

History of Biology

Code: 101902
ECTS Credits: 6

Degree	Type	Year	Semester
2501230 Biomedical Sciences	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: spanish (spa)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Other comments on languages

Besides Catalan, Spanish and English are also used.

Teachers

Carlos Alberto Acosta Rizo

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.
- Display knowledge of the concepts and language of biomedical sciences in order to follow biomedical literature correctly.
- 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 as part of a group with members of other professions, understanding their viewpoint and establishing a constructive collaboration.

Learning Outcomes

1. Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
2. Analyse and describe, in general terms, the role and position of biology and its presence in society, now and across history.
3. Identify and critically analyse the principal historiographic currents in biology.
4. Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
5. 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.
6. 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.
7. Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
8. Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
9. 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.
10. Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
11. Take sex- or gender-based inequalities into consideration when operating within one's own area of knowledge.
12. Work as part of a group with members of other professions, understanding their viewpoint and establishing a constructive collaboration.

Content

Distributive blocks

A. Introduction to the history of natural sciences and biological thought in the field of history of science.

B. Mythical narratives, daily narratives.

C. East / West.

D. The mathematization of nature.

E. The two cultures.

F. The construction of contemporary biology.

G. The historical vision of life.

H. Individuals, society and information.

I. Urban narratives about nature.

J. Conclusion: debates and challenges.

Methodology

LEARNING ACTIVITIES

Type of activity	Activity	Date and title
Directed	3 Theoretical Classes (60 min each)	Block A. Introduction to the history of natural sciences and biological thought in the field of history of science
	3 Theoretical Classes (60 min each)	Block B. Mythical narratives, daily narratives
	3 Theoretical Classes (60 min each)	Bloc C. East / West

6 Theoretical Classes (60 min each) Block D. The mathematization of nature

6 Theoretical Classes (60 min each) Block E. The two cultures

4 Theoretical Classes (60 min each) Block F. The construction of contemporary biology

6 Theoretical Classes (60 min each) Block G. The historical vision of life

6 Theoretical Classes (60 min each) Block H. Individuals, society and information

6 Theoretical Classes (60 min each) Block I. Urban narratives about nature

2 Theoretical Classes (60 min each) Block J. Conclusion: debates and challenges

Subtotal: Theoretical Classes 45,00 horas

Supervised	Individual problem solving and active participation in the discussions	Every one of the lectures and activities scheduled
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Subtotal: active participation in the discussions: 7,50 horas

AUTONOMOUS ACTIVITIES

Autonomous	Individual study, bibliography consultation and performance of works
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Subtotal: 90,00 horas

DELIVERABLES

DATE	DELIVARABLE	PLACE	MATERIAL	LEARNING OUTCOMES
To determine throughout the semester	Assays integrated to the contents and competences of the course	Campus Virtual	Email	Collect, organize and present in a standardized format the outcomes of the activities' performance during the course

In the event that activities and tests or exams cannot be taken onsite, they will be adapted to an online format made available through the UAB's virtual tools (original weighting will be maintained). Homework, activities and class participation will be carried out through forums, wikis and/or discussion on TEAMS, etc. Lecturers will ensure that students are able to access these virtual tools, or will offer them feasible alternatives.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

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

Assessment

The course evaluation is continued in relation to:

Active participation in class discussions, which may include presentations of one or two short essays to be assigned during the semester (40% of the final grade: written essays; 20% of the final grade: presentation and participation).

A final and brief essay preparation (40% 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.

In the event that activities and tests or exams cannot be taken onsite, they will be adapted to an online format made available through the UAB's virtual tools (original weighting will be maintained). Homework, activities and class participation will be carried out through forums, wikis and/or discussion on TEAMS, etc. Lecturers will ensure that students are able to access these virtual tools, or will offer them feasible alternatives.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Active participation in class (two short essays)	40%	2	0.08	1, 11, 10, 2, 3, 4, 12
Final essay	40%	3.5	0.14	2, 9, 8, 7, 5, 6, 12
Oral exposition	20%	2	0.08	2, 12

Bibliography

Bibliographic sources of digital access will be provided during the semester. However, below are reference works that may also be used.

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.

Further bibliography will be offered throughout the semester.

Software

In addition to web and Office tools, such as the campus online, email, Google docs, word, powerpoint and excel, tools such as wetransfer, dropbox or the VLC audiovisual file reader will be used.