



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	<p><b>At the end of this learning unit, the student is able to :</b></p> <ol style="list-style-type: none"> <li>1 integrate different fields of knowledge of biology in relation to developmental phenomena;</li> <li>2 to integrate the different levels at which these phenomena occur, from the molecular scale to the whole organism;</li> <li>3 to critically analyze the scientific literature related to developmental genetics;</li> <li>4 organize and present a brief scientific paper;</li> <li>5 critically analyse scientific information</li> </ol>
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	<ol style="list-style-type: none"> <li>1. the early structuring of the <i>C. elegans</i> embryo,</li> <li>2. axis determination in the fruit fly,</li> <li>3. sex determination in mammals,</li> <li>4. the materno-embryonic transition in mammals,</li> <li>5. induction phenomena,</li> <li>6. cell migration and morphogenesis,</li> <li>7. the development of the pentadactyl limb,</li> <li>8. cardiac organogenesis,</li> <li>9. HOX genes and the structure of the organism,</li> <li>10. control of HOX gene expression,</li> <li>11. stem cells,</li> <li>12. developmental toxicology.</li> </ol>
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

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Biochemistry and Molecular and Cell Biology	<a href="#">BBMC2M</a>	3		
Additional module in Biology	<a href="#">APPBIOL</a>	3		
Minor in Biology	<a href="#">MINBIOL</a>	3		