

UNIVERSITY OF CRAIOVA/ FACULTY OF EXACT SCIENCES/ DEPARTMENT OF PHYSICS

FIELD OF STUDY/ PROGRAMME OF STUDY: PHYSICS/ MEDICAL PHYSICS

LEVEL OF QUALIFICATION: BACHELOR IN PHYSICS

MODE OF STUDY: FULL-TIME STUDIES

LENGTH OF THE PROGRAMME OF STUDY/ TOTAL NUMBER OF ECTS CREDITS: 3 YEARS (6 semesters)/180 CREDITS

CURRICULA – 1st YEAR OF STUDIES

No.	Subject title	Subject type A/B	Subject code	1 st semester					2 nd semester				
				C	S	L/P	Evaluation mode	ECTS credits	C	S	L/P	Evaluation mode	ECTS credits
1	Mathematical analysis	Mandat./fundamental	FC101	4	3	-	Ex	8	-	-	-	-	-
2	Introduction to Mathematical Physics	Mandat./fundamental	FC102	2	2	-	Ex	5	-	-	-	-	-
3	Molecular Physics and Heat	Mandat./fundamental	FC103	4	-	3	Ex	8	-	-	-	-	-
4	Newtonian mechanics	Mandat./fundamental	FC104	4	-	3	Ex	8	-	-	-	-	-
5	Language course I	Mandat./complementary	FC105	1	-	-	Coll	1	-	-	-	-	-
6	Algebra and Geometry	Mandat./fundamental	FC106	-	-	-	-	-	4	2	-	Ex	7
7	Differential Equations in Mathematical Physics	Mandat./complementary	FC107	-	-	-	-	-	2	1	-	Coll	4
8	Electricity and Magnetism	Mandat./fundamental	FC108	-	-	-	-	-	4	-	3	Ex	8
9	Optics	Mandat./fundamental	FC109	-	-	-	-	-	4	-	3	Ex	8
10	General Chemistry	Mandat./complementary	FC110	-	-	-	-	-	2	-	1	Coll	3

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CURRICULA – 2nd YEAR OF STUDIES

No.	Subject title	Subject type A/B	Subject code	1 st semester					2 nd semester				
				C	S	L/ P	Evaluation mode	ECTS credits	C	S	L/ P	Evaluation mode	ECTS credits
1	Electronics	Mandat./fundamental	FC201	2	-	2	Coll	4	-	-	-	-	-
2	Theoretical Mechanics	Mandat./fundamental	FC202	3	3	-	Ex	7	-	-	-	-	-
3	Thermodynamics	Mandat./fundamental	FC203	2	2	-	Ex	5	-	-	-	-	-
4	Electrodynamics	Mandat./fundamental	FC204	4	4	-	Ex	9	-	-	-	-	-
5	Quantum Mechanics I	Mandat./fundamental	FC205	2	2	-	Ex	5	-	-	-	-	-
6	Quantum Mechanics II	Mandat./fundamental	FC206	-	-	-	-	-	2	2	-	Coll	4
7	Statistical Physics	Mandat./fundamental	FC207	-	-	-	-	-	2	2	-	Coll	4
8	Solid physics and semiconductors	Mandat./fundamental	FC208	-	-	-	-	-	4	-	3	Ex	8
9	Physics of the Atom and Molecule	Mandat./fundamental	FC209	-	-	-	-	-	4	-	3	Ex	8
10	Nuclear Physics	Mandat./fundamental	FC210	-	-	-	-	-	2	-	2	Ex	5
11	Practice 2weeks x 40hours=80hours	Mandat./specialty	FM211	-	-	-	-	-	-	-	-	CA	1

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CURRICULA – 3rd YEAR OF STUDIES

No.	Subject title	Subject type A/B	Subject code	1 st semester					2 nd semester				
				C	S	L/P	Evaluation mode	ECTS credits	C	S	L/P	Evaluation mode	ECTS credits
1	Human Anatomy and Physiology	Mandat./specialty	FM301	2	-	2	Ex	5	-	-	-	-	-
2	Biophysics	Mandat./specialty	FM302	2	-	2	Ex	5	-	-	-	-	-
3	Detectors, Dosimetry and Radioprotection	Mandat./specialty	FM303	2	-	2	Coll	4	-	-	-	-	-
4	Classical Description of Field Theories	Mandat./specialty	FM304	3	3	-	Ex	6	-	-	-	-	-
5	Radiology and Medical Imaging	Mandat./specialty	FM305	-	-	-	-	-	2	-	2	Ex	4
6	Biological Processes Numerical and Analogue Modeling	Mandat./specialty	FM306	-	-	-	-	-	3	-	2	Ex	5
7	Practice for elaboration of bachelor thesis 2weeks x 30hours=60hours	Mandat./fundamental	FC307	-	-	-	-	-	-	-	-	CA	1
8	Optional discipline 1*	Opt./ specialty	-	2	2	(2)	Coll	5	-	-	-	-	-
9	Optional discipline 2*	Opt./ specialty	-	2	2	(2)	Coll	5	-	-	-	-	-
10	Optional discipline 3*	Opt./ specialty	-	-	-	-	-	-	2	2	(2)	Coll	5
11	Optional discipline 4*	Opt./ specialty	-	-	-	-	-	-	2	2	(2)	Coll	5
12	Optional discipline 5*	Opt./ specialty	-	-	-	-	-	-	2	2	(2)	Coll	5
13	Optional discipline 6*	Opt./ specialty	-	-	-	-	-	-	2	2	(2)	Coll	5

*The list of available optional disciplines and associated specific practical activities (seminar or laboratory) can be found in the next appendix. For each optional discipline there will be activated at least two distinct subjects from the following appendix.

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APPENDIX – LIST OF OPTIONAL DISCIPLINES

No.	Subject title	Subject code	C	S	L/P	No.	Subject title	Subject code	C	S	L/P
1	Thermodynamics of biological systems	FM308	2	2	-	11	Modern techniques in medical physics	FM318	2	-	2
2	Introduction to mathematical biology	FM309	2	2	-	12	Application of spectroscopy in medicine	FM319	2	-	2
3	Bioelectromagnetism	FM310	2	2	-	13	Acoustics and ultrasonics	FM320	2	-	2
4	Principles of radiation interaction in matter and detection	FM311	2	2	-	14	Automatic Data Analysis	FM321	2	-	2
5	Symmetries in Molecular Systems	FM312	2	2	-	15	Bases of medical optics	FM322	2	-	2
6	Biofluid dynamics	FM313	2	2	-	16	Use of lasers in medicine	FM323	2	-	2
7	Fundamentals of ecography	FM314	2	2	-	17	Phase transitions and solutions. Applications in medicine	FM324	2	-	2
8	Nuclear Magnetic Resonance Theory	FM315	2	2	-	18	Optoelectronic devices with applications in medicine	FM325	2	-	2
9	Elements of mathematical oncology	FM316	2	2	-	19	Bioelectrical signal analysis	FM326	2	-	2
10	Molecular Quantum Mechanics	FM317	2	2	-	20	Physical basis of radiotherapy	FM327	2	-	2

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