

Code: 1489 Crop Protection**Degree:** 2nd cycle – Tropical Agriculture and Sustainable Development; Agriculture**Stream:** Agriculture - Agriculture and Animal Production; Horticulture; Plant Protection**Curricular Year:** 1st**Semester Course:** 2nd**Credits:** 6 ECTS**Compulsory** (TASD; Agriculture - Plant Protection)**Language:** Portuguese/English**Optional** (Agr - Agriculture and Animal Production; Horticulture)**Responsible:** Maria Helena Mendes da Costa Ferreira Correia de Oliveira**Other lecturer(s):** Ana Paula Ferreira Ramos, Ana Maria da Silva Monteiro, António Maria Marques Mexia, Arlindo Lima, José Carlos Franco Santos Silva and Elisabete Tavares Lacerda de Figueiredo Oliveira**Web Site:** <http://www.isa.utl.pt/home/node/3819>**1. Contact hours:****Lectures 28 Lecture/Practicals 42 Others 14 Total 84****2. Objectives:**

At the end of the course the students should be able to recognize the main enemies affecting crops, to know the control measures to be used in Integrated Pest Management (IPM) program, to evaluate the need to intervene and to select direct plant protection methods which have the minimum impact on human-health, non-target organisms and the environment.

3. Programme:**I. Protection Systems in grapevine and fruit trees**

Agricultural ecosystem. Key pests (insect pests, diseases and weeds). Symptoms/damages and losses. Biological cycles. Epidemiology/population dynamics. Natural enemies. Decision making tools. Management tactics.

II. Protection Systems of vegetables and cereal crops

Agricultural ecosystem. Key pests (insect pests, diseases and weeds). Symptoms/damages and losses. Biological cycles. Epidemiology/population dynamics. Natural enemies. Decision making tools. Management tactics.

III. Case-Studies: Management of ornamental plants, tropical and sub-tropical crops and turfgrass.**4. Bibliography:****Main Bibliography**

Slides (Power-Point) supplied by the lecturers.

Amaro, P. (ed.) 2000. *A Protecção Integrada da Vinha na Região Norte*. ISA Press, Lisboa.Amaro, P. (ed.) 2001. *A Produção Integrada da Pêra Rocha*. ISA Press, Lisboa.UC-IPM online (<http://www.ipm.ucdavis.edu/>)**Other Bibliography**Amaro, P. 2003. *A Protecção Integrada*. ISA Press, Lisboa.Moreira, I., Vasconcelos, T., Caixinhas, L., Espírito-Santo, D. 2000. *Ervas daninhas das Vinhas e Pomares*. 2^a ed. DGPC.**5. Assessment:**

Frequency: presence in 75% of lectures/practicals

I. Continuous assessment

Lecture exams (2) (60%);

Seminar (40%)

Final grade: students with a minimal grade of 10 (in 20) in all evaluations will be dispensed of the final examination.

II. Final exam: students must have course frequency to apply.**6. Estimated Workload:**

168 Hours

7. Last Update:

16/7/2010