

Transilvania University of Braşov, Romania

Study program: Materials Science

Faculty:	Materials Science and Engineering
Study period:	4 years
Academic year structure:	2 semesters (14 weeks per semester)
Examination sessions (two):	winter session (January/February) summer session (June/July)

Courses per years (C= course; S = seminar; L = laboratory; P = project)

1st Year

No. crt.	Course	Code	1 st Semester					2 nd Semester				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Mathematical Analysis	SMAMA1	3	1			5					
02	Software and Computer Programming	SMPRG1	3		2		6					
03	Materials Science and Engineering I	SMTMAT	2		1		4					
04	Descriptive Geometry	SMGDE1	2	1			4					
05	General Chemistry	SMCGB1	2	1	2		5					
06	Mechanics	SMMEC1	2	1			4					
07	Physics	SMFIZ1						2	1	1		5
08	Linear algebra, Analytical Geometry and Differential Equations	SMALG1						2	2			4
09	Technical Drawing	SMDEST						1		2		3
10	Numerical Methods	SMMEN1						2		1		4
11	Materials Science and Engineering II	SMTEHM						2	1			4
12	Probability Theory and Mathematical Statistics	SMTPSM						1	2			4
13	Communication and Academic writing	SMCSA1						2	1			4
14	English language 1/2	SMLE01/ SMLE02	1	1			2	1	1			2
	French language 1/2	SMLF01/ SMLF02										
	German language 1/2	SMLG01/ SMLG02										
	Spanish language 1/2	SMLS01/ SMLS02										
15	Physical Training 1/2	SMEF01/ SMEF02		1			1		1			1

2nd Year (suspended for 2021-2022)

No. crt.	Course	Code	3 rd Semester					4 th Semester				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Special Mathematics	SMMSP1	2	1			4					
02	Strength of Materials	SMRM01	2	1	1		5					

03	Physical Chemistry	SMCHFZ	2	1	1		5					
04	Fluid Mechanics	SMMEFL	2	1			4					
05	Electrotechnics	SMETH1	2		1		4					
06	Thermotechnics	SMTERM	2		1		3					
07	Applied Informatics	SMINFA	1	2			3					
08	Materials Properties	SMPAM1						2		2		5
09	Microscopy and Image Analysis	SMMICR						2	1	2		5
10	Materials Technology	SMTPM1						2		2		5
11	Machine Parts	SMOMO1						2			1	3
12	Technological Processes in Materials Engineering - Additive Manufacturing	SMFADT						2		1	1	5
13	Basics of Management							2	1			3
	General management											
14	Practical Activity II (90h)	SMPRS2										4
15	English language 3/4	SMLE03/ SMLE04	1	1			2	1	1			2
	French language 3/4	SMLF03/ SMLF04										
	German language 3/4	SMLG03/ SMLG04										
	Spanish language 3/4	SMLS01/ SMLS02										
16	Physical Training 3/4	SMEF03/ SMEF04		1			1		1			1

3rd Year (suspended for 2021-2022)

No. crt.	Course	Code	5 th Semester					6 th Semester					
			C	S	L	P	Cred	C	S	L	P	Cred	
01	Quality Engineering	SMICAL	2	1			5						
02	Technological Processes in Materials Engineering - theoretical and technological bases of alloys melting	SMBEAF	2		1	1	5						
03	Technological Processes in Materials Engineering - theoretical basis of metal casting	SMBTET	2		2		4						
04	Technological Processes in Materials Engineering - theoretical basis of plastic deformation	SMBTDP	2		2		4						
05	Metallic Materials 1	SMMET1	2		2		4						
06	Project Management	SMMPRO	2			2	4						
	Basics of Experimental Research	SMBCEX											
07	Environmental Protection in Industry	SMECOL	2		1		4						
08	Technological Processes in Materials Engineering - the theoretical basis of heat treatment	SMBTTT						2		2			4
09	Materials Analysis and Characterization Techniques	SMTACM						2		1			3
10	Metallic Materials 2	SMMET2						2		1	1		5
11	Ceramic and Polymeric Materials	SMMCRP						2		2			4

12	Materials Engineering Equipment	SMEPPI							2	1	3
	Thermal Equipment and Installations	SMUITM									
13	Basics of Computer Aided Design	SMBPAC							2	2	4
	Electronics and Automation	SMACTA									
14	Production Management	SMMAPR							2	2	4
	Manufacturing Engineering	SMISIS									
15	Practical activity (90h)	SMPRS3									2

4th Year (suspended for 2021-2022)

No. crt.	Course	Code	7 th Semester					8 th Semester				
			C	S	L	P	Cred	C	S	L	P	Cred
01	Nanomaterials and Nanotechnologies	SMNANO	3			1	3					
02	Heat Treatments	SMTTER	3		2	1	5					
03	Surface Corrosion	SMCOROZ	2		2		4					
04	Advanced Materials and Technologies	SMAVMT	2		1	1	5					
05	Amorphous and Nanocrystalline Materials	SMMAMO	2		2		4					
	Smart Materials	SMMINT1										
06	Controlled Media in Materials Engineering	SMMCONT	2		2		4					
	Surface engineering	SMINGSP										
07	Sintered Materials and Products	SMMPSN						2		1	1	5
08	Modelling and Simulation in Materials Science	SMMODP						2		2		3
09	Composite Materials	SMMCOM						2		1	1	4
10	Materials with special applications	SMMPAS						2		2		3
11	Selection and use of Materials	SMALUM						2		1		3
12	Thermochemical Treatments	SMTTCH						2		1	1	4
13	Computer Aided Design and Manufacturing	SMPTAC						2			1	3
14	Practical Activity (60h)	SMPRS4										2
15	Diploma Project Preparation (56h)	SMPPD4										4