CURRICULA

Legend:
C - course (lecture); **L** - practical work (laboratory); **S** – seminar (tuition class work); **A** - assessment ; **E** – exam ; **Chq** – colloquium; **V** – continuous assessment; **ECTS** - European credits; **Ob.xxxx** – compulsory disciplines; **Op.xxxx** - optional disciplines

University of Bucharest (Universitatea din Bucureşti)
Faculty of Physics (Facultatea de Fizică)
Bachelor Study Program – Physics (Domeniul de studii de licenţă- Fizică)
Specialization – Physics [Specializarea (Direcţia de studiu) – Fizică]
Graduation Title – Bachelor in Physics (Titlul absolventului – Licenţiat in Fizică)
Duration of Studies – 3 years (Durata studiilor - 3 ani)
Type of Study – Full-time Study (Forma de învăţământ – zi)

First year 2011-2012

C = course; L = Laboratory; R = Recitation; E = exam; C = tutorial; V = verification; CRD. = Number of transferred credits; Ob.xxxx = mandatory discipline; Op.xxxx = optional discipline; Of.xxxsx= facultative discipline

No	Code	**Mandatory Disciplines**	Semester I C	L/R	V	CRD. Sem I	Semester II C	L/R	V	CRD. Sem.II
1	Ob.101F	Real and Complex Analysis	3	2	E	6	2	3	E	5
2	Ob.102F	Algebra, Geometry, and Differential Equations	3	3	E	6				
3	Ob.103F	Programming Languages	2	2	C	3				
4	Ob.104F	Mechanics	2	2	E	6	2	2	E	5
5	Ob.105F	Molecular Physics	2	2	E	6	2	2	E	5
6	Ob.106F	Electricity and Magnetism					2	3	E	5
7	Ob.107F	Optics					2	2	E	5
8	Ob.108F	Scientific English		2	T*	2		2	V	2
9	Op109F	Optional lecture – Module DI-I	1	1	C	1				
10	Op 110F	Optional lecture – Module DI-II					1	2	C	3
11	Ob.109F	Sport		1	T*			1	V	
Total hours per week *Total Credits*			**28** 4E,1C,2T			***30***	**28,** 6E,1C,2V			***30***

** Admitted/Non-Admitted type test to maintain a well-balanced situation of credits on both semesters, and to comply with the regulations of The Senate of the University of Bucharest.*

Second year 2012-2013

C = course; L = Laboratory; R = Recitation; E = exam; C = tutorial; V = verification; CRD. = Number of transferred credits; Ob.xxxx = compulsory discipline; Op.xxxx = optional discipline; Of.xxxsx= facultative discipline

Nr. Crt.	Cod	**Mandatory Disciplines**	Semester III C	L/R	V	CRD. Sem I	Semester IV C	L/R	V	CRD. Sem.II
1	Ob.201F	Electricity and Magnetism	2	2	E	5				
2	Ob.202F	Analytical Mechanics	2	2	E	5				
3	Ob.203F	Quantum Mechanics					2	2	E	5
4	Ob.204F	Equations of Mathematical Physics					3	2	E	6
5	Ob.205F	Optics	2	2	E	5				
6	Ob.206F	Spectroscopy and Lasers					2	2	E	5
7	Ob.207F	Electronics	2	3	E	6				
8	Ob.208F	Electronic Devices and Electronic Circuits					2	2	E	5
9	Ob.209F	Processing of Physical Data and Numerical Methods	1	2	C	2				
10	Ob.210F	Fundamentals of Atomic Physics	2	2	E	5				
11	Ob.211F	Fundamentals of Nuclear Physics					2	2	E	5
12	Op.212F	Optional lecture – Module DII					1	2	C	2
13	Ob.213F	Scientific English		2	T*	2		2	V	2
14	Ob.214F	Sport		1	T*			1	V	
15	Ob.215F	Research Activity						1		
Total hours per week *Total Credits*			**27** 5E,1C,2T			***30***	**28** 5E, 1C,2V			***30***

** Admitted/Non-Admitted type test to maintain a well-balanced situation of credits on both semesters, and to comply with the regulations of The Senate of the University of Bucharest.*

Third year

C = course; L = laboratory; R = Recitation; E = exam; C = tutorial; V = verification; CRD. = Number of transferred credits; Ob.xxxx = mandatory discipline; Op.xxxx = optional discipline; Of.xxxsx= facultative discipline

Nr. Crt.	Code	**Mandatory and Optional Disciplines**	Semester V C	L/R	V	CRD. Sem I	Semester VI C	L/R	V	CRD. Sem.II
1	Ob.301F	Quantum Mechanics	2	2	E	4				
2	Ob.302F	Electrodynamics and Theory of Relativity	2	2	E	4	2	1	E	4
3	Ob.303F	Atomic and Molecular Physics	2	2	E	5				
4	Ob.304F	Thermodynamics and Statistical Physics	3	2	E	5				
5	Ob.305F	Nuclear and Elementary Particle Physics	2	2	E	5				
6	Ob.306F	Solid State Physics	2	2	E	5				
7	Ob.307F	Special Topics in Theoretical Physics	2	1	E	2				
8	Ob.308F	Plasma Physics					2	2	E	3
9	Op.309F (F, FT)	Optional lecture – Module DIII					2	2	C	4
10	Op.310F	Optional lecture – Module DIII					2	2	C	4
11	Op.311F	Optional lecture – Module DIII					2	2	C	4
12	Op.312F	Optional lecture – Module DIII					2	2	C	4

13	Ob.311F	Work towards diploma completion			5-10 hrs × 4 weeks.	7
Total hrs/ ***Total Number of Credits***			**28** 6E	***30***	**28** 2E, 3C	***30***

*** The Departments of Structure of Matter, Physics of the Earth and Atmosphere, Astrophysics, respectively, Electricity, Solid-State Physics, and Biophysics will submit sets of proposals for optional courses.*

14	Diploma Thesis Examination for Graduation Physics field (3 years)	- Written examination "Fundamentals of Physics" - Oral presentation of Diploma Thesis	5 5

Total ECTS for license 10

DI – First year optional modules

D_{I-I} ..D_{I-II}	**Crt.No.**	**Code**	**Lecture**
D_{I-I}	1 2	Op.109AF Op.109BF	General Chemistry History of Physics
DI-II	1 2	Op.110AF Op.110BF	Programming Languages – Programming in C Programming Languages – Programming in C++

DII – Second year optional module

D_{II}	**Crt.No.**	**Code**	**Lecture**
D_{II}	1 2	Op.212AF Op.212BF	Processing of Physical Data and Numerical Methods II Basic Concepts in Metrology

DIII - Third year optional modules

D_{III-I}..$D_{III-III}$	**Crt.No.**	**Code**	**Lecture**
D_{III-I}	1 2 3	Op.308AF Op.308BF Op.308CF	Introduction into Environmental Physics Introduction into Polymer Physics Introduction in Cosmology and Particle Astrophysics
D_{III-II}	1 2	Op.318F Op.309BF	Solid state Electronics Experimental Methods in Surface Physics
$D_{III-III}$	1 2 3	Op.310AF Op310BF Op.310CF	Special Topics in Condensed Matter Physics Numerical Methods in Quantum Theory Transport Phenomena in Solids
DIII-IV	1	Op309 Op.311	Symmetry and macroscopic properties of crystalline solids Physics at the Nanoscale

For obtaining a Certificate from the *Psychopedagogical Department,* the following courses in the *Psycho-Pedagogical Module* must be mandatory attended and graduated.

Academic Year	Code	**Mandatory and Optional Disciplines**	Semester C L/S V	CRD. Sem I	Semester C L/S V	CRD. Sem.II
1st	Ob.101	Educational Psychology	2 2 E	5		
1st	Ob.102	Pedagogy I		5	2 1 E	5
2nd	Ob.201	Pedagogy II	2 3 E	5		
2nd	Ob.202	Physics Teaching			2 2 E	5
3rd	Ob.301	Computer Assisted Teaching	1 1 C	2		

3rd	Ob.302	Physics Teaching Practice I				3	C	3			
3rd	Ob.303	Physics Teaching Practice II								3	C	3
3rd	Ob.304	Class Management							1	1	C	2

Decan,

Prof. Dr. Alexandru JIPA