Code: 1412 **Vegetable Horticulture**
Degree: 2nd cycle – Agriculture; Food Science and Engineering
Stream: Agriculture – all; Food Science and Engineering – Food Processing
Curricular Year: 2nd **Semester Course: 1st**
Credits: 6 ECTS **Compulsory** (Agr - Horticulture)
Language: Portuguese/English **Optional** (all the others)
Responsible: João Carlos da Silva Dias
Other lecture (s): -
Web Site: http://www.isa.utl.pt/home/node/3846

1. Contact hours:
Lectures 28 **Praticals/Laboratory** 42 **Others** 14 **Total** 84

2. Objectives:

- to study the crop technology and the production systems of each vegetable;
- to study the scientific and technical bases for a correct production technology of each vegetable in conventional and organic horticulture. It is given priority to the study of the: botany and vegetable diversification; phytochemicals and their effects in human health; physiology of vegetables; more important cultural practices; factors that affect productivity and quality; and main systems of production in which the vegetable is integrated;
- to develop skills and to promote the decision making.

3. Programme:

1. History and evolution of vegetable production systems
2. Production of leafy vegetables. Case-studies: lettuce and leaf brassicas. Nitrates and residues at leafy vegetables.
3. Production of root, bulb and tuber vegetables. Case-studies: potato and alliums.
4. Production of fruit vegetables. Case-studies: tomato, muskmelon and legumes.
5. Production of inflorescence vegetables. Case-studies: cawliflower and broccoli.
6. Organic production of vegetables. The conversion, fertilization and crop protection. Production of vegetables in organic production.
7. Fertirrigation: formulation, equipments, control and programming
8. Environment control in greenhouses: equipments, calculus and programming
9. Informatic solutions for management and decision making in vegetable exploitations.

Practical Classes and field trips:
Conversion to organic horticulture. Calculus of nitrogen fertilization in organic horticulture. Formulation of nutritive solutions for different types of tomato in substrate culture. Different calculus for environment control in greenhouses. Field trips to vegetable exploitations at "Oeste" (1 day), at "Costa Vicentina" and "Algarve" (2 days)", and at "Outra Banda" (1 day).

4. Bibliography:

Main Bibliography

Almeida, D., 2006. Manual de Culturas Hortícolas. Vol. 1 and 2. Editorial Presença, Lisboa.
Rubatzky, V. & Yamaguchi, M., 1999. World Vegetables, Principles, Production and Nutritive Value. Aspen Publishers, Westport.

Other Bibliography

Selected articles for each vegetable crop.

5. Assessment:

Grading:
a. 3 individual lecture exams: 50%:
3 reports: 50%
b. Final Exam: students must have frequency to apply
Final grade: students with a minimal grade of 10 (in 20) will be approved; it is obligatory to obtain a minimal grade of 8 and a minimum average of 10 (in 20) in the 3 lecture exams**.**

6. Estimated Workload:	168	Hours
7. Last Update:	19/7/2010	