

Code: 1704 Industrial Plants and Equipment**Degree:** 1st cycle – Food Science and Engineering**Curricular Year:** 3rd**Semester Course:** 2nd**Credits:** 6 ECTS**Compulsory****Language:** Portuguese/English**Responsible:** Isabel Maria Nunes de Sousa**Other lecturer(s):** -**Web Site:** <http://www.isa.utl.pt/home/node/4022>**1. Contact hours:****Lecture/Practicals 70 Others 14 Total 84****2. Objectives:**

To bridge food companies reality and Academia.

Understand the complexity of the plant lay-out and main equipments of the Food Industries through tutorial classes, visits and group works, presentations and discussions in class.

3. Programme:

In loco visiting of Industrial plants from different food products.

Presentation and discussion of the visited plants in class.

General considerations over the organization rationale and commercial strategy of the visited company. Critical analysis of the plant: i) Spatial distribution of the different functions (administrative; commercial; social; productive; etc) ii) The Production area: technology options; lay-out draft with positioning of the main pieces of equipment.

Draft of plant orientation and discussion of different alternatives

4. Bibliography:**Main Bibliography**Perry's Chemical Engineers' Handbook, Eighth Edition by Don W. Green & Robert H. Perry, 2007.Ullmann's (Encyclopedia) Chemical Engineering and Plant Design, 2 Volumes Wiley-VCH, 2004Process Development: From the Initial Idea to the Chemical Production Plant G. Herbert Vogel, 2005**Other Bibliography**www.plant-design.com; www.plantdesign.com; www.foodnetbase.com; www.foodplantdesign.com**5. Assessment:**

- An individual written test, representing 40% of final grade

- Group presentation and discussion in class of the plants visited, representing 20% of final grade

- A practical work in group, with oral and written presentation, representing 40% of final grade

6. Estimated Workload:

168 Hours

7. Last Update:

12/7/2010