

Course size (nominal values; actual values may depend on programme)

Credits 6.0 Study time 180 h Contact hrs 60.0 h

Course offerings and teaching methods in academic year 2018-2019

A (semester 2) Dutch project 60.0 h

Lecturers in academic year 2018-2019

Detavernier, Christophe	WE04	lecturer-in-charge
Cornelis, Tom	WE05	co-lecturer
De Rijcke, Sven	WE05	co-lecturer
Leys, Christophe	TW17	co-lecturer

Offered in the following programmes in 2018-2019

	crdts	offering
Bachelor of Science in Physics and Astronomy	6	A
Preparatory Course Master of Science in Physics and Astronomy	6	A

Teaching languages

Dutch

Keywords

projects, experimental skills, communication skills

Position of the course

In this course students will work independently to acquire new experimental skills, and to apply these to a specific problem. The presentation of the results provides an exercise in communication skills. The course emphasizes the student's ability to work independently.

Contents

Performing experimental work and reporting on the results.

Initial competences

The students should have completed the following courses from the bachelor Physics and Astronomy (or their equivalent):

- Material physics
- Experiments in physics 1&2
- Statistical data analysis
- Introduction to astronomy

Final competences

- 1 The bachelorproject results in acquiring a physical way of thinking, where physical models are verified against experimental data.
- 2 Students are expected to plan and execute experiments.
- 3 Students are expected to analyze and interpret the data and to communicate their conclusions in a written report and a presentation.
- 4 Finding and critically interpreting literature.
- 5 Acquiring an understanding of the importance of experimental physics for a variety of technological applications.

Conditions for credit contract

This course unit cannot be taken via a credit contract

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Project

Extra information on the teaching methods

Independent work with individual support.

Learning materials and price

The necessary theoretical background will be provided for each project in the form of scientific papers. Whenever needed, manuals will be made available for the equipment used in the project to support the experimental work.

Cost: 0 EUR

References

Course content-related study coaching

The lecturer and his/her collaborators can be contacted for additional information. Every project is supported individually.

Evaluation methods

end-of-term evaluation and continuous assessment

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

Oral examination, assignment

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

Oral examination, assignment

Examination methods in case of permanent evaluation

Job performance assessment

Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible

Extra information on the examination methods

Permanent evaluation of the experimental work during 12 half days during the semester.

Written evaluation: writing a scientific paper that discusses the motivation, experimental method, results and conclusions of the project.

Oral presentation of the results, whereby the audience has the possibility to ask questions.

In case of unjustified absence or non participation to the experimental work the student cannot submit a scientific paper nor participate to the oral presentation and cannot pass this course.

Calculation of the examination mark

60% permanent evaluation, 20% scientific report, 20% oral presentation