## Course Specifications

Valid as from the academic year 2015-2016

From Genome to Organism (E092660)

<table>
<thead>
<tr>
<th>Course size</th>
<th>Credits</th>
<th>Study time</th>
<th>Contact hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>(nominal values; actual values may depend on programme)</td>
<td>6.0</td>
<td>180 h</td>
<td>60.0 h</td>
</tr>
</tbody>
</table>

### Course offerings and teaching methods in academic year 2015-2016

A (semester 1)
- **seminar**: 15.0 h
- **lecture**: 45.0 h

### Lecturers in academic year 2015-2016

- De Keyser, Filip
  - GE01 lecturer-in-charge
- Deblaere, Karel
  - GE16 co-lecturer
- Derom, Eric
  - GE01 co-lecturer
- Malfait, Fransiska
  - GE02 co-lecturer
- Peeters, Harald
  - GE01 co-lecturer

### Offered in the following programmes in 2015-2016

- Bridging Programme Master of Science in Biomedical Engineering 6 A
- Bridging Programme Master of Science in Biomedical Engineering 6 A
- Master of Science in Electrical Engineering (main subject Communication and Information Technology) 6 A
- Master of Science in Electromechanical Engineering (main subject Control Engineering and Automation) 6 A
- Master of Science in Electromechanical Engineering (main subject Electrical Power Engineering) 6 A
- Master of Science in Electrical Engineering (main subject Electronic Circuits and Systems) 6 A
- Master of Science in Computer Science Engineering (main subject Embedded Systems) 6 A
- Master of Science in Computer Science Engineering (main subject Information and Communication Technology) 6 A
- Master of Science in Electromechanical Engineering (main subject Maritime Engineering) 6 A
- Master of Science in Electromechanical Engineering (main subject Mechanical Construction) 6 A
- Master of Science in Electromechanical Engineering (main subject Mechanical Energy Engineering) 6 A
- Master of Science in Materials Engineering (main subject Metallurgy) 6 A
- Master of Science in Computer Science Engineering (main subject Software Engineering) 6 A
- Master of Science in Materials Engineering (main subject Textiles) 6 A
- Master of Science in Biomedical Engineering 6 A
- International Master of Science in Biomedical Engineering 6 A
- Master of Science in Biomedical Engineering 6 A
- Master of Science in Chemical Engineering 6 A
- Master of Science in Computer Science Engineering 6 A
- Master of Science in Computer Science Engineering 6 A
- Master of Science in Photonics Engineering 6 A
- Master of Science in Sustainable Materials Engineering 6 A
- Master of Science in Chemical Engineering 6 A

### Teaching languages

- English

(Approved)
Keywords
Life sciences

Position of the course
Aim of the course is to give the students insight in the molecules of life, principles of cellular organisation, gene structure, replication and expression, the building of the human body and the immune system.

Contents
• The Molecules of Life: Nucleic Acids, Proteins, Lipids, Carbohydrates
• Gene Structure, Replication and Expression: Structure of DNA, The Genetic Code, Replication of DNA, Genetic Recombination, Gene Expression and Protein Synthesis
• The Immune System: Innate or Aspecific Immunity, Acquired or Specific Immunity, Immune Disorders, Testing Immunity

Initial competences
none

Final competences
1 Basic knowledge of the structure and physiology of the cell; molecular biology; protein structure; the building of the human body; organ systems; immunology.
2 Understanding how loss of physiological homeostasis may lead to diseases.
3 Recognizing anatomical structures using imaging techniques; understanding how medical imaging techniques represent parts of the human body.
4 Searching and understanding scientific, biomedically oriented information and preparing a scientific communication.

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

Learning materials and price
Syllabus, hands out

References

Course content-related study coaching

Evaluation methods
end-of-term evaluation

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

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

Examination methods in case of permanent evaluation

Possibilities of retake in case of permanent evaluation
not applicable

Extra information on the examination methods
During examination period: written closed-book exam.
Part of the exam (imaging part) is computer based, multiple choice exam using
The evaluation of the personal scientific essay yields 30% of the score for this course.

**Calculation of the examination mark**