

**Code: 1724 Human Nutrition****Degree:** 1<sup>st</sup> cycle – Food Science and Engineering**Curricular Year:** 2<sup>nd</sup>**Credits:** 6 ECTS**Language:** Portuguese/English**Prerequisites:** Organic Chemistry and Biochemistry**Responsible:** Maria Isabel Nunes Januário**Other lecturer(s):** -**Web Site:** <http://www.isa.utl.pt/home/node/4038>**Semester Course:** 2<sup>nd</sup>  
**Compulsory****1. Contact hours:**

Lecture/Practicals 70 Others 14 Total 84

**2. Objectives:**

Provide the students with a set of skills that enable them to assess and characterize the food in terms of its nutritional value.

Convey the basic concepts of human nutrition physiology.

Assess the nutritional quality of diets and preparation of a basic diet.

**3. Programme:****I - Food and Nutrition**

Basic principles of human nutrition: food, nutrients and balanced diet.

Energy balance: food energy; body composition; energy needs; regulation of food intake.

Water in human body: importance and needs.

Protein nutrition: basic concepts; quality of proteins; protein needs; major protein foods.

Carbohydrate nutrition: basic concepts; carbohydrate types; carbohydrate needs; main carbohydrate foods; dietary fiber; glycemic index.

Lipid nutrition: basic concepts; lipid types; needs in lipids; major lipid foods.

Vitamin and Mineral nutrition: its importance; main food sources of vitamins and minerals.

**II - Digestion and Nutrients Absorption**

Digestive tract: basic concepts of anatomy and physiology.

Digestion. Nutrients absorption. Metabolic processes.

**III – Nutrition, Diet and Health**

Balanced and healthy diet importance.

Complementary nutrition: functional foods; dietary supplements.

Diseases associated with protein-energy deficient states, vitamin deficiencies and mineral deficiencies. Diseases associated with overeating and excesses of some nutrients. Eating disorders.

Nutrition and dietetics: Rules for the preparation of a basic diet; Tables of food composition; Special dietary requirements.

**4. Bibliography:****Main Bibliography**Eastwood, M. *Princípios de Nutrição Humana*. 2008Instituto Nacional de Saúde Dr. Ricardo Jorge. *Tabela de Composição de Alimentos*. 2007.Garrow, J.S.; James, W.P.T.; Ralph, A. (eds.). *Human nutrition and dietetics*. 2000.Ferreira, F.A.G. *Nutrição humana*. Fundação Calouste Gulbenkian. 1983**Other Bibliography**[www.who.int/](http://www.who.int/)[www.fao.org/](http://www.fao.org/)[www.alimentacaosaudavel.org/](http://www.alimentacaosaudavel.org/)[www.nal.usda.gov/fnic/foodcomp/search/](http://www.nal.usda.gov/fnic/foodcomp/search/)**5. Assessment:**

Continuous assessment, with the following components:

- Individual partial tests

- Seminars (work group) - oral presentation with discussion and written work

Final exam (students who fail to make continuous assessment)

**6. Estimated Workload:**

168 Hours

**7. Last Update:**

25/2/2011