

Bachelor's Project Physics and Astronomy (C004228)

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

Credits 6.0

Study time 180 h

Course offerings and teaching methods in academic year 2024-2025

A (Year)	Dutch, English	Gent	practical	25.0h
----------	----------------	------	-----------	-------

Lecturers in academic year 2024-2025

Detavernier, Christophe	WE04	lecturer-in-charge
Boone, Matthieu	WE05	co-lecturer
De Rijcke, Sven	WE05	co-lecturer
Leys, Christophe	TW17	co-lecturer

Offered in the following programmes in 2024-2025

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

Teaching languages

English, Dutch

Keywords

projects, experimental skills, communication skills

Position of the course

This course unit belongs to the learning pathway "Experimental physics and astronomy; data processing" in the Bachelor program Physics and Astronomy

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 and astronomy 1&2
- Statistical data analysis
- Stars and planets

Final competences

- 1 The bachelor project 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.
- 6 Students are expected to collect, analyse and report scientific data in an honest and deontologically correct way.

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

Practical

Extra information on the teaching methods

Independent work with individual support.

Study material

None

References

Course content-related study coaching

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

Assessment moments

end-of-term and continuous assessment

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

Oral assessment, Assignment

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

Oral assessment, Assignment

Examination methods in case of permanent assessment

Professional practice

Possibilities of retake in case of permanent assessment

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