


8.00 credits

36.0 h + 56.0 h

Q2

**This biannual learning unit is not being organized in 2024-2025 !**

Teacher(s)	Wesselingh Renate ;
Language :	English
Place of the course	Louvain-la-Neuve
Prerequisites	A basic knowledge of population genetics (for example the course LBRAI 2101B in BAC3).
Main themes	<p>The methods for data acquisition and analysis used in behavioral ecology, population and conservation genetics, quantitative genetics, phylogeny and phylogeography will be explained and illustrated by reading recent articles. Some invited speakers will share their research results in those fields.</p> <p>During the practical work, the student will perform DNA extractions, PCR, visualisation on agarose gels, microsatellite genotyping and DNA sequencing. The molecular markers used are RFLP/AFLP, microsatellites and DNA sequences.</p> <p>Students will analyse their sequence and genotype data using a variety of specific statistical methods.</p>
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <p>The course aims to give an overview of molecular methods currently used in ecological and evolutionary research, including hands-on experience for a number of techniques that are often used.</p> <p>The students will learn which methods can be applied and what type of results can be obtained for different study objectives.</p> <p>1 They will be able to compare these methods and give advantages and disadvantages.</p> <p>They will have sufficient experience with the laboratory techniques and the analysis of genetic data to start a research project in one of the research fields mentioned.</p>
Evaluation methods	<p>The students have to write reports for the practical part, and make a critical analysis of a scientific article in a written report and an oral interview with the teachers.</p> <p>The final grade will be determined for 50% by the practical part and 50% by the theoretical part.</p>
Teaching methods	Lectures, also by invited speakers, practical work in the molecular laboratory and on the computer, analysis of scientific papers.
Content	<p>The course aims to explain the different molecular methods used in ecological and evolutionary research, the theory behind them and their practical application, their advantages and disadvantages and the specific fields to which they are applied.</p> <p>The students will get hands-on experience in the lab (DNA extraction, PCR, restriction, running agarose gels) and with analysing the data obtained using R and several other computer programs.</p>
Inline resources	<a href="#">Moodle website for LBOE2124</a>
Other infos	The course is given in the first three weeks of the second semester in even years (2022, 2024, ...), the first half at UNamur by Alice Dennis and the second half at UCLouvain by Renate Wesselingh. The course will not be given in 2024-2025.
Faculty or entity in charge	BIOL

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Biology of Organisms and Ecology	BOE2M	8		
Master [60] in Biology	BIOL2M1	8		