

HPSC Module Catalogue (Postgraduate Taught)

2021-22
v2

Please note that the information below is subject to change. We will notify you with any amendments that may affect your module selection.

Overview

This catalogue lists HPSC modules offered by UCL Department of Science and Technology Studies (STS) for the 2021-22 session. Detailed information, including sample syllabi, can be found on the department website: www.ucl.ac.uk/sts/teaching.

The information in this catalogue is correct at the date of publication (see headers) but may alter. Please check the latest edition of the module catalogue and the on-line timetable prior to formally registering on modules.

For quick filtering, our modules are catalogued by term and themes:

- Introductory module for both postgraduate programmes
- (HPS) emphasising knowledge and skills associated with history and philosophy of science
- (STS) emphasising knowledge and skills associated with contemporary studies of science, technology, and society

Owing to the rich interdisciplinary nature of our programmes, students can expect to find considerable crossing between themes in most modules.

Timetable information

STS uses the UCL online timetable: www.ucl.ac.uk/timetable. The online timetable provides official information about module times and locations. Students should continue to check class locations regularly using the online timetable as rooms are subject to change without prior notice.

Before formally registering, please ensure that you check for timetable clashes between modules. Clashes are not an acceptable excuse for missing classes. It is the student's responsibility to check carefully that they can attend all compulsory sessions for a module.

The UCL online timetable for the 2021-22 academic year will be published in August 2021.

Registering for HPSC modules

Students studying on other UCL postgraduate taught degrees are welcome to register on most postgraduate HPSC modules, except HPSC0073 and HPSC0097.

This catalogue indicates where modules are not open to all UCL students. In some cases, pre-requisites apply and queries regarding these should be directed to the module tutor. Otherwise, registration for students from other departments is on a 'first-come, first-served' basis by date selected in Portico.

STS students must discuss their selections with their personal tutor. Module selections must be approved by personal tutors before they will be confirmed in Portico. It is the student's responsibility to ensure their choices satisfy their degree requirements.

Module tutors may be contacted directly: www.ucl.ac.uk/sts/staff.

HPSC postgraduate modules at-a-glance

Click on the module code to jump to module information.

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Term 1 (Autumn)			
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0080	Early Modern Science	Professor Simon Werrett	7
0085	Knowledge, Explanation and Classification in Science	Dr Rory Jubber & Professor Emma Tobin	4
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0092	Responsible Science and Innovation	Dr Jack Stilgoe	5
0095	Special Topics in Science, Technology and Society	Dr Noémi Tousignant	5
0121	Sociology of Science and Technology	Professor Brian Balmer	6
0126	Research Methods and Data Analysis in Science and Technology Studies	Dr Carina Fearnley and Dr Michel Wahome	6
0144	Science and Decolonising Modernity	Dr Jenny Bulstrode	6
Term 2 (Spring)			
0059	Science, Art and Philosophy	Dr Chiara Ambrosio	7
0082	Science in Antiquity	Professor Andrew Gregory	7
0084	Causality, Mechanism, and Evidence in Science	Dr Phyllis Illari & Dr Erman Sözüdoğru	7
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Term 3 (Summer)			
0097	Research Project	ALL	10

2021-22 Term 1

Compulsory module

HPSC0073 Introduction to Science and Technology Studies

This module introduces students to key episodes and themes in Science and Technology Studies and the methodological and critical perspectives required for their full understanding. This module is open for registration only to students enrolled for the Master's level programmes in "Science, Technology, and Society" or "History and Philosophy of Science," for which it is compulsory.

Tutor:	Dr Cristiano Turbil
Assessment:	4 x 1000 word essays – 25% each
Teaching Session:	Term 1
External Examiner:	TBC

HPS-themed modules

HPSC0080 Early Modern Science

The early modern period, from roughly 1400 to 1800, experienced a radical transformation in Europeans' understanding of the natural world. We explore these changes through a series of key moments in the history of early modern science, including the trial of Galileo, Newton's experiments on light and gravity, Hooke's studies with the microscope, and the creation of the first map of India. The module examines these episodes through critical perspectives developed recently by historians of science. These include studies of patronage; the place of magic and alchemy in science; the role of collecting and museums in the development of science; relations between science and art; and the connections between early modern science and religion. We also pay attention to the value of STS approaches for better understanding early modern science by examining issues of trust, gender, science as practice and culture, science and social order, and the public understanding of science. Using ideas from these approaches transforms our understanding of science in the early modern period.

Tutor:	Professor Simon Werrett
Assessment:	Coursework (4000 words) – 100%
Teaching Session:	Term 1
External Examiner:	TBC

HPSC0085 Knowledge, Explanation and Classification in Science

In this module, students will examine some of the core topics in contemporary philosophy of science. There are three core themes: (1) What counts as scientific knowledge. (2) What counts as a scientific explanation? (3) What role does classification play in science? These themes will be examined in the context of some working examples from scientific practice. These topics will be integrated with topics discussed in other modules, such as models, representations, mechanisms, causality and evidence.

Tutor:	Dr Emma Tobin
Assessment:	Coursework (1000 words) – 30% and Coursework (3000 words) – 70%
Teaching Session:	Term 1
External Examiner:	TBC

STS-themed modules

HPSC0087 Science in the Twentieth Century and Beyond

More science was done, and more scientists lived, in the twentieth century than in any other century of human history. Furthermore, there were major changes in the framing ideas and organisation of major disciplines. Physics, for example, grappled with new ideas of quantum theory and relativity. The life sciences responded to genetics and molecular approaches. Geology uncovered evidence for continental drift, and astronomy explored an expanding universe. Social science experimented with new methods to measure society and the individual. These intellectual developments were intimately connected to social, economic, political and cultural trends as well as global conflicts, ideological clashes, and economic transformations. This module examines accounts of these changes. The assessment explores primary sources and archives of twentieth century science, developing skills for relating interpretation to an understanding of context based on secondary sources.

*Note: this module also can be considered an HPS module.

Tutor: Dr Charlotte Sleigh
 Assessment: Coursework (2000 words) – 50%, Coursework (2000 words) – 50%
 Teaching Session: Term 1
 External Examiner: TBC

HPSC0092 Responsible Science and Innovation

Science, technology and innovation are powerful shapers of social organisation. They have huge potential for both benefit and harm. With power should come responsibility, but history is littered with cautionary tales to suggest that innovation is a form of ‘organised irresponsibility’. Are there ways to steer and improve technologies responsibly while they are still emerging? In this module, we examine technologies that are transforming our world, and we consider examples when established technologies were new. Case studies include: geoengineering, gene editing, AI and self-driving cars. We use ideas from ethics, sociology of science, philosophy of technology, and science policy studies.

Tutor: Dr Jack Stilgoe
 Assessment: Coursework (2000 words) – 50% and Coursework (2000 words) – 50%
 Teaching Session: Term 1
 External Examiner: Dr Angela Cassidy – University of Exeter

HPSC0095 Special Topics in Science, Technology and Society

Disparities in health across geographical space and social groups are well documented. Yet how and why these arise, and what can and should be done in response remain challenging and controversial questions. In this module, we will explore how science and technology can reveal and resist, or instead be complicit with – by obscuring, legitimating and enabling – the production of embodied inequalities. We will interrogate biomedical and social ‘ways of knowing’ patterns of risk, sickness and longevity as linked to, or as isolated from, inequalities in access to power, resources, privilege, rights, recognition and wealth. Using tools from science and technology studies as well as from critical race and queer theory, social epidemiology and medical anthropology, we will critically examine how categories such as ‘biology,’ ‘the environment,’ ‘culture,’ ‘the economy’ or ‘society’ have been used to investigate and explain differences in health. We will study examples of how biomedical research, technologies, practices and institutions have both exacerbated and depended on inequality, but also of critical and social justice responses. Topics covered might include controversies over the genetic basis of race; environmental (in)justice; medical discrimination and exploitation; feminist, queer and Black health activism; concepts of structural violence, syndemics and local biologies; and critiques of the coloniality of global health.

Tutor: Dr Noémi Tousignant
 Assessment: Coursework (4000 words) – 100%

Module information and syllabi are available at: www.ucl.ac.uk/sts/teaching.

Teaching Session: Term 1
 External Examiner: Dr Angela Cassidy – University of Exeter

HPSC0121 Sociology of Science and Technology

This module provides a broad survey of sociological models for studying the complex relationship between science and society. It also examines sociological analyses for the construction of knowledge both through historical and contemporary studies. What are the main currents of thought influential in sociology of science and technology? What are their strengths and weaknesses? How have they influenced researchers across the whole range of science and technology studies?

Tutor: Professor Brian Balmer
 Assessment: Essay (1000 words) – 20%, Essay (3000 words) – 80%
 Teaching Session: Term 1
 External Examiner: Dr Angela Cassidy – University of Exeter

HPSC0126 Research Methods in Data Analysis in Science and Technology Studies

This module introduces students to the theory and practice of research methods in STS and social sciences. It covers research design; qualitative and quantitative methods; research management and ethics; and the epistemology of social research. The module is strongly recommended for any students wanting to undertake empirical social science research for their dissertation and later in their career. It also is strongly recommended for students who want to familiarise themselves with how social scientists (particularly within STS) undertake research. For students wishing to apply for ESRC +3 PhD funding, this module is designed to cover the core training requirements specified within Annex I of the [ESRC Postgraduate Training and Development Guidelines \(2009\)](#).

Tutors: Dr Carina Fearnley and Dr Michel Wahome
 Assessment: Coursework (1000 words) – 30%, Coursework (3000 words) – 70%
 Teaching Session: Term 1
 External Examiner: Dr Angela Cassidy – University of Exeter

HPSC0144 Science and Decolonising Modernity

Modern science has certain dominant characteristics - international, state-funded, mathematically-characterised and technocratic, it claims view-from-nowhere objective knowledge. These characteristics were brought to dominate in the late 18th and 19th centuries, otherwise known as the age of globalisation, revolution and reform. This module is concerned with reframing canonical analyses of the late 18th and 19th century origins of modern science with the critical insights of radical and decolonising traditions. The aim of the module is to develop the relevance of these histories to present day global concerns and to support students to develop marginalised lines of research.

Tutor: Dr Jenny Bulstrode
 Assessment: Coursework (3500 words) – 100%
 Teaching Session: Term 1
 External Examiner: TBC

*Note: this module also can be considered an HPS module.

2021-22 Term 2

HPS-themed modules

HPSC0059 Science, Art and Philosophy

This module explores the interactions between science and art from the mid-nineteenth century to the present. Its philosophical focus is the notion of “representation,” conceived as a crucial link between scientific and artistic visual practices. Integrating the history and philosophy of scientific and artistic representations, the module will address a broad range of issues. These will include questions on the nature and role of visual representations in scientific and artistic practice, what counts as “objective” and “accurate” representation, when and how images count as “evidence”, and whether the relations between science and modernism contribute to overturn the common sense view that “art invents, science discovers”.

Tutor	Dr Chiara Ambrosio
Assessment	Coursework (4000 words) – 100% and Coursework (1000 words) – formative
Teaching Session:	Term 2
External Examiner:	TBC

HPSC0082 Science in Antiquity

This module examines the activities of the ancients in attempting to understand, predict and control the world around them. The main focus is the Greek ‘investigation concerning nature and its philosophical, religious and social context. We investigate how they studied of the heavens (including theories of how the world came into being), medicine, mathematics and technology. We also investigate how the Greeks thought in subjects such as astrology and alchemy and how their activities related to magic. In addition to the Greeks, we also investigate Babylonian and Roman cultures, medicine, and technology as well as how they conceived of the world around them.

Tutor:	Professor Andrew Gregory
Assessment:	Coursework (4000 words) – 100%
Teaching Session:	Term 2
External Examiner:	Dr Sabine Clarke, University of York

HPSC0084 Causality, Mechanism and Evidence in Science

Much of science aims to find and use causes, and finding evidence of causes and mechanisms is a core problem of science. Does penicillin cure bacterial infection? How large a dose and how often should we give a dose to be effective? Mechanisms are key elements of causal descriptions. For example, we seem to explain how penicillin cures bacterial infection when describing the mechanism by which it kills bacteria in the body. This module explores some of the most important views of causality and mechanisms in philosophy of science, and it examines how these views affect our understanding of the world around us.

Tutors:	Dr Phyllis Illari & Dr Erman Sözüdoğru
Assessment:	Coursework (4000 words) – 100%
Teaching Session:	Term 2
External Examiner:	TBC

HPSC0086 Special Topics in History and Philosophy of Science

This module investigates specific episodes and themes in History and Philosophy of Science. The aim is to provide an environment for intensive, research-led study of specialised topics within a collaborate community of scholarship. The topic chosen for 2021-22 is, broadly speaking, pandemics. Further information about the scope of the module will be provided in due course.

Tutors:	Dr Erman Sözüdoğru and Dr Cristiano Turbil
Assessment:	Abstract (300 words) – 20%, Essay (3000 words) – 50%, Public Engagement piece (700 words) – 30%
Teaching Session:	Term 2
External Examiner:	TBC

STS-themed modules***HPSC0089 Curating Science and Technology***

This module is designed around a simple question: how is the museum a different environment for historical and interpretative work compared with a university or a library? It opens access to the Science Museum's galleries, reserve collections, and curators to help students learn the ways history of science and technology are preserved, researched, and displayed in a national museum. The module includes practical engagement with objects and collections in Science Museum facilities. It also includes general museological questions about how to interpret objects in HPS and STS. The module also examines how different kinds of objects feature in museum's work, from acquisition and conservation to display.

Tutor:	Dr Tim Boon
Assessment:	Presentation (10 minutes) – 20%, Coursework (4000 words) – 80%
Teaching Session:	Term 2
External Examiner:	: Dr Sabine Clarke, University of York

HPSC0091 Science, Technology and Identity

Where, how, with whom, how much and why we encounter (or not) science matters. In this module we explore how science affects our lives and the lives of other people through the lens of social justice. Science is a prized resource in our societies. As a result, it is important to map where people encounter science in their lives and what happens when they do. We will investigate who can access science, how people access and use science (or not) and the differences in between. We will think about science and technology in contemporary and historic contexts using key concepts such as inclusion/exclusion, representation and recognition, relational and redistributive social justice, as well as intersectional approaches to class, race/ethnicity, gender, ability/disability, sexuality and other social positions, such as age or linguistic background. For instance, what do assistive reproductive technologies (such as IVF) mean for how we understand gender and sexuality? How are science museums 'whitewashed'? Do science policies include a 'hidden curriculum' that reproduces class-based advantages? The module is interdisciplinary and will draw on a wide range of concepts from philosophy, sociology, education, cultural studies, and STS.

Tutor:	Dr Simon Lock
Assessment:	Translation Project (2500 words) – 50%, Coursework (2500 words) – 50%
Teaching Session:	Term 2
External Examiner:	Dr Angela Cassidy – University of Exeter

HPSC0093 Science Policy in an Era of Risk and Uncertainty

This module brings together key thinkers, debates, and cutting-edge research on how society engages with uncertainty and risk. Diverse research methodologies and interdisciplinary skills will be applied in practical case studies to demonstrate the challenges experts in these subjects face with working on globally complex problems. In this module we discuss the challenges of integrating interdisciplinary data sets, and we examine the potential for more deliberative and participatory engagement with stakeholders. The module adopts a problem-based learning approach, using case studies of specific current interest.

Tutor:	Dr Carina Fearnley
Assessment:	Poster presentation – 20%, Group Debate 20%, Briefing Paper – 60%
Teaching Session:	Term 2
External Examiner:	Dr Angela Cassidy – University of Exeter

HPSC0094 Political Economy of Science

Science is big money. Scientific and technological research lead the development of new processes and products, creating new industries and markets. Science is integral to the production of value and wealth in contemporary capitalism. Science's direction and practice has long been shaped by agendas that go beyond the pursuit of disinterested truth. In this module we trace this entanglement of actors and interests. We examine how transformations in political economy, such as the rise of the corporation, the building up of national government bureaucracies and the expansion of financial markets, have transformed how science is administered and commodified. We examine the origins of the corporate research lab, the science park and the entrepreneurial university. We interrogate the likely consequences of neoliberal knowledge regimes, the advent of philanthrocapitalism, and open science.

Tutor:	Dr Tiago Mata
Assessment:	Essay (2000 words) – 50%, Essay (2000 words) – 50%
Teaching Session:	Term 2
External Examiner:	Dr Angela Cassidy – University of Exeter

HPSC0122 Science Journalism

This is a practical module in communicating science across different genres of output for different audiences and on different platforms. Students write short news stories, profiles, and reportages for broadsheet newspapers and popular science magazines targeting audiences from educated adults to school children with an interest in science. They write blog posts and produce other kind of content for social media, such as short captioned videos. They interview scientists and present their interviews in writing as well as through podcasting. Issues in the public communication of science are discussed from this practical standpoint. This module is time intensive and requires substantial group work. It rests on the idea that the only way to learn how to write for journalism is to work in career appropriate setting. The assessment for the module is a mixture of formative and summative work.

Tutor:	Dr Jean-Baptiste Gouyon
Assessment:	Portfolio (4000 words) – 100%
Teaching Session:	Term 2
External Examiner:	TBC

HPSC0127 Engaging the Public with Science

This module focuses on the many different ways publics engage with science in face-to-face contexts. It will focus on direct interactions through events, such as science festivals, and through other informal activities. It also will focus on how specific public groups, such as patient and citizen groups, get involved, engage, and sometimes contribute to scientific and medical research. In addition to

gaining practical experience with organizing such activities, students also will reflect critically on the theory and context that underpins these activities. Reflection includes sociological models for publics and audiences, rationales for engagement in different communities, wider policy contexts, and historical trends.

Tutor: Dr Stephen Hughes and Dr Simon Lock

Assessment: Group Presentation (20 minutes) – 30%, Group Coursework (2000 words) – 30% and Individual Coursework (2000 words) – 40%

Teaching Session: Term 2

External Examiner: TBC

2021-22 Term 3 and Summer

Compulsory module

HPSC0097 Research Project

The Master's degree culminates in a research project of the student's own design, and this project is documented by a research report or a dissertation. The student's work is guided by an academic supervisor. It also is supported by a variety of key skill programmes. Students are expected to construct a research project that includes original research, clear methodological choices, and relevance to significant conversations within the discipline. The dissertation is the capstone of the Master's programme. It should represent the very best research and analysis a student can produce.

<i>Pre-requisites:</i>	HPSC0073 Introduction to Science and Technology Studies
Convenor:	Dr Cristiano Turbil (all STS academic staff serve as supervisors)
Assessment:	Dissertation (10,000 words) – 100%, Research Proposal (2000 words)– formative
Teaching Session:	Term 3 and Summer
External Examiner:	All STS External Examiners