2	E	5
LMA4BS63	Equipment Used in Hot Sectors	2	-	1	2	E	5
LMA4BS64	Electrochemical Technology	2	-	2	-	C	5
LMA4BS65	Ceramic Materials	2	-	2	-	E	5
LMA4BS66	Composite Materials	2	-	2	-	C	5

**4<sup>th</sup> YEAR**  
**Semester II**

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LMA4BD67	Modeling and Process Optimization	2	-	2	1	E	4
LMA4BS68	Practice	2 weeks × 30 hours				E	10
LMA4OS69	Amorphous Materials	2	-	2	-	E	3
LMA4OS70	Multifunctional Materials						
LMA4OS71	Selection of Materials	2	-	2	1	C	4
LMA4OS72	Polymeric Materials						
LMA4OS73	Nonmetallic Materials	2	-	2	-	E	3
LMA4OS74	Semiconductor Materials						
LMA4OS75	Industrial furnaces	2	-	2	-	C	3
LMA4OS76	Ecology and Environment Protection						
LMA4OC77	Economy	2	-	2	-	C	3
LMA4OC78	Management and Marketing						

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**Faculty of Materials Engineering and Mechanics**

Domain: **Mechanical Engineering**  
 Study program: **Equipments for Industrial Processes**  
 Duration of studies: **4 years**  
 Education form: **continuous (B.Sc.)**

**EQUIPMENTS FOR INDUSTRIAL PROCESSES (B.Sc.)**

**1<sup>th</sup> YEAR**  
 Semester I

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LME1BF01	Linear Algebra, Analytic and Differential Geometry	2	2	-	-	E	5
LME1BF02	Technical Chemistry	2	-	2	-	E	5
LME1BF03	Descriptive Geometry	2	-	2	-	C	5
LME1BF04	Programming and Computer's Use	2	-	2	-	C	5
LME1BD05	Materials Study	2	-	2	-	E	4
LME1BF06	Physics 1	2	1	1	-	E	4
LME1BC07	English Language 1 /French Language 1	-	2	-	-	C	2
LME1BC08	Physical Education and Sport 1	-	1	-	-	V(A/R)	3

**1<sup>th</sup> YEAR**  
 Semester II

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LME1BF09	Mathematical Analysis	2	2	-	-	E	4
LME1BD10	Mechanics 1	2	1	-	-	E	4
LME1BF11	Technical Drawing	2	-	2	-	C	4
LME1BD12	Materials Technology	2	-	1	-	E	4
LME1BF13	Numerical Methods	2	-	1	-	C	4
LME1BF14	Computer Programming and Programming Language	2	-	1	-	C	4
LME1BF15	Physics 2	2	1	1	-	E	4
LME1BC16	English Language 2 /French Language 2	-	2	-	-	C	2
LME1BC17	Physical Education and Sport2	-	1	-	-	V(A/R)	3

**Valahia University of Târgoviște**  
**Faculty of Materials Engineering and Mechanics**

**2<sup>nd</sup> YEAR**  
**Semester I**

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LME2BD20	Mechanics 2	2	2	-	-	E	4
LME2BD21	Thermotechnics and Thermal Machines	2	-	2	-	E	4
LME2BD22	Fluid Mechanics and Hydraulic Machines	2	-	2	-	E	4
LME2BD23	Tolerances and Dimensional Control	2	-	1	-	C	4
LME2BD24	Strength of Materials 1	2	-	2	-	E	5
LME2BD25	Electrotechnics and Electrical Machines	2	-	1	-	C	4
LME2BF26	Computer Aided Graphics (AUTOCAD)	2	-	2	-	C	3
LME2BC27	English Language 3 /French Language 3	-	2	-	-	C	2
LME2BC28	Physical Education and Sport 3	-	1	-	-	V(A/R)	3

**2<sup>nd</sup> YEAR**  
**Semester II**

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LMA2BD29	Applied Electronics	2	-	2	-	C	4
LMA2BD30	Strength of Materials 2	3	-	2	-	E	5
LMA2BF31	Computer Aided Graphics 2(AUTOCAD)	2	-	2	-	C	4
LMA2BD32	Mechanisms	2	-	2	-	E	5
LMA2BS33	Machine Tools and Cutting Processing	2	-	1	-	E	4
LMA2BD34	Automatics	2	-	2	-	E	4
LMA2BC35	English Language 4 /French Language 4	-	2	-	-	C	2
LMA2BC36	Physical education and sport4	-	1	-	-	V(A/R)	3
LMA2BD37	Practice Skills 1	3 weeks x 30 hours				C	2

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**3<sup>rd</sup> YEAR**  
**Semester I**

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LME3BD40	Machine Elements 1	2	-	1	1	E	5
LME3BD41	Mechanical Vibrations	2	-	2	-	C	4
LME3BD42	Hydraulic and Pneumatic Drives	2	-	1	1	E	5
LME3BS43	Operating Unit 1	2	-	1	1	E	4
LME3BS44	Computer Aided Graphics Design in Mechanical Structure (SOLID WORKS)	2	-	2	-	C	4
LME3BS45	Refrigeration Plant	2	-	1	1	E	4
LME3OS46	Physical-Chemical Process Engineering	2	-	2	-	C	4
LME3OS47	Dimensional Control of Integrated Systems						

**3<sup>rd</sup> YEAR**  
**Semester II**

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LME3BD49	Machine Elements 2	2	-	2	2	E	5
LME3BS50	Operating Unit 2	2	-	1	2	C	4
LME3BS51	Finite Elements Analysis	2	-	2	-	C	4
LME3BS52	Static Process Equipments 1	2	-	2	-	E	5
LME3BS53	Computer Aided Design 1 (CATIA V5)	2	-	2	-	E	5
LME3BS54	Machine for Process Industry 1	2	-	1	1	E	5
LME3BD55	Practice Skills 2	3 weeks x 30 hours				E	2

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**4<sup>th</sup> YEAR**  
**Semester I**

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LME4BS58	Static Process Equipments 2	2	-	1	1	E	4
LME4BS59	Machine for Process Industry 2	2	-	1	1	E	4
LME4BS60	Manufacturing technology and assembly of process equipment	2	-	2	-	E	4
LME4BS61	Technologies and Equipment for Cold Plastic Deformation	2	-	-	2	E	4
LME4BD62	Integrated Systems of Fabrication	2	-	1	1	C	4
LME4BD63	Tribology						
LME4OS64	Equipments for Lift and Transportation	2	-	2	-	C	5
LME4OS65	Computer Aided Design 2 (CATIA V5)						
LME4OS66	Project Management						
LME4OS67	Technical Creativity and Invention	2	1	-	-	C	5

**4<sup>th</sup> YEAR**  
**Semester II**

Code	Course	hours / week				Evaluation E/C/V	ECTS
		Course	Seminar	Applications	Project		
LME4BC69	Management	2	1	-	-	C	2
LME4BC70	Economy	2	1	-	-	C	2
LME4BS71	Maintenance and Reliability of Installations	2	2	-	-	C	3
LME4BS72	Ventilation And Air Conditioning Equipments	2	-	2	-	E	4
LME4BS73	Practice – License Thesis						10
LME4OS74	Computer Aided Engineering						
LME4OS75	Operational Transport For Equipment Process Industry	2	-	2	-	E	3
LME4OS76	Equipment And Facilities to Prevent Environmental Pollution	2	-	2	-	E	3
LME4OS77	Corrosion Protection of Static Process Equipments						
LME4OS78	Units with rotating drum						
LME4OS79	Equipment and Technologies for Packaging	2	-	2	-	E	3