**Course Specifications**

Valid as from the academic year 2019-2020

**Cell Biology (I700190)**

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<table>
<thead>
<tr>
<th>Course size</th>
<th>(nominal values; actual values may depend on programme)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits</td>
<td>4.0</td>
</tr>
<tr>
<td>Study time</td>
<td>120 h</td>
</tr>
<tr>
<td>Contact hrs</td>
<td>42.0 h</td>
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</tbody>
</table>

**Course offerings and teaching methods in academic year 2019-2020**

<table>
<thead>
<tr>
<th>A (semester 2)</th>
<th>Dutch</th>
<th>lecture</th>
<th>24.0 h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>practicum</td>
<td>18.0 h</td>
</tr>
</tbody>
</table>

**Lecturers in academic year 2019-2020**

<table>
<thead>
<tr>
<th>Audenaert, Kris</th>
<th>LA21</th>
<th>lecturer-in-charge</th>
</tr>
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</table>

**Offered in the following programmes in 2019-2020**

| Bachelor of Science in Bioscience Engineering Technology | 4 | A |

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**Teaching languages**

- Dutch

**Keywords**

- prokaryotic and eukaryotic cell, life, cell organelles, cell activities, cell differentiation

**Position of the course**

- General structure and chemical composition of cells of all kinds (pro- and eukaryotic)
- Functions and possibilities of all kinds of organelles and cell processes
- Basic knowledge for plant and animal sciences, of genetics and of biochemistry

**Contents**

**theory:**

- First cells in the evolution of the earth and definition of life
- Chemical substances of biological material and all kinds of chemical bonds and interactions important in the function of cells
- Structure of pro- and of eukaryotic cells; intercellular interactions and exchange
- Cell cycle, cell activities and control
- Mitotic and meiotic cell divisions, life cycle, vegetative and generative reproduction
- Membrane transport
- similarities and differences between different eukaryotic celotypes: plant cell, animal cell, fungal cell
- Applied cell biology: biofilms, chemotaxis,...
- Differentiation and diversity

**practical exercises:**

- microscopy
- cell morphology, cell division stages
- isolation of cell organelles
- study of living unicellular organisms

**Initial competences**

- basics of biology

**Final competences**

1. Students should be able to describe the characteristics of living cells, of the activities of cells and of the differentiation possibilities of cells.
2. They should understand protein synthesis, apoptosis, cell division stages and cell-cell interactions.
3. They should be able to use a microscope, to make simple tissue preparations and to recognize different cell types.
4. Students understand the biological implications of differences between eukaryotic cell types (plant cell, fungal cell, animal cell)

(Approved)
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, practicum

Learning materials and price
a written course in dutch
'cell biology' books in library

References

Course content-related study coaching

Evaluation methods
end-of-term evaluation and continuous assessment

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
Report

Possibilities of retake in case of permanent evaluation
examination during the second examination period is possible

Extra information on the examination methods
theory: written exam
practical exercises: reports and final test

Calculation of the examination mark
theory: 80 %
practical exercises: 20 %

5 Students understand the impact of cell mal-functioning