# 1. OVERVIEW

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|---|---|
| **Subject Area** | Informatics |
| **Degree** | Biotechnology |
| **School/Faculty** | Biomedical and Health Sciences |
| **Year** | 1º |
| **ECTS** | 6 |
| **Type** | Compulsory |
| **Language(s)** | English |
| **Delivery Mode** | On campus |
| **Semester** | 1º |
| **Academic Year** | 24-25 |
| **Coordinating professor** | **Raquel Madrid García** |
| **Teacher** | **Héctor García Cabrera, Raquel Madrid García, Víctor Soto Larrosa** |

# 2. INTRODUCTION

Computing is a compulsory subject worth 6 ECTS and is taught in the first term of the first year of the Bachelor's Degree in Biotechnology. This subject belongs to the PHYSICS, MATHS AND COMPUTING module worth a total of 30 ECTS. It deals with the following topics: office computing, basic concepts of information technology, using a computer and handling files, word processing, spreadsheets, databases, presentation, information and communication.

# 3. SKILLS AND LEARNING OUTCOMES

**Abilities:**
**HAB03**. Apply the right equations or procedures to interpret the mathematical, statistical, biophysical and thermodynamic data to study systems of interest in biotechnology.
• Use statistical programs, spreadsheets and relational databases, as well as graphics software.
• Manage databases and local and distributed components depending on current and future trends.
• Use strategies in search and recovery systems for scientific data.

**Skills:**
**COMP07**. Manage databases and IT programs which could be used in the field of biotechnology and interpret the information extracted.

# 4. CONTENTS

- Basic computer architecture. Current operating systems.
- Statistical programs, spreadsheets and relational databases.
- Graphical representation programs.
- Technology and sources of scientific and health information.
- Search and recovery systems for scientific data.

This subject area is divided into 5 learning units, which are then divided into 5 topics:

Unit 1. Introduction to Information Technology.
- 1.1 Introduction to information technology and basic computer architecture. Current operating systems.
- 1.2. The history of computers.
- 1.2. Chemical structure drawing software: ChemSketch.

Unit 2. Spreadsheets. Statistical programs, spreadsheets and relational databases. Graphical representation programs.

- 2.1. Microsoft Excel. Filtering and sorting data, and analysis of experimental data and its representation.

Unit 3. Word processing.
- 3.1. Microsoft Word. Using a word processor to edit academic texts.

Unit 3.2. Bibliographical citations. Technology and sources of scientific and health information. Search and recovery systems for scientific data.

- 3.2.1. Scientific publications.
- 3.2.2. What is a bibliographical citation?
- 3.2.3. Zotero: how to create a bibliography.

Unit 4. Presenting on slides.
- 4.1. Microsoft PowerPoint. Learning to use tools which assist in Spoken presentations.

Unit 5. Molecule editing.
- 5.1. ChemSketch. Learning how to use tools which enable molecule editing.

## 5. TEACHING/LEARNING METHODS

The types of teaching/learning methods are as follows:
- Lectures
- Collaborative learning
- Problem-based learning
- Learning based on workshop teaching

## 6. LEARNING ACTIVITIES

The types of learning activities, plus the amount of time spent on each activity, are as follows:

| Learning activity | Number of hours |
|---|---|
| Lectures | 30 |
| Asynchronous master lectures | 10 |
| Problem-solving | 18 |
| Spoken presentations | 3 |

| | |
|---|---|
| Written reports and essays | 4 |
| Tutorials | 15 |
| Independent working | 50 |
| Workshops and/or lab work | 14 |
| On-campus knowledge tests | 6 |
| **TOTAL** | **150** |

# 7. ASSESSMENT

The assessment methods, together with how much they each count towards the final grade for the subject area, are as follows:

| Assessment system | Weighting |
|---|---|
| On-campus knowledge tests | 60% |
| Oral presentations | 5% |
| Essays and reports | 15% |
| Case/Problem | 15% |
| Laboratory activities | 5% |

On the Virtual Campus, when you open the subject area, you can see all the details of your assessment activities and the deadlines and assessment procedures for each activity.

## 7.1. Ordinary exam period

To pass the subject area in the ordinary exam period you must obtain a mark of 5.0 or more out of 10.0 in all assessed parts of the subject. Any part you do not pass in the ordinary exam period will need to be recovered in the extraordinary exam period (resits).

Your final grade will be the average of the partial marks in each of the learning activities you have passed. The continuous assessment system for the learning activities requires attendance to at least 50% of the classes.

*It is compulsory for students studying degrees on-campus to accredit attendance to at least 50% of classes. This requirement qualifies students for the right to obtain academic counselling, support and monitoring*

*from the professor. Failure to accredit attendance to at least 50% of the classes by any of the means proposed by the University will mean that the professor awarding a fail to the student for that subject area in the ordinary exam period in accordance with the grading system outlined in these regulations. All of the above, without prejudice to the other requirements or higher attendance percentages that other faculties may stipulate in their learning guides or internal regulations.* Regulations for the assessment of official degree programmes, Art. 1 point 4.

(https://universidadeuropea.com/resources/media/documents/Reglamento_de_evaluacion_de_titulaciones_oficiales_grado-_UEM._Eng-en-US.pdf)

### 7.2. Extraordinary exam period (resits)

To pass the subject area in the extraordinary exam period (resits), the students must obtain a mark equal to or above 5.0 out of 10.0 in all parts of the subject assessment they did not pass during the ordinary exam period.

The student must submit the activities not passed in the ordinary exam period taking into account the corrections or comments made by the teacher. The student must also submit any activities which were not submitted.

The final grade will be the average of the partial marks in each of the activities passed (with a mark equal to or higher than 5 out of 10). The marks for the assessable activities the student passed in the ordinary exam period will be maintained for calculating this grade.

## 8. TIMELINE

The timeline with delivery dates of assessable activities in the subject area is indicated in this section:

| Assessable activities | Date |
|---|---|
| Activity 1. Introduction to information technology and computer architecture. Knowledge assessment (test) | Week 1-2 |
| Activity 2. Spreadsheets. Excel.<br>Oral presentation evaluation. | Week 1-4 (at same time as activity 1) |
| Activity 3. Word processing | Week 4-5 |
| Activity 3.2. Inserting citations in academic work.<br>Assessment activity 3.<br>Oral presentation Word | Week 5-6 |
| Activity 4. Learning to do presentations in PowerPoint. Assessment activity 5.<br>Oral presentation PowerPoint. | Week 7-8 |
| Activity 5. Molecule editing. | Week 9-10 |
| Activity 6. Creating an IBL report and presentation (integral work on global knowledge) | Week 11-15 |

The timeline may be subject to modifications for logistical reasons of the activities. Students will be informed of any changes in due time and course.

## 9. BIBLIOGRAPHY

The recommended bibliography is indicated below:


- Microsoft Office Pack 2010: Step by Step, Hart-Davis, Guy MacGraw-Hill INTERAMERICANA DE MEXICO.
- Dedicated guides for each of the programs used during the lectures.
- Drawing chemical structures and graphical images. ADC/ChemSketch for Microsoft Windows.
- Informática Básica, Martín Martínez Francisco Javier, RA-MA S.A. Editorial y Publicaciones, ISBN978-84-7897-593-8 (**2005**).


## 10. EDUCATIONAL GUIDANCE AND DIVERSITY UNIT

The Educational Guidance and Diversity Unit (ODI in Spanish) offers support throughout your time at university to help you with your academic achievement. Other cornerstones of our educational policy are the inclusion of students with special educational needs, universal access in all our university campuses and equal opportunities.

This ODI unit offers students:

1. Support and monitoring through counselling and personalised student plans for those who need to improve their academic performance.
2. Curricular adaptations to uphold diversity, with assistance for those students who require specific educational support, leading to equal opportunities without significant changes to methodology or evaluation.
3. We offer students a range of extracurricular educational resources to reinforce skills which will enhance their personal and professional development.
4. Career guidance by offering tools and advice to students with doubts regarding their professional careers or those who believe they have chosen the wrong line of study.

Students who need educational support can contact us at:
orientacioneducativa@universidadeuropea.es

## 11. SATISFACTION SURVEYS

Your opinion matters!

Universidad Europea encourages you to complete our satisfaction surveys to identify strengths and areas for improvement for staff, degree courses and the learning process.

These surveys will be available in the surveys area of your virtual campus or by email.

Your opinion is essential to improve the quality of the degree.

Many thanks for taking part.