Universitat Autònoma de Barcelona

2020/2021

History of Biology

Code: 100744
ECTS Credits: 6

Degree	Type	Year	Semester
2500250 Biology	OT	4	0

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Other comments on languages

In addition to Catalan, Spanish and English may be used throughout the module.

Prerequisites

None.

Objectives and Contextualisation

History of Biology is taken in the 4th year of the Degree of Biology and is part of the group of optional subjects.

The main objectives are:

Introduce the student to the consideration and experimentation of history as a vehicle for reflection and cultural construction, as an instrument of research, documentation and popularization, and as a pedagogical tool in the field of science. Within the specific scope of the history of biology, give the student the necessary tools to identify and critically analyze the main historiographical currents related to the natural sciences.

Introduce the student to the knowledge of the processes of generation, circulation, communication and management of scientific knowledge (particularly in the natural sciences), as well as his impact on socio-cultural transformations throughout history.

Introduce the student to the analysis of the role and the situation of the natural sciences and their social relations today and throughout history. Consider the social, cultural, strategic and economic importance of life sciences in society. And thus, give the student the necessary tools to synthesize, from the historical consideration of the natural sciences, a perspective of the current and future reach of these sciences.

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.

- Be able to analyse and synthesise
- Be able to organise and plan.
- Develop a historical vision of biology.
- Develop a sensibility towards environmental issues.
- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
- Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
- Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
- Take sex- or gender-based inequalities into consideration when operating within one's own area of knowledge.
- Work in teams.

Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Analyse and describe, in general terms, the role and position of biology and its presence in society, now and across history.
3. Analyse the sex- or gender-based inequalities and the gender biases present in one's own area of knowledge.
4. Be able to analyse and synthesise.
5. Be able to organise and plan.
6. Critically analyse the principles, values and procedures that govern the exercise of the profession.
7. Develop a sensibility towards environmental issues.
8. Explain, from a social and historical standpoint, the different perspectives on the nature of biology.
9. Identify and characterise the major phases in the history of biology.
10. Identify and critically analyse the principal historiographic currents in biology.
11. Propose new methods or well-founded alternative solutions.
12. Propose projects and actions that incorporate the gender perspective.
13. Propose viable projects and actions to boost social, economic and environmental benefits.
14. Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
15. Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
16. Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
17. Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
18. Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
19. Work in teams.

Content

Distributive blocks

1. Science, history, history of science
2. Human societies
3. Mythical thinking, rational thinking
4. The basis of 1000 years of natural thought
5. From East to West
6. New frontiers of thought
7. Empire and promises of emancipation
8. The two cultures
9. Specialization and institutionalization
10. The historical view of life

11. Individual, society, information
12. Selfish genes
13. Conclusions and perspectives

Unless the requirements enforced by the health authorities demand a prioritization or reduction of these contents

Methodology

The subject is based on a theoretical-practical methodology through discussion sessions on bibliographic materials that are provided during the semester.

The proposed teaching methodology may experience some modifications depending on the restrictions to face-to-face activities enforced by health authorities

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Theoretical classes / Discussion sessions with TIC support	45	1.8	2, 8, 10, 9, 7
Type: Supervised			
Solving problems and tasks autonomously, participation in discussions	7.5	0.3	6, 2, 3, 1, 8, 10, 9, 11, 12, 13, 7, 4, 5, 19
Type: Autonomous			
Independent study, consultation of bibliography and realization of works	90	3.6	2, 8, 10, 9, 18, 17, 16, 14, 15, 7, 4, 5, 19

Assessment

The course evaluation is continued in relation to:

The active participation in the course, which may include the presentation of two brief assays which will be assigned during the semester (40% of final grade)

A final and brief assay preparation (40% of final grade) and its oral presentation (20% of final grade) about some concrete topic of the course's themes and competences, in which the students have to evidence their capacity of historically locating and critically analyzing any issue related with the history of biology.

To the effectiveness of evaluation, the students have to approve each one of the proves separately.

The student who has not approve the course could present a recuperation prove. To that the student should be previously evaluated minimums to the three quarters of the total evaluation of the course. Additionally, the student must obtain, at least, 3.5 in the total evaluation of the course.

Student's assessment may experience some modifications depending on the restrictions to face-to-face activities enforced by health authorities.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Active participation in class (two short assays)	40%	2	0.08	6, 2, 3, 1, 8, 10, 11, 12, 13, 7, 4, 5
Final assay	40%	3.5	0.14	2, 8, 10, 9, 18, 17, 16, 14, 15, 7, 4, 5, 19
Oral exposition	20%	2	0.08	2, 8, 10, 9, 7, 4, 5

Bibliography

Basic initial bibliography

Alexander, Denis R.; Numbers, Ronald L. (eds.) Biology and ideology from Descartes to Dawkins. Chicago: University of Chicago Press; 2010.

Barona, Josep Lluís. Història del pensament biològic. València: Universitat de València; 2003.

Brunton, Deborah (eds). Medicine transformed: health, disease and society in Europe, 1800-1930. Manchester: Manchester University Press in association with the Open University; 2004.

Giordan, André (eds.) Conceptos de Biología (vols. 1&2). Madrid: Labor; 1988.

Jahn, Ilse, Löther, Rolf; Senglaub, Konrad. Historia de la biología: teorías, métodos, instituciones y biografías breves. Barcelona: Labor; 1990.

Jardine, N.; Secord, J.A.; Spary E.C. (eds). Cultures of natural history. Cambridge: Cambridge University Press; 1996.

Additional bibliography will be offered throughout the semester. The initial bibliography may undergo some modifications depending on the restrictions on attendance imposed by the health authorities. In this case, we will use various platforms such as https://mirades.uab.cat/ebs/.