

## Stars and Planets (C004206)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

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

**Credits** 6.0      **Study time** 180 h      **Contact hrs** 52.5 h

### Course offerings and teaching methods in academic year 2020-2021

A (semester 2)	Dutch	Gent	seminar: coached exercises	22.5 h
			lecture	30.0 h

### Lecturers in academic year 2020-2021

De Rijcke, Sven	WE05	lecturer-in-charge
Caluwaerts, Steven	WE05	co-lecturer

### Offered in the following programmes in 2020-2021

	crdts	offering
<a href="#">Bachelor of Arts in Philosophy</a>	6	A
<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

### Teaching languages

Dutch

### Keywords

Astronomy, stars, planets, atmospheres, observing

### Position of the course

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 Hertzsprung-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 He/she is able to perform order of magnitude calculations and has sufficient knowledge of astronomical instruments to be able to understand their purpose and parameters.
- 3 He/she 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.

#### **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**

Lecture, seminar: coached exercises

#### **Extra information on the teaching methods**

Exercises: tutorials.

#### **Learning materials and price**

syllabus freely available as .pdf on Ufora

Optional textbook: see references. Price: €60,00

#### **References**

Fundamental Astronomy, H. Karttunen, P.Kroger, H. Oja, M. Poutanen, K.J. Donner,  
ISBN 978-3-540-34134-7, Springer

#### **Course content-related study coaching**

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

#### **Evaluation methods**

end-of-term evaluation

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

Written examination with open questions, open book examination

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

Written examination with open questions, open book examination

#### **Examination methods in case of permanent evaluation**

#### **Possibilities of retake in case of permanent evaluation**

not applicable

#### **Extra information on the examination methods**

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

For students with no prior math training, 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 everybody.

#### **Calculation of the examination mark**

- Theory: end-of-term evaluation. (10 points)
- Exercises: permanent and end-of-term evaluation. (10 points)