Course guides
390211 - BQ - Biochemistry

Unit in charge: Barcelona School of Agri-Food and Biosystems Engineering
Teaching unit: 745 - DEAB - Department of Agri-Food Engineering and Biotechnology.

Degree: BACHELOR'S DEGREE IN BIOSYSTEMS ENGINEERING (Syllabus 2009). (Compulsory subject).

Academic year: 2021 ECTS Credits: 6.0 Languages: Catalan

LECTURER

Coordinating lecturer: JOSE SABATE REBOLL

Others:

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

Transversal:
2. SELF-DIRECTED LEARNING - Level 2: Completing set tasks based on the guidelines set by lecturers. Devoting the time needed to complete each task, including personal contributions and expanding on the recommended information sources.

TEACHING METHODOLOGY


LEARNING OBJECTIVES OF THE SUBJECT

At the end of Biochemistry course, students should be able to solve exercises about:
- the relationship between the structure and function of biomolecules
- enzyme kinetics
- the main metabolic pathways

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours small group</td>
<td>20,0</td>
<td>13.33</td>
</tr>
<tr>
<td>Hours large group</td>
<td>40,0</td>
<td>26.67</td>
</tr>
</tbody>
</table>

Total learning time: 150 h
CONTENTS

BIOMOLECULES

Description:
- Chemical Principles of Biochemistry
- Proteins
- Carbohydrates
- Lipids and membranes
- Nucleic acids

Full-or-part-time: 55h
Theory classes: 12h
Laboratory classes: 10h
Self study: 33h

ENZYMES

Description:
- Enzymatic Kinetics
- Catalytic Strategies

Full-or-part-time: 35h
Theory classes: 8h
Laboratory classes: 6h
Self study: 21h

METABOLISM

Description:
- Metabolism Energy
- Catabolic pathway
- Anabolic pathway
- Regulation of Metabolism

Full-or-part-time: 60h
Theory classes: 20h
Laboratory classes: 4h
Self study: 36h

ACTIVITIES

ACTIVITY 1: CLASSROOM LESSONS

Full-or-part-time: 98h
Theory classes: 38h
Self study: 60h

ACTIVITY 2: INDIVIDUAL ASSESSMENT TESTS

Full-or-part-time: 2h
Theory classes: 2h
ACTIVITY 3: LABORATORY EXPERIMENTS

Full-or-part-time: 35h
Laboratory classes: 14h
Self study: 21h

ACTIVITY 4: EXERCICES WITH COMPUTER

Full-or-part-time: 15h
Laboratory classes: 6h
Self study: 9h

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

RESOURCES

Computer material:
- BioRom
- ChemSktech