



UNIVERSITÀ
DEGLI STUDI DI BARI
ALDO MORO

DIPARTIMENTO DI
SCIENZE DEL SUOLO, DELLA
PIANTA E DEGLI ALIMENTI

LAUREA MAGISTRALE IN
MEDICINA DELLE PIANTE
INTERNATIONAL JOINT MASTER DEGREE IN
PLANT MEDICINE



General Information	
Academic subject	Applied Entomology (Module of I.C. Applied Entomology for Mediterranean crops)
Degree course	Master degree Plant Medicine (LM69)
Curriculum	Applied Entomology for Mediterranean crops
ECTS credits	6
Compulsory attendance	No
Language	Italian (English will be used when required for international students into didactic material)

Subject teacher	Name Surname	Mail address	SSD
	Rocco ADDANTE	rocco.addante@uniba.it	AGR/11

ECTS credits details	Area		
Basic teaching activities	Plant Protection disciplines		

Class schedule	
Period	Second semester
Year	First year
Type of class	Lectures, 4 ECTS (32 hours) Laboratory and field classroom, working groups, study case, and transferring of stakeholders' experiences 2 ECTS (28 hours) E-learning using public and dedicated platforms can be used, on demand as learning facilities for students with disabilities, working students, student athletes and students with babies.

Time management	
Hours	150
In-class study hours	60 (32 Lectures + 28 Lab & field cl.)
Out-of-class study hours	90

Academic calendar	
Class begins	2021 March 1
Class ends	2021 June 11

Syllabus	
Prerequisites/requirements	Knowledge of zoology and general entomology is requested for admission to the Master course.
Expected learning outcomes	<ul style="list-style-type: none"> • <i>Knowledge and understanding</i> <ul style="list-style-type: none"> o Knowledge of bio-ethology and ecology of the main insect species included in the teaching program. o Knowledge of the interactions between phytophagous insects and the main components of agro-ecosystems. o Knowledge of methods and equipment for monitoring and sampling phytophagous insects. o Knowledge of some predictive models of phytophagous insects. o Knowledge of crop protection management with particular regard to the biological and integrated control of phytophagous insects. • <i>Applying knowledge and understanding</i>



	<ul style="list-style-type: none"> o Ability to identify phytophagous insects and the symptoms they induce on host plants, as well as the main natural enemies o Ability to properly monitor and sample harmful insects o Ability to use the means for controlling harmful insects • <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> o Ability to apply the acquired knowledge on the management of phytophagous insects to different field realities after careful evaluation of production and market variables and in full respect and protection of the environment and consumers • <i>Ability to learn</i> <ul style="list-style-type: none"> o Learning skills will be evaluated in the classroom by putting oral questions on the main subjects of the teaching program. Expected learning outcomes, as knowledge and ability, are reported in the annex A of the Didactic Regulation of the course Plant Medicine (expressed by European Descriptors).
Contents	<p>Introduction. Classification of Insects. Characteristics of the main Insect Orders.</p> <p>The main insect pests of Stone-fruits: <i>Monosteira unicastata</i>, <i>Myzus persicae</i>, Armored scales, Nectarine thrips, <i>Anarsia lineatella</i>, <i>Cydia molesta</i>, <i>Ceratitis capitata</i>, <i>Rhagoletis cerasi</i>, <i>Drosophila suzukii</i>, <i>Capnodis tenebrionis</i>.</p> <p>The main insect pests of Citrus: <i>Aleurothrixus floccosus</i>, Aphids, <i>Icerya purchasi</i>, <i>Planococcus citri</i>, <i>Aonidiella aurantii</i>, <i>Phyllocnistis citrella</i>.</p> <p>The main insect pests of Vegetables: <i>Trialeurodes vaporariorum</i>, <i>Tuta absoluta</i>, <i>Helicoverpa armigera</i>, <i>Liriomyza huidobrensis</i>, <i>Leptinotarsa decemlineata</i>.</p> <p>The main insect pests of Cereals: <i>Dociostaurus maroccanus</i>, <i>Agriotes lineatus</i>.</p> <p>The main insect pests of Olive: <i>Saissetia oleae</i>, <i>Zeuzera pyrina</i>, <i>Prays oleae</i>, <i>Bactrocera (=Dacus) oleae</i>.</p> <p>The main insect pests of Grape-vine: <i>Planococcus ficus</i>, <i>Frankliniella occidentalis</i>, <i>Lobesia botrana</i>.</p>
Course program	
Bibliography	<ul style="list-style-type: none"> - Radcliffe E.B., Hutchinson W.D., Cancelado R.E., 2008 - Integrated Pest Management. Cambridge University Press, Cambridge. - Strand L.L., 1999 - Integrated pest management for stone fruits. University of California, Division of Agriculture and Natural Resources. Publication 3389.
Notes	<p>The teacher's Power Point presentations are available by registering on the website: http://tempus-it.agrif.bg.ac.rs/registration.php?register=Registra</p>
Teaching methods	The course topics will be featured with PowerPoint presentations and movie support.
Assessment methods	<p>For students enrolled in the course year in which the lessons are held, an oral intermediate examination is envisaged, whose vote is expressed in thirtieths. The Profit Exam consists of an oral exam on the topics developed during the theoretical and practical lessons in the classroom and in the laboratory as reported in the Didactic Regulations of the Master of Science in Plants Medicine (Article 9) and in the Plan of study (Annex A).</p> <p>The assessment of the student's preparation takes place on the basis</p>



	<p>of established criteria, as detailed in Annex A of the Teaching Regulations of the Master Degree. For students who have passed the intermediate examination, the final grade is obtained as the average between the grade on the intermediate examination and the final exam. For international students the exam can be made as a written questionnaire in multiple closed answers.</p>
Evaluation criteria	<ul style="list-style-type: none"> ○ <i>Knowledge and understanding skills</i> ○ <i>The student must demonstrate to know</i> <ul style="list-style-type: none"> ○ the bio-ethology and ecology of insect species included in the teaching program, ○ the interactions between phytophagous insects and the main factors of agro-ecosystems, ○ the methods and tools for monitoring and sampling phytophagous insects, ○ some predictive models of phytophagous insects, ○ the criteria of crop protection management with particular regard to the biological and integrated control of phytophagous insects. • <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> ○ <i>The student must own the ability</i> <ul style="list-style-type: none"> ○ to identify phytophagous insects and the symptoms they induce on host plants, as well as their main natural enemies ○ to properly monitor and sample phytophagous insects ○ to use proper methods and tools to control phytophagous insects. • <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> ○ The student must be able to apply the acquired knowledge on the management of phytophagous insects to the different field realities. • <i>Ability to learn</i> <ul style="list-style-type: none"> ○ The student must demonstrate that he/she has learned the main topics discussed during the course of the curriculum. ○ <i>Communication skills</i> ○ ability to organize the acquired knowledge in form of didactic presentation and to articulate it for didactic purposes
Further information	<p>Visiting hours Official visiting hours: 8.30-15.30 according to an established appointment requested by e-mail. Tutoring could be also made through the most common web applications.</p>