

Master's Degree Curriculum

2026 - 2028

Field: Applied Engineering Sciences

Academic year: 2026 - 2027

Study programme: Advanced Bioengineering and Healthcare Materials

Year of study: I

Semester: I

No.	Course code	Course title	Course category	ECTS credits	Hours/week				Total hours		Assessment method
					C	S	L	P/R es	Teaching activities	Individual study	
Compulsory courses (Ob)											
1	B.M.11.SIA.14.I.Ob.1	Fundamentals of Biomaterials Engineering for Healthcare Applications	F	6	2		2		56	94	E
2	B.M.11.SIA.14.I.Ob.2	Engineered Biomaterials for Precision Medicine	F	6	2			2	56	94	E
3	B.M.11.SIA.14.I.Ob.3	Advanced Bioprinting Technologies for Regenerative and Healthcare Materials	S	4	1		2		42	58	V
4	B.M.11.SIA.14.I.Ob.4	Advanced Methods for Characterization of Soft Biomaterials	S	4	1		1	1	42	58	E
5	B.M.11.SIA.14.I.Ob.5	Scientific Research Module I	S	10				12	168	82	C
Statistics:			ECTS / Hours:	30	6	0	5	15	364	386	Ex. 3 V/ C 2
			Number:		4	0	3	3			
Optional courses (Fac)											
6	B.M.11.SIA.14.I.Fac.6	Design and Management of Educational Programmes	C	5	2	1			42	83	E
TOTAL NUMBER OF HOURS		Compulsory courses:			26						
		Elective courses:			0						
		Optional courses:			3						

Rector
Mihnea Cosmin COSTOIU

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Cristina ORBECI

Head of Department
Catalin ZAHARIA

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2026 - 2028

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Semester: II

No.	Course code	Course title	Course category	ECTS credits	Hours/week				Total hours		Assessment method
					C	S	L	P/R es	Teaching activities	Individual study	
Compulsory courses (Ob)											
1	B.M.11.SIA.14.II.Ob.1	Carbon-Based Biomaterials for Bioengineering	S	4	2		1		42	58	E
2	B.M.11.SIA.14.II.Ob.2	Bio-functionalized Scaffolds for Regenerative Medicine	S	4	2		1		42	58	V
3	B.M.11.SIA.14.II.Ob.3	Computational Molecular Modeling of Biological Systems	S	4	1		2		42	58	E
4	B.M.11.SIA.14.II.Ob.4	Protein Engineering	S	4	2		1		42	58	E
5	B.M.11.SIA.14.II.Ob.5	Scientific Research Module II	S	10				12	168	82	V
Elective courses (Op)											
6	B.M.11.SIA.14.II.Op.6	Quality and Safety of Medical Devices	C	4	1		1		28	72	V
7	B.M.11.SIA.14.II.Op.7	Emerging and Sustainable Medical Technologies									
Statistics:			ECTS / Hours:	30	8	0	6	12	364	386	Ex. 3 V/ C 3
			Number:		5	0	5	1			
Optional courses (Fac)											
8	B.M.11.SIA.14.II.Fac.8	Psychopedagogy of Adolescents, Young People and Adults	C	5	2	1			42	83	E
9	B.M.11.SIA.14.II.Fac.9	Counselling and Guidance	C	5	1	2			42	83	E
TOTAL NUMBER OF HOURS		Compulsory courses:			24						
		Elective courses:			2						
		Optional courses:			6						

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					C	S	L	P/R es	Teaching activities	Individual study	
Compulsory courses (Ob)											
1	B.M.11.SIA.14.III.Ob.1	Innovative Technologies in Healthcare Applications	F	5	2		2		56	69	E
2	B.M.11.SIA.14.III.Ob.2	Medical Imaging Analysis and Processing	S	4	1		2		42	58	V
3	B.M.11.SIA.14.III.Ob.3	Tissue Regeneration Engineering with Stem Cells	S	4	2		1		42	58	E
4	B.M.11.SIA.14.III.Ob.4	Machine Learning in Bioengineering	S	5	2			1	42	83	E
5	B.M.11.SIA.14.III.Ob.5	Ethics and Academic Integrity: Social and Professional Responsibility	C	2	1				14	36	V
6	B.M.11.SIA.14.III.Ob.6	Scientific Research Module III	S	10				12	168	82	V
Statistics:			ECTS / Hours:	30	8	0	5	13	364	386	Ex. 3 V/ C 3
			Number:		5	0	3	2			
Optional courses (Fac)											
7	B.M.11.SIA.14.III.Fac.7	Subject Didactics and Development in Specialisation Didactics (Upper Secondary and Post-Secondary Education)	C	5	2	1			42	83	E
8	B.M.11.SIA.14.III.Fac.8	Intercultural Education	C	5	1	2			42	83	E
TOTAL NUMBER OF HOURS		Compulsory courses:			26						
		Elective courses:			0						
		Optional courses:			6						

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					C	S	L	P/R es	Teaching activities	Individual study	
Compulsory courses (Ob)											
1	B.M.11.SIA.14.IV.Ob.1	Scientific Research Module, Research Practice and Dissertation Preparation	S	30				26	364	386	V
Statistics:			ECTS / Hours:	30	0	0	0	26	364	386	Ex. 0 V/ C 1
			Number:		0	0	0	1			
Optional courses (Fac)											
2	B.M.11.SIA.14.IV.Fac.2	Specialised Teaching Practice in Pre-University Education (Upper Secondary and Post-Secondary Education)	C	5					42 hours		V
Examen de absolvire: Nivelul II						5 ECTS					
Promovarea examenului de disertație						10 ECTS					
TOTAL NUMBER OF HOURS			Compulsory courses:		26						
			Elective courses:		0						
			Optional courses:		0						

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