Course Specifications
Valid as from the academic year 2018-2019

Physics (F000165)

Course

Lecturers in academic year 2018-2019
Detavernier, Christophe
Van Waeyenberge, Bartel

WE04 lecturer-in-charge
WE04 co-lecturer

Course offerings and teaching methods in academic year 2018-2019
A (semester 2) Dutch lecture 40.0 h
practicum 5.0 h
seminar: coached exercises 15.0 h
E (semester 2) English seminar: coached exercises 15.0 h
practicum 5.0 h

Offered in the following programmes in 2018-2019
Bachelor of Science in Economics 5 A
Bachelor of Science in Business Engineering 5 A
Master of Science in Economics 5 A
Preparatory Course Master of Science in Business Engineering 5 E
Preparatory Course Master of Science in Business Engineering 5 A

Teaching languages
Dutch, English

Keywords
General physics, basic principles.

Position of the course
The aim is to learn the student the basic knowledge and principles of these parts of physics listed in the content. 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 curriculum. They are also an important training in scientific thinking and working.

Contents

Initial competences
In this course, no prior knowledge of physics is assumed. A mathematical understanding of vectors, differentials, integrals and goniometry is required.

Final competences
1 Insight in the fundamental concepts of mechanics, thermodynamics, waves and oscillations, 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 a scientific way when solving simple physics problems.
3 Being able to use simple scientific instruments and analyze measured data.
4 Being able to make a written report of simple experiments with correct processing of

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the experimental data.
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 unrestricted: the student takes into
consideration the conditions mentioned in ‘Starting Competences’

Conditions for exam contract
This course unit cannot be taken via an exam contract

Teaching methods
Guided self-study, lecture, practicum, seminar: coached exercises

Extra information on the teaching methods
Theory: oral lectures supported by real in situ demonstrations (session A), guided self-
study (session E)
Exercises: examples given in the lectures, plenary exercise sessions by the assistants.
Lab exercises: introduction lecture, independent experimental lab work, individual
reports.

Learning materials and price
euro
Session E: selected chapters from D.C. Giancoli: Physics: Principles with Applications,

References
Handbooks on elementary physics, e.g. University Physics, Halliday & Resnick

Course content-related study coaching
The deeper understanding of the topics is taught in the oral lectures. In the exercise
sessions, specific parts of the course are further developed and the students can train
their problem solving skills. Individual help by the lecturer and his teaching assistants is
always possible after the lectures and exercises, or electronically. During the lab
exercises, there is 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
Written examination, 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 (without
course notes or handbook).
• Exercises: written, open questions. A leaflet with equations is provided during the
exam, no lecture notes, handbook or other means are allowed.
NPE:
• evaluation of the lab exercises based on the reports and checking of the individual
contribution, the understanding and the experimental ability.
Students who are absent for the lab exercises (practicum) for a valid reason (see OER
art. 75 §4) 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: 35% exercises, 50% theory
NPE: 15% lab exercises
For the second examination chance, the marks for the non-periodical evaluation are
again taken into account.

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