

UNIVERSITY OF ORADEA
FACULTY OF INFORMATICS AND SCIENCES
Cycle's Master Degree
Master's Degree Program: **PHYSICS OF BIOMEDICAL THERAPIES AND EXPLORATIONS**
Fundamental Field: **MATHEMATICS AND NATURAL SCIENCES**
Master's Field: **PHYSICS**
Secondary Master Field:
Master Type:
Duration of studies / no. of credits: **4 semestre/120 credits**
Type of education: **Full-time learning (IF)**

Valid from academic year
2024-2025
Beginning with 1st year of study

CURRICULUM **
Year of study I

Code	Disciplines*	Type	Sem. I [hours / week]				Total of hours / sem.	Type of Exami- nation	Cre- dits	IS [hours / sem.]	Condi- tioning
			C	S	L	P					
	OBLIGATORII IMPUSE										
STII-0660	Medical biophysics	SYD	1	1	1	-	42	Ex	6	108	
STII-0659	Particle accelerators. Generating radiation and radioisotopes	AKD	2	1	-	-	42	Cv	7	133	
STII-0185	Biomaterials	SYD	1	2	-	-	42	Ex	7	133	
STII-0766	Ethics and integrity in scientific research	THD	1	-	-	-	14	Cv	2	36	
	TOTAL		5	4	1	-	140		22	410	
	OBLIGATORII OPȚIONALE										
STII-0144	Radiations physics	AKD	2	2	-	-	56	Ex	8	144	
STII-0820	Interaction of radiation with living systems	AKD	2	2	-	-	56	Ex	8	144	
	TOTAL		2	2	-	-	56		8	144	

Code	Disciplines*	Type	Sem. II [hours / week]				Total of hours / sem.	Type of Exami- nation	Cre- dits	IS [hours / sem.]	Condi- tioning
			C	S	L	P					
	OBLIGATORII IMPUSE										
STII-0172	Lasers. Utility in biology and medicine	SYD	2	2	-	-	56	Ex	8	144	
STII-0174	Radiobiology	AKD	2	1	-	-	42	Cv	7	133	
STII-0662	Physical principles of physiotherapy and complementary therapies	AKD	2	1	1	-	56	Ex	8	144	
STII-0368	Research practical period I	THD	-	-	3	-	42	Cv	7	133	
	TOTAL		6	4	4	-	196		30	554	

Legend: C - Course; S - Seminar; L - Practical (laboratory); P - Project; IS - Individual Study;
THD - Thoroughgoing Disciplines; SYD - Synthesis Disciplines; AKD - Advanced Knowledge Disciplines;
Type of Examination - Verification Form, Ex. - examination; Cv. - Colloquium, Vp. - Continuous Assessment, Pr - Project; A/R- Passed/Failed; Credits - number of ECTS credits; IS - Individual study.

Head of departament ,
Professor Dr. Adina Monica TODERAȘ

RECTOR,
Professor Dr. BUNGĂU Constantin

DEAN,
Professor Dr. MACOCIAN Eugen-Victor

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FACULTY OF INFORMATICS AND SCIENCES
Cycle's Master Degree
 Master's Degree Program: **PHYSICS OF BIOMEDICAL THERAPIES AND EXPLORATIONS**
 Fundamental Field: **MATHEMATICS AND NATURAL SCIENCES**
 Master's Field: **PHYSICS**
 Secondary Master Field:
 Master Type:
 Duration of studies / no. of credits: **4 semestre/120 credits**
 Type of education: **Full-time learning (IF)**

Valid from academic year
 2024-2025
 Beginning with 1st year of study

CURRICULUM **
Year of study II

Code	Disciplines*	Type	Sem. III [hours / week]				Total of hours / sem.	Type of Exami- nation	Cre- dits	IS [hours / sem.]	Condi- tioning
			C	S	L	P					
	OBLIGATORII IMPUSE										
STII-0171	Imagistics and magnetic resonance	AKD	2	1	1	-	56	Ex	8	144	
STII-0663	CT and PET radiology and imaging	AKD	2	-	1	-	42	Ex	7	133	
STII-0664	Radiotherapy	AKD	2	1	-	-	42	Ex	7	133	
STII-0178	Radioactivity and applications to physical and biological processes.	AKD	2	2	-	-	56	Ex	8	144	
	TOTAL		8	4	2	-	196		30	554	

Code	Disciplines*	Type	Sem. IV [hours / week]				Total of hours / sem.	Type of Exami- nation	Cre- dits	IS [hours / sem.]	Condi- tioning
			C	S	L	P					
	OBLIGATORII IMPUSE										
STII-0661	Medical optics	SYD	1	-	1	-	24	Ex	5	101	
STII-0648	Interventional Imaging	THD	2	1	-	-	36	Ex	6	114	
STII-0637	Preparing the dissertation	SYD	-	-	4	-	48	A/R	8	152	
STII-0369	Research practical period II	THD	-	-	2	-	24	Cv	5	101	
	TOTAL		3	1	7	-	132		24	468	
	OBLIGATORII OPȚIONALE										
STII-0180	Quality insurance and radio-diagnosis in radiotherapy	AKD	2	1	-	-	36	Ex	6	114	
STII-0821	Radiation sources and radiological protection	AKD	2	1	-	-	36	Ex	6	114	
	TOTAL		2	1	-	-	36		6	114	

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VIII. DISTRIBUTION OF CREDITS ACCORDING TO COMPETENCES (TABLES NRQHE /ARACIS - Grid 1 *)

No.	Discipline**	Sem.	Number of credits	Professional Competences						Transversal Competences		
				C1	C2	C3	C4	C5	C6	CT1	CT2	CT3
1.	Biofizică medicală	I	6	2	2	1			1			
2.	Acceleratori de particule. Producerea radiațiilor și izotopurilor	I	7	2		1		1	1	1	1	
3.	Biomateriale	I	7	1		2	1		2		1	
4.	Etică și integritate în cercetarea științifică	I	2							2		
5.	Fizica radiațiilor	I	8	2	1	2	1		2			
6.	Interacțiunea radiației cu sistemele vii	I	8	2	1	2	1		2			
7.	Laseri. Utilizare în biologie și medicină	II	8	2	1		2		2	1		
8.	Radiobiologie	II	7	2		2	1		1			1
9.	Principiile fizice ale fizioterapiei și terapiilor complementare	II	8	2	1	1	1	1	2			
10.	Practică de cercetare I	II	7							3	2	2
11.	Imagistică prin rezonanță magnetică	III	8	1	1	2		1	2	1		
12.	Radiologie și imagistică prin CT și PET	III	7	1	1	1	1	1	1		1	
13.	Radioterapie	III	7	2		2		1	1	1		
14.	Trasori radioactivi. Aplicații în studiul proceselor fizice și biologice	III	8	2	1	1	1	1	1			1
15.	Optică medicală	IV	5	1	1	1	1		1			
16.	Imagistică funcțională	IV	6	1	1	1	1	1	1			
17.	Elaborarea disertației	IV	8							3	2	3
18.	Practică de cercetare II	IV	5							2	1	2
19.	Asigurarea calității în radiodiagnostic și radioterapie	IV	6	1	1	1	1		1	1		
20.	Surse de radiații și protecție radiologică	IV	6	1	1	1	1		1	1		

Legendă: C1 ÷ C5 sau C6 - Competențe profesionale; CT1 ÷ CT3 - Competențe transversale

* Se va utiliza Grila 1 (G1) care prezintă variantele: G1L și G1M corepunzătoare ciclurilor de studii de licență și masterat, în conformitate cu Ordinul MECS nr. 5703 / 18.10.2011.

** Se vor trece toate disciplinele din Planul de Învățământ