

BACHELOR 'S PROGRAMME
1st YEAR OF STUDY, 2nd SEMESTER

COURSE TITLE	LABORATORY TRAINING
COURSE CODE	
COURSE TYPE	full attendance
COURSE LEVEL	1 st cycle (bachelor's degree)
YEAR OF STUDY, SEMESTER	1 st year of study, 2 nd semester
NUMBER OF ECTS CREDITS	5
NUMBER OF HOURS PER WEEK	4
NAME OF LECTURE HOLDER	Assist. PhD Leontin Padurariu
NAME OF SEMINAR HOLDER	-
PREREQUISITES	Advanced level of English language
A	GENERAL AND COURSE-SPECIFIC COMPETENCES
	<p>General competences:</p> <ul style="list-style-type: none"> → Achievement of professional tasks efficiently and responsibly, in compliance with the field-specific deontology legislation, with qualified assistance. → Application of efficient work techniques in a multi-disciplinary team, on various hierarchical levels. → Effective use of information sources and communication resources and assisted professional training, both in Romanian and in a foreign language. <p>Course-specific competences:</p> <ul style="list-style-type: none"> → Application of Physics knowledge in given situations in related fields, as well as in experiments, using standard laboratory equipment.
B	LEARNING OUTCOMES
	<ul style="list-style-type: none"> → Presentation of the laboratories of the Faculty of Physics. → Introduction to the main research fields in Faculty of Physics and laboratory activities. → Familiarizing with the main theoretical and applicative aspects of standard laboratory and research equipment. → Familiarizing with the main modeling / simulation techniques in physics. → Developing working skills with currently used Office programs: Word, Excel, PowerPoint, with the emphasis on the presentation of scientific information.
C	SEMINAR / LABORATORY CONTENT
	<ul style="list-style-type: none"> • Rules on health and safety at work. Knowledge of specific legislation. Protection training • Organization and operation of the didactic workshop. Technical documentation of a project • Using the Virtual Educational Observatory for realistically simulate modern astrophysical research. Presentation of the Theoretical Physics group. • Organization and research activities of Plasma Physics laboratories. Demonstrative experiments • Organization and research activities of Surface Analysis laboratory. Demonstrative experiments • Organization and research activities of Thin Films laboratories. Demonstrative experiments • Organization and research activities of Optic, LASER and Spectroscopy laboratories. Demonstrative experiments • Organization and research activities of Dielectrics, Ferroelectrics and Multiferroics laboratories. Demonstrative experiments • Organization and research activities of Electricity and Magnetism laboratories. Demonstrative experiments • Elaboration and realization of the experiments/simulations in laboratories chosen by the students.
D	RECOMMENDED READING FOR SEMINARS
	<ol style="list-style-type: none"> 1. Legea Protecției Muncii nr. 90/1996. Norme privind sănătatea și securitatea în munca în laboratoare. 2. Lege privind practica elevilor și studenților, 258/2007. 3. Regulamentul de practică al studenților, Facultatea de Fizică, Univ. Al. I. Cuza din Iași. 4. Șunel V. s.a., Substanțe chimice folosite în laboratoare, Ed. Univ. Al. I. Cuza din Iași, 1993. 5. http://www3.gettysburg.edu/~marschal/clea/cleahome.html 6. R. Fitzpatrick, Plasma Physics: An Introduction, Taylor & Francis, 2015 7. Daniel J. Schroeder, Astronomical Optics, Academic Press, 2000 8. L. Mitoseriu (ed.), New development in advanced functional ceramics, Transworld Res. Network, 2007

	9. E.M. Purcell, Electricity and magnetism, 2nd ed. Cambridge; New York: Cambridge University press. 2011.	
E	EDUCATION STYLE	
LEARNING AND TEACHING METHODS	Lecture, Conversation, Demonstation, Simulation of different situations	
ASSESSMENT METHODS	Summative assessment (oral presentation of the final report)	
LANGUAGE OF INSTRUCTION	English	