

## 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
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**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**

	<b>crdts</b>	<b>offering</b>
<a href="#">Bachelor of Science in Physics and Astronomy</a>	6	A
<a href="#">Preparatory Course Master of Science in Physics and Astronomy</a>	6	A
<a href="#">Preparatory Course Master of Science in Physics and Astronomy</a>	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