UCL Université catholique de Louvain

LBIO1335

2012-2013

Immunology

3.0 credits	25.0 h + 15.0 h	1q

Teacher(s) :	Dehoux Jean-Paul ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	Module A (30 hours) : biology students and veterinary students. The objective of this module is to describe the basic notions of immunology: immune system organs, immunocompetent cells, immunoglobulins, major histocompatibility complex, T receptor, complement system and inflammation, tolerance, regulation of the immune response, immunity in the fetus and newborne, mucosal immunity. Resistance to viruses and bacteria, immunity to parasites as well as vaccines and vaccination, hypersensitivity (types I to IV) and their treatment, immunity to transplant and different diagnostic applications and immunological tests will be covered . Module B (15 hours) : Agronomy students. The objective of this module is to give the essential notions of the immune system: natural immunity and acquired immunity, antigens, structure of antibodies and the classes of immunoglobulin, main interactions between humoral and cellular responses. Besides, the module shows the technological applications of fundamental immune knowledge : monoclonal antibodies, immunological techniques of detection and dosage and vaccinology. Practical work (15 hours) The practical work realizes the main tests in immunology : isolation of mononuclear blood cells, determination of different immuno-competent cells after coloration on blood smears, immunodetections by enzymatic technique (ELISA) and realization of numerous hemato-immunologicat tests (ABO group and rhesus).
Aims :	The immunology course aims to give a fundamental formation carrying on the main mechanisms used in immune response. They cover the necessary knowledge to the immuno-pathological comprehension as well as their treatment. Besides, the main applications of immunology in the field of biotechnology are seen. The course is divided in two modules adapted for students in veterinary and biology (A) and, on the other side, for agronomy students (B). *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Content :	To give a global view of the mechanisms involved in the innate and adaptative immune response.
Other infos :	Practical work (15 hours). The practical work realizes the main tests in immunology : isolation of mononuclear blood cells, determination of different immuno-competent cells after coloration on blood smears, immunodetections by enzymatic technique (ELISA) and realization of numerous hemato-immunologicat tests (ABO group and rhesus). Prerequisites : Knowledge in biology, in physiology, in anatomy and in biochemistry Organization : the course is given during the first semester (2 hours per week). Written notes : syllabus and books: Immunology Ivan M. Roitt, Jonathan Brostoff, David Male (in French or in English) et Veterinary Immunology: An Introduction by Ian R. Tizard (2005). Assessment : Oral evaluation on the theory and the practical course.
Cycle and year of study :	> Bachelor in Chemistry > Bachelor in Veterinary Medicine > Master [120] in Biomedical Engineering > Master [120] in Chemical and Materials Engineering > Master [120] in Biochemistry and Molecular and Cell Biology > Bachelor in Biology > Master [60] in Biology > Master [120] in Agricultural Bioengineering
Faculty or entity in charge:	BIOL