

2.00 credits

12.0 h + 18.0 h

Q2

Teacher(s)	Govaerts Bernadette ;
Language :	French
Place of the course	Louvain-la-Neuve
Learning outcomes	
Evaluation methods	<p>The evaluation of the course is based on +/- 4 assignments and an oral presentation each worthing for a similit number of points.</p> <p>In 21-22, the contents of these assignments were the following :</p> <ol style="list-style-type: none"> 1. Read a text on the principle of design of experiments and put it in perspective with his thesis project (via an online questionnaire). 2. Analyze a dataset with R and Rmarkdown. 3. Review a research question related to an experimental or research study already conducted in the laboratory (and related to the thesis), describe it in a report and (re)analyze the related data. This project is also presented orally to the other students. 4. Prepare and describe in a paper the data acquisition and collection protocol of his/her thesis as well as the data analysis plan he/she plans to use. <p>Each assignment is compulsory and the overall mark is the sum of the individual marks of the assignments if the student did obtain a mark of minimum 8/20 for each one. If this is not the case, a maximum mark of 8/20 will be given and calculated on the basis of the student's profile.</p>
Teaching methods	<p>The pedagogical approach of the course is to bring the student to realize the 4 projects planned for the evaluation and thus advance in his thesis work.</p> <ul style="list-style-type: none"> • Some "lecture" presentations are made by the professor. • Students are invited to discover some of the material by themselves • Computer room sessions allow students to develop their data processing skills with R. • Each student works in collaboration with other students who are doing their thesis in the same lab as him/ her to complete the proposed projects. • The professor and the course assistants accompany each student individually in their projects.
Content	<p>The main objective of this course is to provide the student with a maximum of concepts and tools to be able to carry out the collection and analysis of data related to your thesis.</p> <p>New material on experimental design and the use of R is covered, but the main objective is to allow the student to apply the topics covered and the tools already acquired in other courses to the realization of his thesis.</p> <p>Some of the topics covered are :</p> <ul style="list-style-type: none"> • General principles of planning and conducting an experiment or observational study. • Classes of experimental designs useful in biology and related statistical models. • Use of Excel, R and JMP to process and manipulate data. Introduction to the RMarkdown reporting tool and graphing with the ggplot package. • Review of some descriptive statistics tools, testing, multivariate analysis and modeling in R.
Inline resources	<p>See the moodle site :</p> <p>https://moodleucl.uclouvain.be/course/view.php?id=12613</p>
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	2		