

## Capita Selecta Particle Physics (C003129)

**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 (semester 2)

English

Gent

seminar

lecture

**Lecturers in academic year 2024-2025**

Knolle, Joscha

WE05

lecturer-in-charge

Dobur, Didar

WE05

co-lecturer

Ghosh, Archisman

WE05

co-lecturer

Moortgat, Filip

WE05

co-lecturer

Van der Linden, Jan

WE05

co-lecturer

**Offered in the following programmes in 2024-2025**

[Master of Science in Teaching in Science and Technology\(main subject Physics and Astronomy\)](#)

6

offering  
A

[Master of Science in Physics and Astronomy](#)

6

A

[Master of Science in Physics and Astronomy](#)

6

A

[Exchange Programme in Physics and Astronomy \(Master's Level\)](#)

6

A

**Teaching languages**

English

**Keywords**

Particle physics, key literature

**Position of the course**

Advanced course in Particle Physics. The students can take this course after completing Subatomic Physics II. The purpose of the course is to take the students through the key publications in research in particle physics. Emphasis is lead on research related to activities in Gent.

**Contents**

Several (10-12) key publications in the field of particle physics are studied. These allow the students to obtain an overview of the present evolutions in this field, while at the same time giving an in-depth study of the nature of scientific discoveries.

**Initial competences**

Basic knowledge of quantum mechanics, quantum field theory and subatomic physics.

**Final competences**

- 1 The students have acquired the ability to read publications in front-line journals, like Physical Review Letters or Physics Reports.
- 2 They can follow and understand lectures at an advanced level.

**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**

Each student is required to give a presentation and write a report on one of the topics.

**Study material**

Type: Slides

Name: Copies of slides or copies of scientific papers'

Indicative price: € 5

Optional: no

Additional information: Depending on the topic: copies of slides or copies of scientific papers

**References****Course content-related study coaching**

- Direct contact with the lecturer in interactive sessions.
- Interaction through Ufora.

**Assessment moments**

end-of-term and continuous assessment

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

Written assessment, Assignment

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

Assignment

**Examination methods in case of permanent assessment**

Assignment

**Possibilities of retake in case of permanent assessment**

examination during the second examination period is possible in modified form

**Extra information on the examination methods**

Each student gives an oral presentation and provides a write-up of a selected topic.

**Calculation of the examination mark**

The examination mark is calculated as the average of the mark given for the presentation and the mark given for the writeup.