

# Microbiologie générale, Hygiène, Immunologie

**Lecturers**

Véronique FONTAINE (Coordinator) and David VERMIJLEN

**Course mnemonic**

BIOL-J301

**ECTS credits**

5 credits

**Language(s) of instruction**

French

**Course period**

First term

## Course content

Immunology: cellular components of the immune system; innate and adaptive immune responses; the regulation of an immune response and the bases of immunotherapy; principle of vaccination and introduction to immunopathology;

Microbiology: prions; General bacteriology including elements of infectiology, epidemiology, hygiene, sterility, antibacterial agents and resistance; General virology and vaccinology; elements of general mycology; elements of General Parasitology.

## Objectives (and/or specific learning outcomes)

The students should be able to describe the various microorganisms (bacteria, viruses, fungi and parasites) as well as prions and explain their structure, metabolism and multiplication. Knowledge and understanding of the survival mechanisms of microorganisms should provide support to students to describe and explain the pathologies associated with these microorganisms and effective treatments from a pharmaceutical perspective.

The students must understand and know the immune system. Knowledge and understanding of the immune system should provide support to students to describe the mechanism of action of drugs targeting this system. The students will have acquired the basics of immunology, microbiology, infectiology and hygiene and will be familiar with antibacterial, antiviral, antifungal and antiparasitic prophylactic and therapeutic treatments.

## Pre-requisites and co-requisites

### Pre-requisites courses

BMOL-J201 | Biologie moléculaire | 5 crédits

### Co-requisites courses

BIOL-J302 | Microbiologie médicale | 5 crédits

### Course having this one as co-requisit

BIOL-J302 | Microbiologie médicale | 5 crédits

## Teaching method and learning activities

Lectures (visual support: Power-Point presentations available and printable via the Virtual University) and round table / debate in the field of vaccinology

## References, bibliography and recommended reading

- > J. Strauss and E. Strauss. Viruses and human disease, Academic Press, 2002.
- > L. Norkin. Virology, Molecular Biology and Pathogenesis, ASM Press, 2010.
- > G. Tortora, B. Funke and C. Case. Microbiology, an introduction, 2009.
- > H. J. A. Fleury. Virologie Humaine, Ed. Elsevier/Masson, ISBN: 9782294704321, 2009.
- > ANOFEL. Parasitoses et mycoses des régions tempérées et tropicales, Ed. Elsevier/Masson, ISBN 10 : 2294708806, 2010.
- > F. H. Kayser, E. Bottger, R. M. Zinkernagel, O. Haller, J. Eckert and P. Deplazes. Manuel de poche de Microbiologie générale, Ed. Médecine-Sciences, Flammarion, 2008.

## Other information

### Contact(s)

Véronique Fontaine, Unité de Microbiologie et Hygiène, CP 205/2, Campus de la Plaine, local 1B7.111.

email: vfontain@ulb.ac.be

David Vermijlen, Campus de La Plaine, bâtiment B, local B7.212.

email : dvermijl@ulb.ac.be

## Evaluation method(s)

Other

### Evaluation method(s) (additional information)

Written examination for the Microbiology section, consists of two open questions and a questionnaire consisting of twenty proposals to be answered by YES / NO. Each correct answer to the questionnaire is +1 point, each incorrect answer is -0.5 point. The

microbiology score is an average of the results obtained from the questionnaire and two open questions.

Written examination for the Immunology part including open-ended questions and multiple choice questions.

### Determination of the mark (including the weighting of partial marks)

50% Microbiology part

50% Immunology part

A score of <10/20 for one of the two parts will be taken as a general grade for the entire teaching unit.

### Main language(s) of evaluation

French

### Programmes

Programmes proposing this course at the faculty of Pharmacy

BA-PHAR | Bachelor in Pharmacy | unit 3