Universidad Zaragoza

Academic Year/course: 2021/22

63235 -

Syllabus Information

Academic Year: 2021/22
Subject: 63235 -
Faculty / School: 107 - Facultad de Educación
Degree: 584 -
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ECTS: 6.0
Year: 1
Semester: Second semester
Subject Type: Optional
Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.2. Learning tasks

1. Lectures. This activity is focused to the acquisition of basic knowledge of general biology. It will take place through participatory lectures. The material of lectures will be provided by professors to the students through the UNIZAR learning platform on the Moodle page for the course.

2. Practical case sessions: These sessions will be developed through laboratory practices and the study and resolution of practical cases. These activities will help the student to acquire the ability and skills needed to analyze and resolve particular problems, and to learn how to prepare a written report and their interpretation.

3. Seminars. This activity will consist of the study of a current biology topic with relevance in our society. Finally, the works are presented and discussed in class by the student. The methodology used will be: problem-based learning, bibliography management, work in group and individual, elaboration of a memory and oral presentation and discussion.

The teaching and assessment activities will be carried out in person unless, due to the health situation, the provisions issued by the competent authorities and by the University of Zaragoza force them to be carried out online.

4.3. Syllabus

The course will address the following topics:

1. Introduction and overall view of biology.

2. The chemical context of life: *origin of life, the elements of life, water as molecule that supports all of life, basic cell molecules and macromolecules*

3. The cell and metabolism: *cell structure and function, prokaryotic and eukaryotic cells, membrane structure and transport, introduction to metabolism, cells respiration and fermentation, photosynthesis.*

4. The molecular and chemical basis of inheritance: *cell division, the experiment of Mendel and the gen idea, the molecular basis of inheritance.*

5. The history and mechanisms of evolution: *Darwinism and neo-darwinism. Variability. Natural selection and speciation.*

6. Biology of microorganism*: bacteria and archaea, fungi, physiology and ecology of microorganims, microbial biotechnology, microbes and disease.*

7. Plant biology*: vascular plant structure, plant nutrition, and growth and development regulators.*

8. Animal biology: *animal kingdom. Invertebrates and vertebrates.*

9. Ecology: *Population ecology. Community ecology. Ecosystems*

10. Health and desease*: the immune system. Immunology applications.*

4.4. Course planning and calendar

Schedules of lectures and exam dates can be found in the Faculty web page at:
http://educacion.unizar.es/inf_academica_Master_secun.html.

The calendar for practical sessions, exposition of seminars and report deadlines will be public in the moodle page for the course.