lboe2292

2021

Modélisation écologique et évolutive

4.00 credits	12.0 h + 36.0 h	Q1

Teacher(s)	Wesselingh Renate ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	Ecology, evolution, statistics. Some basic knowledge of the R language is useful, but not strictly necessary
Main themes	Analytical and simulation models, game theory, Evolutionarily Stable Strategies, population- and individual-based models, spatial models.
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 This course will teach the different categories of ecological and evolutionary models, how to formalize ecological and evolutionary processes and turn them into analytical and simulation models using R, and how to use the results of such models.
Evaluation methods	The evaluation consists of an oral presentation that explains the steps in the development of the model, after which the students hand in their files (code and presentation). The work is evaluated on the basis of the originality of the question, the way of translating it into a model and the interpretation of the results obtained.
Teaching methods	Group learning of NetLogo, discussion sessions on topics, individual work.
Content	In the first part of the course, students learn the principles of modeling using NetLogo software. The second part is an individual assignment, in which each student builds a model to find an answer to an original biological question.
Inline resources	site web Moodle LBOE2292 site web pour livre Railsback & Grimm
Bibliography	Railsback, S.F. & V. Grimm (2019) Agent-based and individual-based modelling, 2nd edition. Princeton University Press, Princeton, NJ, USA.
Other infos	The NetLogo training starts in Q2 of the first year of the master, which allows enough time to develop the individual model, which can be presented in a session of your choice (M1 or M2). For administrative reasons, interested students are advised to put the course in the EAP of the second year of the master, even if they already start the training in Q2 of the first year.
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	4		🔍
Interdisciplinary Advanced Master in Science and Management of the Environment and Sustainable Development	ENVI2MC	4		🔍
Master [120] in Environmental Science and Management	ENVI2M	4		🔍