General Information	
Academic subject	**Applied Entomology (Module of I.C. Applied Entomology for Mediterranean crops)**
Degree course	**Master Course in Plant Medicine (LM69)**
Curriculum	
ECTS credits	6
Compulsory attendance	No
Language	Italian

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

ECTS credits details			
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, 2 ECTS (28 hours)

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	March 5, 2018
Class ends	June 22, 2018

Syllabus	
Prerequisites/requirements	Knowledge of zoology and general entomology requests for admission to the Master course.
Expected learning outcomes	• *Knowledge and understanding* 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. • *Applying knowledge and understanding* 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 • *Making informed judgments and choices* 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 • *Ability to learn*

	o Learning skills will be evaluated in the classroom by putting oral questions on the main subjects of the teaching program. The expected learning outcomes, in terms of knowledge and skills, are listed in Annex A of the Study Course Regulations (expressed through the European Degree Program descriptions)
Contents	Introduction. Classification of Insects. Characteristics of the main Insect Orders. The main insect pests of Stone-fruits:*Monosteira unicostata, Myzus persicae, Pseudaulacaspis pentagona, Quadraspidiotus perniciosus, Anarsia lineatella, Cydia molesta, Ceratitis capitata, Rhagoletis cerasi, Capnodis tenebrionis.* The main insect pests of Citrus: *Aleurothrixus floccosus, Aphis spiraecola, Aphis gossypii*, *Toxoptera aurantii, Icerya purchasi*, *Planococcus citri*, *Aonidiella aurantii, Phyllocnistis citrella*. The main insect pests of Vegetables: *Thrips tabaci, Trialeurodes vaporariorum*, *Aphis fabae, Macrosiphum euphorbiae, Tuta absoluta, Phtorimaea operculella, Helicoverpa armigera, Gortyna xanthenes, Liriomyza huidobrensis*, *Leptinotarsa decemlineata*, *Bruchus rufimanus*. The main insect pests of Cereals: *Dociostaurus maroccanus, Sitobion avenae, Agrotis segetum*, *Zabrus tenebrioides, Agriotes lineatus.* The main insect pests of Olive: *Saissetia oleae*, *Zeuzera pyrina*, *Prays oleae*, *Bactrocera* (=*Dacus*) *oleae*. The main insect pests of Grape-vine: *Frankliniella occidentalis, Planococcus ficus*, *Lobesia botrana.*
Course program	
Bibliography	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	The teacher's Power Point presentations are available by registering on the website: http://tempus-it.agrif.bg.ac.rs/registration.php?register=Registra
Teaching methods	The course topics will be featured with PowerPoint presentations and movie support.
Assessment methods (indicate at least the type written, oral, other)	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). The assessment of the student's preparation takes place on the basis of established criteria, as detailed in Annex A of the Teaching Regulations of the Bachelor's 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 foreign students the exam can be made as a written questionnaire in multiple closed answers.

Evaluation criteria	• *Knowledge and understanding skills*
	  • *The student must demonstrate to know*
	  o the bio-ethology and ecology of insect species included in the teaching program,
	  o 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. • *Applying knowledge and understanding* • *The student must own the ability* ○ 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. • *Making informed judgments and choices* ○ The student must be able to apply the acquired knowledge on the management of phytophagous insects to the different field realities. • *Ability to learn* ○ The student must demonstrate that he/she has learned the main topics discussed during the course of the curriculum.
Further information	**Visiting hours:** All afternoons by previous agreement.