GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2014-2015

Introduction to Exact Sciences and Technology (C003658)

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

Credits	5.0	Study time	130 h	Contact hrs	10.0 h

Course offerings in academic year 2018-2019

A (semester 1)	English

Lecturers in academic year 2018-2019

Waelkens, Christoffel	KUL	lecturer-in-charge
Baatout, Sarah	LA25	co-lecturer
Vandepitte, Dirk	KUL	co-lecturer

Offered in the following programmes in 2018-2019	crdts	offering
Master of Science in Space Studies	5	A

Teaching languages

English

Keywords

Position of the course

The general aim is that all students - irrespective of the nature of their initial master - are able to follow the 'truncus communis' courses at the required academic level of the covered discipline, without the necessity of additional specific introduction for students with different backgrounds. Students with a more technical background, follow a course covering the relevant human sciences, and vice versa. Introductory handbooks and/or basic texts are handed over to the students, well before the academic year formally starts. Guidlines are given with respect to the relevance of different topics for space studies.
The basic format of the course is that the knowledge adquisition occurs through self-study, with regular feedback from senior and junior academic staff.

Contents

1 Introduction to the human body: cells, tissues, organs: the various systems composing the body and their main role
2 Introduction to the cell, cell components (organelles, cytoskeleton), difference between eukaryotic and prokaryotic cells.
3 Introduction to cell division (mitosis, meiosis), DNA, RNA, transcription, transduction, gene expression Basic principles of physics and Engineering basic principles of Life Sciences

Initial competences

none

Final competences

The goal is to familiarize students having a background in Human sciences with the methods and paradigms of the exact, biomedical and engineering sciences relevant for the space sector.

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

Learning materials and price

Introduction to Anatomy and Physiology:
- Anatomy & Physiology: 6th or 7th edition. Authors: Kevin T Patton, Gary A. Thibodeau
Introduction to Cell Biology:
- Essential Cell Biology, 3rd or 4th edition. Authors: Bruce Alberts, Dennis Bray, Karen Hopkin, Alexander D Johnson, Julian Lewis, Martin Raff, Keith Roberts, Peter Walter
Introductory handbooks made available to the students (e.g. Jewett and Serway, Introduction to Physics for Scientists and Engineers, Wiley) Introductory texts on topics related to the space sector

References

Course content-related study coaching

Evaluation methods

continuous assessment

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

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

Examination methods in case of permanent evaluation

Oral examination, participation, assignment

Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible

Extra information on the examination methods

The learning process involves regular feedback, from which the progress can be regularly evaluated; these learning and evaluation processes should be finished, however, before the evaluation of other courses which partly rely on the knowledge and attitudes acquired in the introductory courses.

Calculation of the examination mark

The weight of the different evaluation forms is as follows:
- paper on a specific topic: 20%
- presentation of a specific topic: 20%
- activity and input during feedback moments: 20%
- process evaluation: 20%
- specific take-home task: 20%
The evaluation will be discussed and decided by all academic staff involved in the process.