

**Code: 1805 Food Hydrocolloids****Degree:** 2<sup>nd</sup> cycle – Gastronomical Sciences**Curricular Year:** 1<sup>st</sup>**Credits:** 3.5 ECTS**Language:** Portuguese/English**Responsible:** Luísa Maria da Silva Pinto Ferreira**Other lecturer(s):** -**Web Site:** <http://www.isa.utl.pt/home/node/4336>**Semester Course:** 2<sup>nd</sup>  
**Compulsory****1. Contact hours:****Lectures 14 Lecture/Practicals 14 Practicals 14 Others 5 Total 49****2. Objectives:**

Students should get acquaintance of a range of hydrocolloids used by the food industry or food production on a small scale.

They should learn their origins, structural features and the relationship between structure and properties, functions and applications.

**3. Programme:**

Hydrocolloid - general characteristics and study of some classes of hydrocolloids (agar, starch and modified starch, gelatin, carrageenan, xanthan, gellan, pectins, alginates, galactomannans and cellulose derivatives): its origins, molecular structures, characteristics and behavior.

Applications of hydrocolloids in food as texturants, adhesives, stabilizers, coatings, formation of gels and liquid encapsulation of flavor.

**Teaching method** includes:

- Lectures, using the data show;
- Practical and problem solving sessions, in which specific cases or articles about culinary techniques and processes will be discussed;
- Laboratory sessions;
- Use of a website with study material and contact by email.

**4. Bibliography:****Main Bibliography**

Phillips, G. O.; Williams, P. A., Handbook of Hydrocolloids, Woodhead Publishing Ltd, 2000

Nussinovitch, A., Water-Soluble Polymer Applications in Foods, Blackwell, 2003

Hoefler, A. C., Hydrocolloids: Practical Guides for the Food Industry, Amer Assn of Cereal Chemists, 2004

Coultrate, T., Food: The chemistry of it's components, Royal Society of Chemistry, 2009

Belitz, H.D., Grosch, W., Schieberle, P., Food chemistry. Springer, 2004

**5. Assessment:**

Theoretical evaluation (75%)

Individual tests, classified from 0 to 20.

Practical assessment (25%)

Continuous assessment during the semester. Submission of lab reports.

Group project.

**6. Estimated Workload:**

98	Hours
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**7. Last Update:**

30/12/2010
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