

Course Specifications

Valid as from the academic year 2020-2021

Physics II (C000673)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

Course size (nominal values; actual values may depend on programme)
Credits 5.0 Study time 150 h Contact hrs 50.0 h

Course offerings and teaching methods in academic year 2020-2021

A (semester 2)	Dutch	Gent		
			online seminar:	0.0 h
			coached exercises	
			guided self-study	6.25 h
			lecture	23.75 h
			seminar: coached exercises	6.25 h
			practicum	20.0 h
			lecture: plenary exercises	2.5 h
			online lecture	0.0 h
B (semester 2)			practicum	20.0 h
			seminar: coached exercises	6.25 h
			guided self-study	6.25 h
			lecture: plenary exercises	2.5 h
			lecture	23.75 h
			online seminar:	0.0 h
			coached exercises	
			online lecture	0.0 h

Lecturers in academic year 2020-2021

Van Waeyenberge, Bartel
Depla, Diederik

WE04 lecturer-in-charge
WE04 co-lecturer

Offered in the following programmes in 2020-2021

	crdts	offering
Bachelor of Arts in Philosophy	5	B
Bachelor of Science in Biochemistry and Biotechnology	5	A
Bachelor of Science in Geography and Geomatics	5	A
Linking Course Master of Science in Bioinformatics	5	B

Teaching languages

Dutch

Keywords

General physics, principles, elektormagnetism, modern physics

Position of the course

The aim is to learn the student the basic topics and principles of these parts of physics listed in the contents. In this way the student should be able to understand the important technological evolutions in our modern society. Moreover, these items are important in the understanding of further courses in the biology curriculum. They are also an important education in scientific thinking and working.

Contents

Electostatics, electrodynamics, magnetism, electromagnetic waves, geometrical optics, physical light theory, quantumphysics, solid state physics, nuclear physics.

Initial competences

The topics in the course Physics I : mechanics, waves, thermodynamics.

Final competences

- 1 Gain insight in the fundamental concepts of electricity, magnetism and important modern fields of physics such as quantum physics, solid state physics and nuclear physics.
- 2 Being able to argue and work in scientific way when solving simple physics problems.
- 3 Being able to use simple scientific instruments and work with measured data.
- 4 Being able to make a written report of simple experiments with correct processing of the experimental data (error theory).
- 5 Have insight in the impact of physics on the other scientific disciplines and on the evolution of modern society.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Guided self-study, lecture, practicum, lecture: plenary exercises, seminar: coached exercises, online lecture, online seminar: coached exercises

Extra information on the teaching methods

Theory : oral lectures supported by real in situ demonstrations
Exercises : examples given in the lectures, plenary exercise sessions by the assistants. tutorial session in groups, on-line in Mastering Physics
Lab excersises : introduction lecture, independent experimental lab work, individual reports.
Because of COVID19, possible different teaching methode will be deployed if necessary.

Learning materials and price

D.C. Giancoli, Natuurkunde, deel II Elektriciteit, magnetisme, optica en moderne fysica;
wiht acces code for Mastering Physics ISBN 9781447980247
Price : 80 euro

References

The other books of Giancoli

Course content-related study coaching

The deeper understanding of the topics is taught in the oral lessons. By the exercises, specific parts of the course are further developed and the students can test their ability in problem solving. Individual help by the lecturer and his teaching assistants is always possible after the lessons and exercises, or electronically. During the lab excersises there is a continuous interaction between the teaching assistants and students.

Evaluation methods

end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period

Written examination with open questions, written examination with multiple choice questions

Examination methods in case of periodic evaluation during the second examination period

Written examination with open questions, written examination with multiple choice questions

Examination methods in case of permanent evaluation

Participation, skills test, report

Possibilities of retake in case of permanent evaluation

examination during the second examination period is not possible

Extra information on the examination methods

PE:

- Theory : multiple choice to check the knowledge and the fundamental insight
- Exercises : written, open questions

NPE:

- evaluation of attendance and scoring of the on-line exercises Mastering Physics
- evaluation for the lab excersises based on reports and checking of the individual contribution, the understanding and the experimental ability.

Students who are absent for the lab excersises (practicum) for a valid reason can make up the missed assignments at a later time. In case the absence is unjustified, a zero mark will be given for this assignment.

Calculation of the examination mark

PE 70% : 30% exercises, 40% theory MC with [higher cut off](#)

NPE 30% : 20% lab excersises, 10% exercises

For the second examination chance, the marks for the non-periodical evaluation are again taken into account.