

Art, Science and Technology

Code: 106238
ECTS Credits: 6

Degree	Type	Year	Semester
2504235 Science, Technology and Humanities	OB	2	2

Contact

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Use of Languages

Principal working language: spanish (spa)
Some groups entirely in English: No
Some groups entirely in Catalan: No
Some groups entirely in Spanish: No

External teachers

Margarita Ana Vázquez Manassero

Prerequisites

There are none.

Objectives and Contextualisation

The main objective of this course is to analyze the interactions between science and art, and to identify the points of convergence and the hybridizations that have occurred between these areas of human activity. Far from assuming the split between the two cultures, throughout the course students will be introduced to the intersections that have existed between scientific and technical culture with art practices and how the image of "artists" and "scientists" has socially and visually been built. Among other issues, the course will address the importance of technical advances in the artistic field and the contribution of the arts to the technical field throughout history; the importance of vision, optics, representation models and sight machines as indispensable means for research, knowledge and artistic and scientific creation. Likewise, the contribution of art to the scientific field will be studied through the creation of imaginaries that have contributed substantially to the advancement of knowledge of the cosmos and nature.

Competences

- Construct discourse on scientific and technical knowledge using the linguistic resources of argument.
- Describe the interactions between art, literature and science as drivers of complex creative processes and in the dissemination of knowledge.
- Innovate in the methods and processes of this area of knowledge in response to the needs and wishes of society.
- Make critical use of digital tools and interpret specific documentary sources.
- Recognise and interpret the elements that integrate the material and visual culture of science and technology into the different stages of its development.
- Recognise the political, social and cultural dimension of science and technology development in the different historical periods.

- 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.
- Work collaboratively in teams.

Learning Outcomes

1. Analyse the role of visual tools in the construction and circulation of scientific and technological knowledge and know-how.
2. Assess the reliability of sources, select important data and cross-check information.
3. Bring artistic tools into science and technology projects.
4. Identify the aesthetic and artistic dimension of scientific culture.
5. Identify the various models for representing science and knowledge in the public sphere and suggest improvements to these.
6. Promote team spirit and the integration of others' points of view.
7. Recognise the presence in culture of the great scientific debates of the moment.
8. Study the mutual influences and exchanges between art, science and technology throughout history.
9. Study the relationships between art, scientific research and technological innovation.
10. Take part in collective practices of cultural comprehension of advances in science and technology.
11. Take part in contemporary art research activity at the intersection between art, science and technology.
12. Understand art as research and as an exploration of the cultural implications of science and technology research.

Content

Topic 1. Introduction. The invention of art: science as culture, art as research

Topic 2. Artists versus scientists? Images, stories and myths

Topic 3. Art techniques

Topic 4. Vision and models of representation

Topic 5. Color and light

Topic 6. Image and knowledge (I). Maps of the cosmos and the world

Topic 7. Image and knowledge (II). The fabric of the human body

Methodology

The teaching-learning methodology of the subject includes three types of activities: directed presence-based activities, supervised activities and autonomous activities.

The directed presence-based activities are theoretical-practical lectures where the teaching team will present and explain the contents and fundamentals of the subject included in the content program.

Supervised activities are scheduled academic advising sessions.

The autonomous activities will be developed by each student: studying, reading and doing academic work.

The detailed calendar with the content of the different sessions will be exposed on the subject's day presentation. It will also be posted on the Virtual Campus, where students can find a detailed description of the exercises and practices, the various teaching materials and any information necessary for proper follow-up of the subject.

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			
Learning exercises	16	0.64	1, 12, 9, 6, 4, 3, 10, 11, 7

Lectures	33	1.32	1, 12, 8, 9, 6, 5, 4, 10, 7
Type: Supervised			
Essay supervision	4.25	0.17	1, 12, 6, 10
Type: Autonomous			
Study and essay writing	90.75	3.63	1, 12, 8, 9, 6, 5, 4, 3, 7

Assessment

Ordinary call assessment

The evaluation of this subject consists of two parts:

1. A first part of continuous evaluation consisting of:

1a. Essays: 30%

1 B. Seminars and oral presentations: 20%

2. A second part consisting of a final assessment exam.

Final exam: 50%

Extraordinary call assessment

Students who do not pass will have an extraordinary evaluation on the sections not passed throughout the course:

1. A first part of continuous evaluation consisting of:

1a. Essays: 30%

1 B. Seminars and oral presentations: 20%

2. A second part consisting of a final assessment exam.

Final exam: 50%

The marks obtained in essays and practices in the ordinary call assessment will be saved for the extraordinary call, as long as they are higher than passed (5). In case of having failed the essays, there will be the possibility of presenting them again during the extraordinary call.

Important note for all calls:

It is an essential requirement to pass the subject to have had a minimum grade of 5 points out of 10 in the final exam.

It is also an essential requirement to evaluate the subject to have delivered all the essays and practices requested along the course.

In the event of a student committing any irregularity that may lead to a significant variation in the grade awarded to an assessment activity, the student will be given a zero for this activity, regardless of any disciplinary process that may take place. In the event of several irregularities in assessment activities of the same subject, the student will be given a zero as the final grade for this subject.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Exam	50%	2	0.08	1, 12, 9, 4, 7
Seminars and oral presentations	20%	2	0.08	1, 12, 6, 4, 3, 10, 11
Written essays	30%	2	0.08	1, 8, 9, 6, 5, 3, 7, 2

Bibliography

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Gustavson, Todd. *Historia de la cámara fotográfica*. Barcelona: Ilusbooks, 2016.

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Roberts, Kenneth B.; Tommlinson, J. D. W. *The Fabric of the Body. European Traditions of Anatomical Illustration*. Oxford: Clarendon, 1992.

Vázquez Manassero, Margarita Ana. *El «yngenio» en palacio: arte y ciencia en la corte de los Austrias (ca. 1585-1640)*. Madrid: Fundación Juanelo Turriano, 2018.

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Wilson, Stephen. *Information Arts. Intersections of Art, Science, and Technology*. Cambridge-Londres: The MIT Press, 2002.

Woodward, David. *Cartography in the European Renaissance*. Chicago: University of Chicago Press, 2007.

Software

No specific software is required.