UCLouvain

wsbim1320

2026

Introduction to experimental approaches in cellular and molecular biology

3.00 credits	30.0 h	Q2

Teacher(s)	Bertrand Luc ;des Rieux Anne ;Horman Sandrine ;Tyteca Donatienne (coordinator) ;
Language :	French
Place of the course	Bruxelles Woluwe
Prerequisites	*The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.*
Main themes	1. The build-up of experimental strategy in cell and molecular biology is illustrated by paradigmatic experimental systems and derived classical papers that led to major discoveries, often recognized by a Nobel Prize. 2. Teachers first present the context (question) then selected papers by point-to-point analysis of essential figures. They emphasize when results force to reformulate starting hypotheses. 3. Students are then attributed a paper to similarly analyze point-to-point and to critically present as powerpoint. This work is assisted by an individual tutor, acting as coach ; and evaluated by the team of teachers, acting as validating jury.
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 — 1. This task establishes a link in competence progression, from theoretical courses in Cell biology (WMDS1211, previously BCHM1230) and Molecular Biology (WSBIM1202), to the design of personal scientific projects (WSBIM1303). 2. Specific outcomes are to develop analytical abilities for unknown data (the analyzed paper) ; independent search of focused additional information (the context) ; and comunication skills (powerpoint and oral).
Evaluation methods	**The evaluation is based on:** - the involvement of the student in the analysis of the article and the preparation of the presentation - the content and quality of the slides as well as the quality of the talk - answers to the teachers' questions. **The student can take the exam only if he/she participated to the obligatory coaching session.**
Teaching methods	**1. Specific outcomes:** - To develop analytical abilities of scientific data - To independently search focused information - To gain insight in the prerequisites of milestone research - To start to distinguish research and communication skills. **2. Course langage:** - the course is given in french - all articles analyzed are in english - students are encouraged to prepare their slides in english - oral presentations can be in french or in english.
Content	- Critical analysis of a literature paper which contributed to unravel important processes in physiological or pathological conditions or gave rise to therapeutic applications - Preparation of a powerpoint presentation by groups of students - Presentation of the powerpoint to the teachers and discussion.

Other infos	**1. Targeted students** Primarily students of SBIM13BA; also accessible as option from MED13BA (can be recommended to « étudiants-chercheurs ») and to first-year foreign PhD students without previous exposure to such exercice. **2. Organization** The activity is organized annually in the second semester, as follows: - Introductory course - Obligatory session: analysis of the scientific paper with the teacher - Work by student groups. **3. Prequisite** Theoretical courses in cellular and molecular biology.
Faculty or entity in charge	SBIM

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Additionnal module in Biomedical Sciences	APPSBIM	3		🔍
Bachelor in Biomedicine	SBIM1BA	3	WSBIM1226 AND WMDS1230 AND WSBIM1211 AND LANGL1855 AND WSBIM1200	🔍