

3.00 credits

22.5 h + 12.5 h

Q1

Teacher(s)	Bragard Claude (coordinator) ;Hance Thierry ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	LBIO 1231 Animal Biology
Main themes	<p>Topics covered:</p> <ul style="list-style-type: none"> - Classification and reason of the evolutionary success of insects; - Physiology, internal anatomy and life cycle - Interaction with the physico-chemical environment - Reproductive strategy; - Plant-insect interaction - Eco-evolutionary Entomology; - Thermoregulation; - Mobility and dispersion - Pollinators and anthropic landscapes - Interactions between species. - In-depth analysis of the main insects and mites injurious to fruit trees, field crops, stored food, vegetable crops and forestry
Learning outcomes	<p>At the end of this learning unit, the student is able to :</p> <p>a. Activity contribution to reference program AA (AA program) M1.1, M1.2, M1.3. M1.4, M1.5, M2.1, M2.2, M2.3, M2.4, M3.2, M3.4, M3.7, M3.8, M4.1, M4.2, M4.3, M4.7, M6.1, M6.2, M6.4, M6.5</p> <p>b. Specific formulation for this activity to AA program (maximum 10)</p> <p>At the end of this activity, the student is able to:</p> <ul style="list-style-type: none"> - to identify an insect to the stage of the family and to set up a collection - to prioritize the criteria for classification 1 - to understand the role of insects in terrestrial ecosystems in an evolutionary perspective - to analyze and present concise reasons for the evolutionary success of insects - to relate adaptations and evolutionary selection pressures - to integrate the relationships between individuals, populations and landscapes - to understand the concepts of trade-off and phenotypic plasticity - departing from literature data, to analyze problems with a particular pest species and to propose management solutions
Evaluation methods	<ul style="list-style-type: none"> - Part A: Written exam and practical work (determinations) with the realization of an insect collection - Part B: Written examination and presentation of work on a species or a given problem.
Teaching methods	<ul style="list-style-type: none"> - lectures including practical examples and offering active learning mini-activities; - Insect determination; - Establishment of an insect collection - Individual reading of scientific papers, critical analysis and presentation
Content	<p>1 Table of Contents.</p> <p>1) Introduction</p> <ul style="list-style-type: none"> - Diversity of the insect world - Phylogeny - Role in the environment, impact on man <p>2) Morphology, internal anatomy, physiology, adaptation to different environments</p> <p>3) Life cycle, metamorphosis, hormone regulation, phase change (locusts), diapause and resistance to thermal stress</p> <p>4) Plant-insect relationships</p>

	<p>6) Behavior and Sociality 7) Eco-evolutionary entomology 8) Thermoregulation 9) Mobility and dispersion 10) Pollinators in anthropogenic landscapes 11) Interactions between insects: the case of the genus <i>Maculinea</i> 12) In-depth analysis of the main mites and insects harmful to arboriculture fruit, large crops, stored food, vegetable crops and forestry</p> <p>2. Additional Explanation (if required)</p> <p>This course includes two modules that can be combined to form two partims. - Module 1 (22.5 h-15h, 3 credits): General Entomology including practical work; - Module 2 (15 hours, 2 credits): Applied entomology</p>
<p>Inline resources</p>	<p>Moodle</p>
<p>Bibliography</p>	<p>les supports de cours obligatoires (diapositives power point, syllabus, documents de référence et articles scientifique) sont mis à disposition de l'étudiants sur Moodle</p>
<p>Other infos</p>	<p>This course can be given in English.</p>
<p>Faculty or entity in charge</p>	<p>AGRO</p>

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Agricultural Bioengineering	BIRA2M	3		