


3.00 credits

30.0 h

Q1

Teacher(s)	Feron Olivier ;Jonas Jean-Christophe (coordinator) ;Kautbally Shakeel ;Kienlen-Campard Pascal ;Pilette Charles ;
Language :	English
Place of the course	Bruxelles Woluwe
Prerequisites	This course requires good knowledge of cellular and molecular biology, biochemistry of cell metabolism, immunology, cell and organ physiology, and human pathology.
Main themes	At the end of the year, the student will : <ul style="list-style-type: none"> • know the pathophysiology of the diseases covered during classes, from the molecule to the cell, the cell to the organ, and the organ to the organism • understand/be able to explain the link between the molecular and cellular alterations described and the development of the chronic diseases covered during classes, as well as the mode of action of drugs targeting these alterations and their impact in other organs • be able to analyze and criticize a conference or paper in that field ; use his/her new knowledge and skills to investigate unanswered questions on the topic • imagine new approaches to study the pathophysiology of other diseases
Learning outcomes	At the end of this learning unit, the student is able to : At the end of the class, the student should: (1) know the pathophysiology of diseases specifically addressed during the class, not only from the molecular and cellular point of view, but also in a larger perspective (organs, organism); (2) understand and explain the link between the molecular and cellular dysfunction and disease development; understand and explain the mode of action of drugs targeting these alterations; (3) be able to critically analyze a presentation or scientific paper about the subject ; use her knowledge to address new questions in the field ; (4) be able to propose experimental approaches to study the molecular and cellular pathophysiology of other diseases.
Evaluation methods	Written examination or assignment, as explained by each professors. Questions are written in English, but students can answer in French or in English. The note of each professor has the same weight in the final note computed as the geometric mean of the notes according to the following equation: "note/20 = fifth root of the product of the 5 notes (/20) obtained". Therefore, the final note will be markedly reduced in case of a very low note in one of the 5 parts.
Teaching methods	The course consists in a series of lectures or inverted classes on specific topics.
Content	The classes will cover the pathophysiological mechanisms underlying the development of frequent non-communicable human diseases, the drugs targeting these mechanisms and unanswered questions on the topic (biomedical research). The link between the molecular, cellular, and tissue alterations and their impact on the whole organism will be highlighted as much as possible. Diseases covered during classes: diabetes and its complications ; cardiovascular diseases; respiratory diseases; neurodegenerative diseases ; cancers.
Inline resources	Slides projected during classes and additional documents will be posted on MoodleUCL.
Other infos	This course requires good knowledge of cellular and molecular biology, biochemistry of cell metabolism, immunology, cell and organ physiology, and human pathology.
Faculty or entity in charge	SBIM

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Biomedicine	SBIM2M	3		
Master [60] in Biomedicine	SBIM2M1	3		