Bachelor's degree: Agricultural Science and Technology
***Curriculum*:** Plant production and protection
Integrated Course: Applied Entomology and Agricultural Zoology (9 ECTS)
Module: Applied Entomology (6 ECTS: 4 ECTS Lecture + 2 ECTS Laboratory and field practices)

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Educational Goals

The course is tailored and focused on the insect identity, in the sense of its inherent characteristics, qualities, attributes, features, sum, substance, character and complexion. The course approaches the insect to qualify the student as a basic entomologist capable for approaching insect management topics and pest species.

Acquirable skills

Within the topic, the students will acquire consciousness about the nature of the insect system and its biological and functional options. Knowledge of multiplicity in insect ontogenesis and phylogenetic is a major acquirable skill helping real cases "insect system" analysis, critical evaluation and building of the background needed for an actual insect pest control. Finally, the teaching will increase the candidate ability to solve complex problems in Entomology and to think rigorously and independently while choosing the premises for an effective pest management application.
The expected results of learning, in term of knowledge and skills, are listed in the Annex A of the Teaching Regulation of the Bachelor's degree in Agricultural Science and Technology, expressed by means of the European Descriptors of the Master Course; concerning the Plant Protection Disciplines.

Programme (1 CFU of Lesson = 8 hours; 1 CFU of Practicum = 14 hours)

Topic/Subject	N. ECTS	Number of hours L*	E*
Insect: gross & fine morphology, anatomy, reproduction, development and immature stages.	**3**	**24**	
Traditional and modern techniques in insect morphology and in phylogenetic reconstruction based on morphology.	**1**	**8**	
The orders of Hexapoda and pest control selected arguments about: Collembola, Dermaptera, Orthoptera, Mantodea, Blattodea, Psocoptera, Thysanoptera, Auchenorrhyncha, Sternorrhyncha, Heteroptera, Hymenoptera, Neuroptera, Coleoptera, Lepidoptera and Diptera.	**2**		**28**
Total	**6**	**32**	**28**

*L = Lecture; E= Lab & field cl.

Exam

Only the students enrolled in the academic year during which this module is provided, can have an intermediary exam during the time of teaching.
The intermediary exam will be given in the form of crossword questions arising from handouts. Candidate will apply replying that part of the about sixty question highlighted in handouts given in lessons at the time of intermediary. The maximum number of answers given for each Partial will trigger the top evaluation of that trial and score the others, proportionally. The intermediary exam results will be discussed during Final trial. The assessment of the intermediary exam will last for one year and will concur to the vote of the Integrated Course. Final exam will be given in the form of topic discussion on the same arguments proposed in intermediary exam and found in handouts and textbook. Candidate will discuss three topics picked from about the sixty highlighted in handouts but not included in intermediary exam. The Module evaluation will concur to the Exam vote expressed in thirtieths as 2/3 of the final, being the further third from the other module component the integrated course. The final will be given if the candidate scored 18 minimum in each module. The evaluation of the student is based on criteria previously fixed such as reported in the Annex A of the Didactic Regulation of the Bachelor's Course in Agricultural Science and Technology.
Being the handouts and the textbook in English, international students will follow the lessons in Italian and prepare the Partial and the Exam, as Italians will do.

References

- Course handouts in English, as .pdf file given at class.

Additional readings

- Beutel R.G., Friedrich F., Ge S.-Q., Yang X.-K. (2014). Insect Morphology and Phylogeny - A textbook for students of entomology. Walter de Gruyter GmbH, Berlin/Boston, ISBN 978-3-11-026263-6 e-ISBN 978-3-11- 026404-3
- Gibbs T.J. (2014). Contemporary Insect Diagnostics: The Art and Science of Practical Entomology. Academic Press, ISBN: 978-0-12-404623-8
- McGavin G.C. 2001 - Essential Entomology An Order-by-Order Introduction. Oxford University Press, ISBN 0-19850002-5

Visiting hours

Tuesday and Thursday, please e-mail to agree on time.