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 Specifications
Valid as from the academic year 2019-2020

Vaccinology (D013094)

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

<table>
<thead>
<tr>
<th>Credits</th>
<th>Study time</th>
<th>Contact hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td>180 h</td>
<td>30.0 h</td>
</tr>
</tbody>
</table>

Course offerings and teaching methods in academic year 2020-2021

A (semester 1)  
English  
Gent  
microteaching  
lecture  

<table>
<thead>
<tr>
<th>Contact hrs</th>
<th>Study time</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.25 h</td>
<td>23.75 h</td>
<td>6.0</td>
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</tbody>
</table>

Lecturers in academic year 2020-2021

Leroux-Roels, Isabel  
GE32  
lecturer-in-charge

Offered in the following programmes in 2020-2021

<table>
<thead>
<tr>
<th>Offered</th>
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</thead>
<tbody>
<tr>
<td>Master of Science in Biomedical Sciences</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>A</td>
</tr>
</tbody>
</table>

Teaching languages

English

Keywords

Infectious diseases, immunology, vaccine, vaccination, prevention, clinical development, vaccine safety, immunogenicity

Position of the course

Vaccinology is a new scientific discipline at the intersection of microbiology, immunology and molecular biology. It is the science of development and production of new agents to prevent infectious disease and, recently, also to treat chronic infections and non-infectious conditions.

Contents

- Short history of vaccination of vaccines
- Immunologic principles of vaccination
- Composition of vaccines: antigen, adjuvant, preservatives
- Overview of the most commonly used vaccines in infants, young children, adolescents, older adults, in specific target populations (e.g. travelers, professional risk groups)
- Development of new vaccines: novel adjuvants, novel vaccine delivery systems (e.g. DNA, viral vectors, dendritic cells, ...), vaccines in development (HIV, malaria, tuberculosis, influenza, ...)
- Aspects of clinical vaccine development
- Vaccine safety
- Health economic aspects of vaccination and vaccination strategies

Initial competences

Successfully succeeded the courses of immunology, microbiology, protein chemistry, molecular biology and human pathogenesis (bachelor of biomedical sciences) or acquired the targeted competencies in an alternative way.

Owner of a diploma of bachelor in biomedical sciences or having acquired the targeted competencies in an alternative way.

Final competences

1. To gain insight into the mode of action of vaccines
2. To understand how a vaccine is developed (rationale and methods).
3. To describe the composition and the use of vaccines that are administered to humans during the different phases of life
4. To describe the methods and criteria to evaluate the safety and efficacy of vaccines.
5. Reading, interpreting and presenting an international peer-reviewed publication on aspects of vaccine research to teachers and other students.

(Approved)
6 Applying the above-mentioned theoretical knowledge, by writing a concept study protocol, an informed consent form and an application form for submission to the Ethics Committee.

Conditions for credit contract
Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract
Access to this course unit via an exam contract is unrestricted

Teaching methods
Lecture, microteaching

Extra information on the teaching methods
· Lectures
· Microteaching (group work): writing a concept study protocol, an informed consent form and an Ethics Committee application form, followed by an oral presentation to colleague students and teachers.

Learning materials and price
· Hand-outs of the powerpoint slides
· A PDF version of the book Understanding modern vaccines: Perspectives in Vaccinology (Elsevier) is available at no cost for students via the Minerva platform.

References

Course content-related study coaching
The lecturers can be contacted any time (during lectures or via e-mail)

Evaluation methods
end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period
Written examination with open questions, written examination with multiple choice questions

Examination methods in case of periodic evaluation during the second examination period
Written examination with open questions, written examination with multiple choice questions

Examination methods in case of permanent evaluation
Oral examination, participation

Possibilities of retake in case of permanent evaluation
examination during the second examination period is not possible

Extra information on the examination methods
The written exam accounts for 65% of the total score and the oral presentation (microteaching) accounts for 35% of the total score.

Calculation of the examination mark
Non-periodic evaluation: 35%
Periodic evaluation: 65%
Unjustified absence in the permanent evaluation will give rise to a total maximum score of 9/20 (highest failing mark) regardless of the score on the periodic evaluation.