Code: 1666 **Biotechnology**
Degree: 2nd cycle – Tropical Agriculture and Sustainable Development
Curricular Year: 1st **Semester Course: 1st**
Credits: 6 ECTS **Compulsory**
Language: Portuguese/English
Responsible: Maria Isabel Nunes Januário
Other lecturer(s): -
Web Site: http://www.isa.utl.pt/home/node/3732

1. Contact hours:
Lectures 28 **Lecture/Praticals** 28 **Practicals/Laboratory** 28 **Total** 84

2. Objectives:

To provide students with knowledge and sensitivity to the new challenges and potential of the new bio-technologies that can have impact and possible application on production systmes in tropical areas, on food and non-food production systems, with generation of new value based on natural resources such as the production of bioenergy and industrial production from renewable raw materials.

3. Program:

1 – Biotechnology: its importance for developing countries, particularly in the agri-food and agro-industrial sector
2 – Processing and Food Preservation
3 – Microbiology and Industrial Processes
4 – Biomass and Bioenergy
5 – Biotechnology and Sustainable Development

4. Bibliography:

Main Bibliography

Singh, R.P. e Heldman, D. R., "Introduction to Food Engineering" 2º Ed., Academic Press, Inc., San diego, 1993.
Fellows, P., " Food Processing Technology: Principles and Practice," Ellis horwood Ltd., Chichester (England), 1988. (reprint 1996).
H.G. Schartzberg e M. A. Rao (Eds.), " Biotechnology and Food Process Engineering." Marcel Dekker, Inc., New York, 1990.
Ki-Zerbo, J., Molle, JF Energy from biomass in developing countries. 1987 (BISA).
Miyamoto, K. Renewable biological systems for alternative sustainable energy production. FAO - Agricultural Services Bulletin 128. Rome. 1987.

Other Bibliography

To be defined

5. Evaluation:

Through written tests and bibliographical revision work

6. Estimated Workload: 168 Hours

7. Last Update: 16/7/2010