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<td>Fundamentals of Food Technology</td>
<td>1º</td>
<td>2º</td>
<td>6</td>
<td>Compulsory</td>
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**LECTURER(S)**

Rafael Bailón Moreno

Departamento de Ingeniería Química. Facultad de Ciencias. E-mail: bailonm@ugr.es

**TUTORING SCHEDULE**

http://sl.ugr.es/bailonm

**DEGREE WITHIN WHICH THE SUBJECT IS TAUGHT**

Degree in Food Science and Technology

**PREREQUISITES and/or RECOMMENDATIONS (if necessary)**

Students should have passed the following basic subjects: Physics, Chemistry and Mathematics

**BRIEF ACCOUNT OF THE SUBJECT PROGRAMME**


**GENERAL AND PARTICULAR ABILITIES**

CE2, CE4, CE5, CE6, CE15

**OBJECTIVES (EXPRESSED IN TERMS OF EXPECTED RESULTS OF THE TEACHING PROGRAMME)**

At the end of the subject the student should know / understand:

- Know the basic concepts related to food engineering.
- Solve balances of matter in single units and systems, without chemical reaction and with chemical reaction, in steady and non-steady states.
- Solve balances of energy in single units and systems, without chemical reaction and with chemical reaction in steady, and non-steady states.
- Jointly solve balances of matter and energy.
- Know the laws that govern the transport phenomena of momentum, heat and matter.
- Know the different types of chemical reactors and their modes of operation and calculate the dimensions a single reactor.

DETAILED SUBJECT SYLLABUS

THEORETICAL TOPICS:
- Theme 1. Introduction to Chemical Engineering and Food. Concept of Chemical Engineering and Food Engineering. Development of processes and products in the food industry. Access to information technoscientific and evaluation. Extensive and intensive variables. Technical System of Units. Types of operation and contact. Block and flow diagrams. Classification and brief description of the main basic operations of the food industry.
- Theme 3. Balances of matter with chemical reaction in steady state. Balances of matter for single units and systems in series, with shunt currents and recycle streams without purge and purge.

PRACTICAL SYLLABUS:

Practices class / computer

Practice 1. Triangular diagrams.
Practice 2. Graphical solution of a balance of matter.
Practice 3. Solving nonlinear equations by numerical methods.
Practice 4. Numerical integration
Practice 5. Derivation of empirical models from experimental data.
**READING**

**FUNDAMENTAL BIBLIOGRAPHY:**
- V. Bravo Rodríguez, G. Blázquez García y A. Gálvez Borrego. Fundamentos de la Ingeniería Química. V. Bravo (1997)

**SUPPLEMENTARY BIBLIOGRAPHY:**

**RECOMMENDED INTERNET LINKS**