

History of Science

Code: 100305
ECTS Credits: 6

Degree	Type	Year	Semester
2500246 Philosophy	FB	1	2
2502758 Humanities	FB	1	2

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

Teachers

Xavier Roqué Rodríguez
Agustí Nieto-Galan
Jaume Sastre Juan
Miquel Carandell Baruzzi

Prerequisites

There are none.

Objectives and Contextualisation

The subject encourages Philosophy or Humanities undergraduates to develop their own vision of the history of science from Antiquity to the present, based on the problems and methods of the social sciences and the humanities.

The subject examines key issues of the evolution of science, trying to critically connect the different areas of knowledge. We consider science as a social and cultural practice, intimately related to politics, gender, health, technology, and the environment, and linked to the materiality of objects and spaces.

In the 1st part of the course we will approach the origins of science in Antiquity and its development up to the Enlightenment, in order to understand the transformations within natural philosophy and the use of instruments and experiments in the modern period.

In the second part we will analyse the social and cultural relations of science and technology in the last two centuries. In this case, students should be able to understand contemporary technosciences as a global phenomenon.

The subject also aims at improving students' oral and written skills.

Competences

Philosophy

- Developing critical thinking and reasoning and communicating them effectively both in your own and other languages.
- Respecting the diversity and plurality of ideas, people and situations.
- 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.

Humanities

- Respecting the diversity and plurality of ideas, people and situations.
- 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 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.

Learning Outcomes

1. Accessing electronic information sources and producing and communicating this information in electronic format.
2. Accurately using specific lexicon of science history.
3. Accurately using the specific lexicon of science history.
4. Analysing a contemporary fact and relating it to its historical background.
5. Analysing historical cases about scientific facts.
6. Carrying out a planning for the development of a subject-related work.
7. Critically analysing the past, the nature of the historical speech and the social function of historical science.
8. Critically taking part in classroom oral debates and using the discipline's specific vocabulary.
9. Effectively working in teams and respecting different opinions.
10. Engaging in debates about historical facts respecting the other participants' opinions.
11. Enumerating historical facts that could have affected the scientific development.
12. Explaining aspects of the history of science by using the discipline's specific terminology.
13. Explaining the specific notions of the Contemporary History.
14. Explaining the specific notions of the History of Science.
15. Explaining the specific notions of the Modern History.
16. Identifying and analysing the specific vocabulary of every analysed social formations.
17. Identifying and interpreting the several historical periods from Prehistory to the Late Modern Period.
18. Identifying the context of the historical processes.
19. Identifying the main ideas of a related text and drawing a diagram.
20. Identifying the relationships between science, philosophy, art, religion, and politics that derive from the sociocultural context.
21. Identifying the specific methods of history and their relationship with the analysis of particular facts.
22. Indicating political, artistic, literary, social and other movements that had an impact in an historic event.
23. Interpreting the plurality and heterogeneity of the cultural development of Humanity.

24. Preparing an oral and written discourse in the corresponding language in a proper and organized way.
25. Properly using the specific vocabulary of History.
26. Recognising the bases of the most appropriate bibliographic databases in order to obtain sources of a specific issue.
27. Relating elements and factors involved in the development of historical processes.
28. Relating elements and factors involved in the development of scientific processes.

Content

1st part

1. Origins
2. Babylon
3. Cosmos
4. Life
5. Interactions
6. Alchemy
7. Machines
8. Universes
9. Societies
10. God
11. Gravity
12. Revolutions

2nd part

13. Systems
14. Electricity
15. Monsters
16. Evolution
17. Globalization
18. Uncertainties
19. Relativity
20. Radiation
21. Atoms
22. Wars
23. Genes
24. Decisions

Methodology

Each session is devoted to a single topic. For each session there are some reference texts, which the student must use to prepare for discussion in the classroom, as a complement of the lecturer's presentation. Texts will be available in advance, before each session, in the Virtual Campus, along with some guiding questions, power point presentations of each session, web links and additional readings.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lectures	50	2	1, 5, 4, 11, 14, 18, 21, 17, 23, 26, 28, 20
Type: Supervised			
Discussion and preparation of essays	20	0.8	1, 5, 4, 24, 11, 6, 12, 14, 18, 19, 23, 10, 8, 26, 28, 9, 25

Assessment

Continuous assessment

1st part

30% from a partial exam, which will consist of questions, similar to those proposed in the Virtual Campus or those that we have raised and debated in the classroom. The exam is done in the classroom, without notes, texts or any other kind of technical support.

20% from 3 written essays, to be submitted on the assigned dates. For each topic there will be a series of questions related to the texts and contents of the session. Students must choose a topic and write a text about one of these questions.

2nd part

30% from a partial exam, which will consist of questions, similar to those proposed in the virtual Campus or those that we have raised and debated in the classroom. The exam is done in the classroom, without notes, texts or any other kind of technical support.

20% from 3 written essays, to be submitted on the assigned dates. For each topic there will be a series of questions related to the texts and contents of the session. Students must choose a topic and write a text about one of these questions.

To pass the subject through continuous assessment, a minimum of 5 is required (written essays + partial exams).

Reassessment

For their admission to reassessment, students must have been previously assessed from a set of activities that are equivalent to a minimum of 2/3 parts of the whole qualification. The minimum average grade of the assessed activities cannot be inferior to 3.

The reassessment consists of an exam of the whole subject and the delivery of 3 essays different from those handed out during the period of continuous assessment. The grade of the reassessment issues from the grade of the exam (60%) plus grade of the essays (40%).

Any change related to assessment, methodology, etc., will appear at the Virtual Campus in due course.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Essays 1st part	20 %	2.5	0.1	1, 5, 7, 4, 24, 11, 6, 14, 18, 17, 19, 23, 10, 8, 26, 28, 9, 25, 3, 20
Essays 2nd part	20 %	2.5	0.1	1, 5, 7, 4, 24, 6, 12, 14, 18, 21, 19, 23, 10, 26, 28, 9, 25, 2, 20
Exam 1st part	30 %	2.5	0.1	5, 11, 12, 14, 18, 16, 22, 27, 25, 3, 20
Exam 2nd part	30 %	2.5	0.1	12, 13, 14, 15, 18, 22, 28, 25, 2, 20

Bibliography

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