UCLouvain

lbio1332

2025

Molecular Biology of Development

The version you're consulting is not final. This course description may change. The final version will be published on 1st June.

3.00 credits	30.0 h + 10.0 h	Q1

Teacher(s)	Gofflot Françoise ;Rezsohazy René ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	have acquired the main concepts covered, for example, in courses LBIO1330, LBIO1323
Main themes	This activity is a continuation of the common core course LBIO1330 - Integrated Animal Biology: Reproduction and Development. Twelve themes will be covered in detail, illustrating the integration of knowledge in animal embryology, genetics, cell and molecular biology.
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 integrate different fields of knowledge of biology in relation to developmental phenomena; 2 to integrate the different levels at which these phenomena occur, from the molecular scale to the whole organism; 3 to critically analyze the scientific literature related to developmental genetics; 4 organize and present a brief scientific paper; 5 critically analyse scientific information
Evaluation methods	The students will have to present a topical issue in developmental genetics on the basis of the analysis of a recent review article in the form of a short illustrated lecture.
Teaching methods	Participatory Lecture: Students are stimulated to raise questions and solve problems during the sessions. For practical work: seminars led by young researchers, with demonstrations on different models of development.
Content	1. the early structuring of the C. elegans embryo, 2. axis determination in the fruit fly, 3. sex determination in mammals, 4. the materno-embryonic transition in mammals, 5. induction phenomena, 6. cell migration and morphogenesis, 7. the development of the pentadactyl limb, 8. cardiac organogenesis, 9. HOX genes and the structure of the organism, 10. control of HOX gene expression, 11. stem cells, 12. developmental toxicology.
Inline resources	Course notes and images accessible via Moodle
Other infos	Precursory courses: - Biologie animale BIO1111 - Compléments de biologie animale BIO1231 - Introduction à la génétique BIO1221 Support - Course notes in two volumes, by Moens, A. and Rezsohazy, R., UCL; slides files.
Faculty or entity in charge	BIOL

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Biochemistry and Molecular and Cell Biology	BBMC2M	3		
Additionnal module in Biology	APPBIOL	3		
Minor in Biology	MINBIOL	3		