



Basic data of the subject	
FORESTS ENTOMOLOGY	
Academic Unit:	Faculty of Life and Environmental Sciences
Course title:	Forests Entomolgy
Program:	Forestry and Environmental Sciences
Level:	Bachelor
Course status:	Obligate
Study year:	II (Second year)
Number of hours per week:	2+2
Credit value – ECTS:	5
Time / location:	To be announced
Lecturer:	Prof. Asoc. Dr. Albana Plakiqi Milaimi
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Course description:	At the beginning of this course will be prescribed the notion, importance, objective, development and relationship of entomology with the other sciences. Then, will be analyzed role of insects in nature; Morphology and anatomy of insects (organ systems); Insects anatomy and morphology; reproduction and the mode of reproduction; pre and postembryonal development; eggs storage generation care. Also, will be discussed for the Hemimetabola and Holometabola insects, for the larvae, nymphs and imagos. the course, also includes the dimorphism, polymorphism and diapause. Special attention is given to the classification of insects, by the way will be recognize the representative species of insect groups (genus, familia, regnum), including insects without wings - <i>Apterygota</i> (<i>Protura</i> , <i>Diplura</i> , <i>Collembola</i> , <i>Thysanura</i>) and with wings - <i>Pterygota</i> (<i>Orthoptera</i> , <i>Blattodea</i> , <i>Mantodea</i> , <i>Isoptera</i> , <i>Dermaptera</i> , <i>Thysanoptera</i> , <i>Heteroptera</i> , <i>Homoptera</i> , <i>Coleoptera</i> , <i>Lepidoptera</i> , <i>Diptera</i> , and <i>Hymenoptera</i>). Then, will be discussed the notion of ecology; ecologic factors; their importance and classification. Particular emphasis will also be given to the abiotic and biotic factors that affect the phytophagous insects, as well as forest pest management measures. The last part of the course includes the forms of production and use of chemicals; Toxicology – safeguards and to be taken during the work, as well as classification of chemicals for the plant protection (Insecticides, Acaricides. Nematicides. Rodenticides, etj).
Course objectives:	The objective of this course is to provide the students with the basic knowledge on forest pests and their effects on the forests. The purpose is to recognize the anatomy, morphology, ways of breeding and species of forest pests, and their effects that cause in the forests.
Learning outcomes:	After completing this course, the students will be able to: <ul style="list-style-type: none"> • Recognize the morphological, anatomical, physiological and taxonomic characteristics of plant damaging insects and their biology and ecology. • Know the main pests of forest plants and the dynamics of their populations. • Recognize the nature of damage caused by insects in plants. • Possess the knowledge and skills necessary for the methods of monitoring and controlling the phytophageal insects. • Acquired knowledge to apply in practice.
Contribution on student load (must correspond with learning outcomes)	



Activity	Hours	Days/week	Total
Lectures	2	15 weeks	30
Exercise theoretical/laboratory	2	15 weeks	30
Practice work	5	1 weeks	5
Contact with lecturer/consultations	1	5 weeks	5
Field exercises	/	/	/
Mid-terms, seminars	2	2 weeks	4
Homework	/	/	/
Individual time spent studying (at the library or home)	1	10 weeks	10
Final preparation for the exam	3	10 weeks	30
Time spent in evaluation (tests, quiz, final exam)	6	1 weeks	6
Projects, presentations, etc.	/	/	/
Total			120
Teaching methods :	Lectures, discussions, practical exercises in laboratories and forests, consultations, independent projects, homework assignments, exams.		
Evaluation methods:	Students' assessment will be based on their attendance and commitment, written assignments, mid-term exam and final exam. The first evaluation (exam): 15%, The second evaluation: 15%, Seminars or other commitments: 10%, practical exam: 10%, Final Exam: 50%, Total 100%. Passability criteria are based on the decision of the Faculty Council, presented above in the Self-Evaluation Report (SER).		
Literature			
Basic Literature:	<ol style="list-style-type: none"> 1. Jaço N. 2008: Mbrojtja e Pyjeve – Entomologjia. 2. Ciesla W. 2011: Forest Entomology. Wiley Blackwell, A Jon Wiley & Sons, Ltd., Publication. 3. Schowalter, T. (2006): Insect Ecology. Academic press publication. United States of America. 		
Additional Literature:	<ol style="list-style-type: none"> 4. Berkeley BioKeys: Insecta. 2007. Berkeley Natural History Museums. University of California. http://biokeys.Berkeley.edu/inverts/insecta_orders.html 		

Designed study plan:		
Week	Lectures	Exercises
<i>First week:</i>	Entomology Science; Its history and significance.	Collecting and conservation of insects
<i>Second week:</i>	Insects morphology	Determination of group of insects according to their morphology
<i>Third week:</i>	Insects anatomy, Body cavity and internal systems of organs	Anatomy of insects; form and function of organs



<i>Fourth week:</i>	Reproduktive system of insects. Gametogenesis	Work on insect collecting
<i>Fifth week:</i>	Embryonal and after embryonal development of insects	Identification of immature insects
<i>Sixth week:</i>	Hemimetabola and holometabola insekts	Collecting and preserving of soil insects
<i>Seventh week:</i>	Insects stages of development; dimorphism and polymorphism. Diapauses; insects biological cycle. The first evaluation	Collecting and preserving of water insects
<i>Eighth week:</i>	Insects classification criteria. Familiarity with the representatives group.	Using the biokey to identify families of the hematopoietic insects
<i>Ninth week:</i>	Apterygota and Pterygota	Using the biokey to identify families of the holometabolic insects (Coleoptera dhe Lepidoptera)
<i>Tenth week:</i>	Ecology of insects	Using the biokey to identify families of the holometabolic insects (Diptera, Hymenoptera)
<i>Eleventh week:</i>	Classification of chemical means for plant protection	Examples of the influence of the abiotic factors on insect reproduction
<i>Twelfth week:</i>	Pests of conifeorus plants	Effect of temperature on fitophage insects development
<i>Thirteenth week:</i>	Pests of deciduous plants	Effect of some kinds of insecticides on insects development
<i>Fourteenth week:</i>	Measures for forest the management by pests	Use of pine needles as natural insecticides
<i>Fifteenth week:</i>	Form and methods of production of chemical preparations; Toxicology and protective measures during the work. The second evaluation	Use of the pepper and garlic as natural insecticides

Academic policies and rules of conduct:

- Students should be aware of and respect the institution and Code of ethics ([English-Kodi-Etikes-per-Student.pdf \(uni-prizren.com\)](#))
- Students should respect the schedule of lectures, and exercises and be attentive.
- It is mandatory to possess and presents a student ID card in the mid-terms and exam,
- During the compilation of course projects, students must adhere to the instructions given by the professor.
- During the exam is forbidden the use of mobile phones.