GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2025-2026

Stars and Planets (C004206)

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 2025-2026

A (semester 2)	Dutch	Gent	seminar
			lecture

Lecturers in academic year 2025-2026

De Rijcke, Sven	WE05	lecturer-in-charge

Offered in the following programmes in 2025-2026	**crdts**	**offering**
Bachelor of Science in Mathematics	6	A
Bachelor of Science in Physics and Astronomy	6	A
Micro-credential Stars and Planets	6	A

Teaching languages

Dutch

Keywords

Astronomy, stars, planets, atmospheres, observing

Position of the course

This course unit belongs to the learning pathway "Astronomy" in the Bachelor program Physics and Astronomy.
The purpose of the course is to provide a general overview of contemporary astronomy. This course is a prerequisite for more advanced courses.

Contents

- History of astronomy
- the sky/time/calendar
- optics/telescopes/observing
- magnitude scale, colors
- atmospheres of stars and planets
- climate
- the solar system (2-body problem, planetary configurations)
- exoplanets
- stellar structure
- stellar parameters
- the Herzsprung-Russell diagram

Initial competences

The course is intended for students with little or no knowledge of astronomy, but who are able to follow a scientific argument and have basic skills in calculus.

Final competences

1 The student has a scientifically sound, albeit general, knowledge of the universe, including quantitative aspects.
2 The student can use the course material to independently and quantitatively solve astronomical problems.
3 The student understands the complementarity of astronomical observations in different parts of the electromagnetic spectrum, and understands the implications thereof on the astronomical methodology of knowledge acquisition.
4 The student has developed a critical and scientific attitude.
5 The student understands how astronomical instruments work and how they are

used.

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

Seminar, Lecture

Extra information on the teaching methods

Exercises: tutorials.

Study material

Type: Handbook

Name: Fundamental Astronomy
Indicative price: € 60
Optional: yes
Author : H. Karttunen, P.Kroger, H. Oja, M. Poutanen, K.J. Donner

Type: Syllabus

Name: Syllabus
Indicative price: Free or paid by faculty
Optional: no
Additional information: freely available as .pdf on Ufora

References

Course content-related study coaching

Both the lecturer and his assistant are available for additional coaching if necessary.

Assessment moments

end-of-term assessment

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

Written assessment with open-ended questions

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

Written assessment with open-ended questions

Examination methods in case of permanent assessment

Possibilities of retake in case of permanent assessment

not applicable

Extra information on the examination methods

- Theory: written.
- Exercises: written, open book.

For students with no prior math training, e.g. from outside the faculties of Science and (Bio-)Engineering, a differentiated theory exam will be prepared that tests their understanding of the relevant physical principles rather than their technical and mathematical skills.
The exercise exam is the same for all students.

Calculation of the examination mark

The two parts of the exam (i.e. theory and exercises) are graded separately on a 20-point scale.
If a student passes both parts of the exam, i.e. scores at least 10/20 on each part of the exam, then the final score is computed as the mean of the two partial scores.
However, students cannot pass for the full exam if they fail to score at least 10/20 for each part of the exam separately. In case a student fails at least one part of the exam, i.e. scores less than 10/20 on at least one part of the exam, then the final score is computed as the mean of the two partial scores and is then capped at 9/20.

Facilities for Working Students

The classes will be recorded