UAB
Universitat Autònoma de Barcelona

Technology, Infrastructure and Environment

Code: 45762
Credits: 5

2026/2027

Degree programme	Type	Course
History of Science: History, Heritage and Scientific Communication	OP	1

Contact lecturer

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Teaching staff

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Teaching staff (external to UAB)

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Group languages

You can consult this information at the end of the document.

Prerequisites

There are none.

Objectives

The general objectives of the course are (see also "Contents"):

- To delve into current social and disciplinary debates in the history of technology, environmental history, and STS.
- To analyze the historical dimension of the relationship between science, society, and the environment through multi-scalar approaches and gender, anti-speciesist, and decolonial perspectives.
- To understand the intertwined global crises of the Anthropocene, beyond Eurocentric, androcentric, and anthropocentric scopes.
- To apply conceptual frameworks and theoretical perspectives to understanding the present.

Learning outcomes

- CA35 (Explain to specialised and non-specialised audiences the ways in which changes in the relations between science, society, industry and the State have been reflected and settled in the public sphere

through very different forms of expression, representation and communication.) Explain to specialised and non-specialised audiences the ways in which changes in the relations between science, society, industry and the State have been reflected and settled in the public sphere through very different forms of expression, representation and communication.

- CA36 (Explain to specialised and non-specialised audiences knowledge, narratives and methodologies in the field of the history of science related to the processes of construction and management of discourses and practices of resistance in the field of contemporary science and technology.) Explain to specialised and non-specialised audiences knowledge, narratives and methodologies in the field of the history of science related to the processes of construction and management of discourses and practices of resistance in the field of contemporary science and technology.
- CA37 (Explain to specialised and non-specialised audiences the processes of construction of gender biases and inequality of rights and opportunities associated with the field of contemporary science and technology.) Explain to specialised and non-specialised audiences the processes of construction of gender biases and inequality of rights and opportunities associated with the field of contemporary science and technology.
- CA38 (Evaluate in a critical, rigorous, original and interdisciplinary manner essential aspects in the processes of production, circulation and management of scientific and technological knowledge related to the generation and management of fundamental human rights and the definition and management of natural heritage and the environment.) Evaluate in a critical, rigorous, original and interdisciplinary manner essential aspects in the processes of production, circulation and management of scientific and technological knowledge related to the generation and management of fundamental human rights and the definition and management of natural heritage and the environment.
- KA37 (Accurately describe stages and transformations, actors, spaces, objects, theories, experiments, practices and discourses of science and technology in contemporary history, in particular with regard to the definition and management of natural heritage and the environment.) Accurately describe stages and transformations, actors, spaces, objects, theories, experiments, practices and discourses of science and technology in contemporary history, in particular with regard to the definition and management of natural heritage and the environment.
- KA38 (Describe the changes that have taken place in the last two centuries in the processes of production, circulation and management of knowledge about the environment and natural heritage, including the construction and management of discourses and practices of resistance.) Describe the changes that have taken place in the last two centuries in the processes of production, circulation and management of knowledge about the environment and natural heritage, including the construction and management of discourses and practices of resistance.
- KA39 (Accurately describe essential aspects in the processes of production, circulation and management of scientific and technological knowledge with respect to the current debates on the definition and management of natural heritage and the environment, and the problems of gender, race, class, materiality and power associated historically.) Accurately describe essential aspects in the processes of production, circulation and management of scientific and technological knowledge with respect to the current debates on the definition and management of natural heritage and the environment, and the problems of gender, race, class, materiality and power associated historically.
- SA34 (Examine the stages, actors, spaces, objects, theories, experiments, practices, and discourses of science and technology with respect to the definition and management of natural heritage and the environment in contemporary history, incorporating the dimensions of gender, race, class, materiality, and power.) Examine the stages, actors, spaces, objects, theories, experiments, practices, and discourses of science and technology with respect to the definition and management of natural heritage and the environment in contemporary history, incorporating the dimensions of gender, race, class, materiality, and power.
- SA35 (Critically and rigorously examine historiographical debates on science and technology in relation to the definition and management of natural heritage and the environment in contemporary history.) Critically and rigorously examine historiographical debates on science and technology in relation to the definition and management of natural heritage and the environment in contemporary history.

Contents

How can we understand the complex interactions between technology and the environment in order to address the global challenges of the 21st century? What role do these multifaceted interactions play in climate change, the 'energy transitions', artificial intelligence, militarization, or the post-colonial Global North-Global South

relations? A historical and contextual perspective is needed as a vantage point from which one can see more clearly and act more wisely. This course studies the political dimensions of artifacts, infrastructures, and techno-environmental systems with the help of a number of tools offered by the history of technology and environmental history. These tools allow us to connect historical and geological time, local and global approaches, expert and non-expert knowledge, and human and non-human actors. With this "toolbox," students will gain the necessary training to uncover the multilayered meanings and agencies hidden within scientific and technological realities, from smallest organisms to global techno-scientific landscapes. Likewise, the course examines social activism and resistance these realities have generated, with the aim, on the one hand, of understanding the role they have played in innovation and, on the other, of reflecting on the construction of futures based on social and environmental justice.

Blocks and Sessions

Introduction: Debating Green Transitions

1. Artefacts: Materiality and Technopolitics

2. Infrastructures: Spatiality and Scales

3. Landscapes: Organisms and Eco-Sociotechnical Systems

4. Dissents: Activisms and Resistances

5. Crossroads: Case Studies

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
Lecture and discussion	30	1.2	CA35, CA36, CA37, CA38, KA37, KA38, KA39, SA34, SA35
Project	20	0.8	CA35, CA36, CA37, CA38, KA37, KA38, KA39, SA34, SA35
Home work/individual learning	75	3	CA35, CA36, CA37, CA38, KA37, KA38, KA39, SA34, SA35

The course has five blocks, each one comprising two sessions. Both the blocks and the sessions are self-contained yet interconnected, with the aim of making the whole far richer than the sum of its parts. The first four blocks correspond to the central elements of the course: artifacts, infrastructures, landscapes, and resistances. The fifth block explores the articulation of these four blocks and realities through in-depth case studies. To achieve the course's central objectives, each block includes contextual, multi-scalar, and/or intersectional perspectives.

Sessions are taught by specialists with renowned research in the field. The program may be occassionally adapted depending on the teaching team, international guests, students' learning progress, and/or student proposals.

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.

Assessment

Continuous assessment activities

Title	Weight	Hours	ECTS	Learning outcomes
Project (I): Report	35%	0	0	CA35, CA36, CA37, CA38, KA37, KA38, KA39, SA34, SA35

Exercices	25%	0	0	CA35, CA36, CA37, CA38, KA37, KA38, KA39, SA34, SA35
Project (II): Final outcome	40%	0	0	CA35, CA36, CA37, CA38, KA37, KA38, KA39, SA34, SA35

- Project (individual or in groups) (75%), about a current social debate about science or an environmental conflict, in which the students will mobilize the theoretical tools, concepts, and frameworks at work in the classroom. The outcome of the project (40%) will be a public communication output; for example, an audiovisual presentation, a temporary exhibition project, a video/audio-visual piece, or an art installation. This output will be presented with a report (35%), which will include the state of the art, objectives, bibliography, and the methodology of the project. The further public exhibition or publication of this outcome in institutional forums, academic or non-academic magazines, cultural spaces, or digital networks will be encouraged, demonstrating its social relevance.
- Exercices (individual or in groups) (25%). Two follow-up exercices about the contents of the course will be held. These exercicies will be at the service of the general learning of the course as well as the development of the final project (and, eventually, the master dissertation). The exercises are mandatory to be eligible for the project evaluation.

This subject allows the use of AI technologies exclusively for support tasks such as bibliographic or content-based searches. Other specific situations may be contemplated, as deemed appropriate by the teacher. The student must clearly (i) identify which parts have been generated using AI technology; (ii) specify the tools used; and (iii) include a critical reflection on how these have influenced the process and final outcome of the activity. Lack of transparency regarding the use of AI in the assessed activity will be considered academic dishonesty; the corresponding grade may be lowered, or the work may even be awarded a zero. In cases of greater infringement, more serious action may be taken.

Bibliography

Buck, Maria & Kira J. Schmidt, *NTM*, 30:3 (special issue 'Technical Infrastructures, Transnational Protest Movements and the Use of Counter-Expertise').

Edgerton, David. 2007. *The Shock of the Old: Technology in Global History since 1900*. Profile Books Ltd.

Fressoz, Jean-Baptiste. 2025. *Sin Transición : Una Nueva Historia de La Energía*. Primera edición: mayo de 2025. Barcelona: Arpa.

Hecht, Gabrielle. 2009. *The Radiance of France : Nuclear Power and National Identity after World War II*. Cambridge, Mass.: MIT Press.

Saraiva, Tiago. 2016. *Fascist Pigs : Technoscientific Organisms and the History of Fascism*. Cambridge, Massachusetts: MIT Press.

Software

No specifities

Course groups and languages

The information provided is provisional until November 30. After this date, you will be able to consult the language of each group through this link. To access the information, you will need to enter the course CODE

Type of teaching	Group	Language	Semester	Shift
(TEm) Theory (master)	1	Catalan	second semester	afternoon