Syllabus

Descrizione corso

Titolo insegnamento	Histories of Science and Technologies
Codice insegnamento	47214
Titolo aggiuntivo	
Settore Scientifico-Disciplinare	PHIL-02/B
Lingua	Inglese
Corso di Studio	Corso di laurea magistrale in Pratiche creative e Critiche contemporanee
Altri Corsi di Studio (mutuati)	
Docenti	dott. Francesca Perotto, Francesca.Perotto@unibz.it https://www.unibz.it/en/faculties/design-art/academic-staff/person/53615
Assistente	
Semestre	Primo semestre
Anno/i di corso	1st - 2nd year
CFU	6
Ore didattica frontale	30
Ore di laboratorio	0
Ore di studio individuale	90
Ore di ricevimento previste	18
Sintesi contenuti	This course explores the historical trajectories of science and technology, with a focus on their profound impacts on society, culture, and ethics. The course is centred on developments in the 20th century and examines how scientific and technological advancements shaped, and were shaped by, the values, ethics, and power dynamics of different world civilizations.
Argomenti dell'insegnamento	- Developments of Science and Technology in World Civilizations - The Interplay Between Science, Values, and Ethics

	- Science and Technology in the 20th Century - Gender and Science - Ethics and Controversies in Science and Technology This theoretical module explores the historical trajectories of science and technology, with a focus on their profound impacts on society, culture, and ethics. Centered on developments in the 20th century, the course examines how scientific and technological advancements shaped, and were shaped by, the values, ethics, and power dynamics of different world civilizations. Key topics include the evolution of science and technology across global contexts, the transformative effects of technological innovations on society, culture, and the environment, the reciprocal relationship between social and personal values and scientific progress, and the critical role of gender in shaping scientific practices and institutions. Special attention will be given to the interplay between technology, power, and globalization, as well as the ethical challenges posed by scientific progress. Students will also investigate major ethical dilemmas and controversies in science and technology, analyzing how these debates influenced public perception and policy. By engaging with case studies and theoretical frameworks, students will develop the analytical tools to critically assess the historical roots of current technological issues and to contextualize their creative and professional practices within the ethical and cultural dimensions of science and technology.
Parole chiave	Control; Cybernetics; Surveillance Capitalism; Machine.
Prerequisiti	
Insegnamenti propedeutici	
Modalità di insegnamento	Through lectures, readings, and discussions, the course situates these topics within broader socio-political and ecological contexts, fostering critical perspectives on the responsibilities of scientists, technologists, and designers in addressing contemporary challenges.
Obbligo di frequenza	not compulsory
Obiettivi formativi specifici e	Educational objectives

risultati di apprendimento attesi	Understand the Evolution of Science and Technology Across Civilizations Explore the historical trajectories of scientific and technological advancements, emphasizing their development in global contexts and their influence on world civilizations. Analyze the Interplay Between Science, Technology, and Values Examine how social and personal values, ethics, and power dynamics shaped—and were shaped by—scientific progress and technological innovation. Critically Evaluate Gender and Representation in Science Investigate the critical role of gender in shaping scientific practices, institutions, and the accessibility of technological advancements. Address Ethical Dilemmas and Controversies in Science Develop the ability to critically assess ethical challenges and controversies in science and technology, understanding their societal and policy implications. Contextualize Contemporary Technological Challenges Equip students with analytical tools to connect the historical roots of scientific and technological developments to current global, ecological, and cultural challenges, fostering informed and ethical professional practices. Learning outcomes Knowledge and understanding: Know digital and analogue technologies and their applications in visual arts and design; Possess specific knowledge on the cultural, social and ethical implications of the use of technologies in artistic practices; Understand the processes of integrating technologies into creative contexts, analyzing them considering the connections with other fields of knowledge, such as the philosophy of technology, computer science and cognitive sciences. Applying knowledge and understanding: Use advanced software and digital techniques to create innovative works of art and design.

	Experiment with augmented reality, 3D printing, artificial intelligence and other technological tools to expand the boundaries of artistic practices. Collaborate with engineers, programmers and other professionals to develop interdisciplinary projects that integrate art and technology. Making judgements: Collect and interpret cultural and material data from the fields of art, design, technology and spatial and curatorial practices, demonstrating the ability to place events, works and production operations in the historical context and current trends. Grasp the authority and evaluate the reliability of the various available sources. Reflect and express an independent judgement, including on social, ethical and political-cultural issues. Interpret specific facts and events, within subject of their field of study. Communication skills: Writing scientific and technical articles and reports with clarity and effectiveness presenting projects and ideas verbally in a professional and convincing manner Learning skills: The strengthening of the critical operational autonomy of students. The development of their ability to choose, compare and adapt to the new knowledge and technologies.
Obiettivi formativi specifici e risultati di apprendimento attesi (ulteriori info.)	Understand the Evolution of Science and Technology Across Civilizations Explore the historical trajectories of scientific and technological advancements, emphasizing their development in global contexts and their influence on world civilizations. Analyze the Interplay Between Science, Technology, and Values Examine how social and personal values, ethics, and power

	dynamics shaped—and were shaped by—scientific progress and technological innovation. Critically Evaluate Gender and Representation in Science Investigate the critical role of gender in shaping scientific practices, institutions, and the accessibility of technological advancements. Address Ethical Dilemmas and Controversies in Science Develop the ability to critically assess ethical challenges and controversies in science and technology, understanding their societal and policy implications. Contextualize Contemporary Technological Challenges Equip students with analytical tools to connect the historical roots of scientific and technological developments to current global, ecological, and cultural challenges, fostering informed and ethical professional practices.
Modalità di esame	Written text and oral exam.
Criteri di valutazione	Development of critical thinking; Knowledge of the topics covered; Property of the use of technical language
Bibliografia obbligatoria	G. Bateson, The Cybernetics of “Self”: A Theory of Alcoholism, in Steps to an Ecology of Mind, The University of Chicago Press, 1972; W. S. Burroughs, The Limits of Control, in Schizo-Culture 3.2, Semiotext(e), Paris, pp. 38-42, 1978; G. Canguilhem, Machine and Organism in Knowledge of Life, Fordham University Press, New York, 1952 (2008); G. Deleuze, Postscript on Control Societies in Negotiations, Columbia University Press, New York, 1990 (1995); J. Derrida, The Rhetoric of Drugs, Points...: Interviews, 1974-1994, Stanford University Press, 1995, pp. 228-254. M. Foucault, Discipline and Punish. The Birth of the Prison, Vintage Books, New York, 1975 (1977) (Selected passages); J. Monod, Chance and Necessity. An Essay on the Natural Philosophy of Modern Biology, Vintage Books, New York, 1970 (1971) (Selected passages); G. Simondon, On the Mode of Existence of Technical Objects,

	Univocal, 1958 (2017); H. Steyerl, A Sea of Data: Apophenia and Pattern (Mis-)Recognition in Duty Free Art. Art in the Age of Planetary Civil War, Verso, London – New York 2017. L. Tripaldi, Parallel Minds. Discovering the Intelligence of Materials, Urbanomic, Falmouth, 2022 (Selected passages); S. Velotti, Tehching Hsieh: Presenting Life in The Conundrum of Control, Brill, 2024 N. Wiener, Cybernetics or Control and Communication in the Animal and the Machine, MIT Press, Cambridge – London, 1948 (Selected passages). N. Wiener, What is Cybernetics? in The Human Use of Human Beings, The Riverside Press, 1950
Bibliografia facoltativa	G. Simondon, Individuation in the Light of Notions of Forms and Information, University of Minnesota Press, Minneapolis, 1964-2005 (2020) (Selected passages); G. Longo, A. Nocek, The Organism is a Theory, University of Minnesota Press, 2026
Altre informazioni	
Obiettivi di Sviluppo Sostenibile (SDGs)	Istruzione di qualità, Pace e giustizia, Utilizzo responsabile delle risorse, Ridurre le disuguaglianze