

# HPSC Module Catalogue (Postgraduate Taught)

**2015-16**  
version 1

## Overview

This catalogue describes HPSC modules offered by UCL Science and Technology Studies (STS) for the 2015-16 session. Detailed information, including sample syllabi, can be found on the department website: [http://www.ucl.ac.uk/sts/study\\_msc](http://www.ucl.ac.uk/sts/study_msc).

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.

STS postgraduate taught modules use the prefix HPSCGA. 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 constructive crossing between themes in most modules.

## Timetable information

We use the UCL online timetable, [www.ucl.ac.uk/timetable](http://www.ucl.ac.uk/timetable). Check this source of 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 classes.



## Registering for HPSCGA modules

Students studying on other UCL PG module are welcome to register on most HPSCGA modules, except HPSCGA01 - Introduction to Science and Technology Studies and HPSCGA98 – Research Project.

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 they satisfy their degree requirements. These can be found at [http://www.ucl.ac.uk/sts/study\\_msc](http://www.ucl.ac.uk/sts/study_msc).

Module tutors may be contacted directly: Please see [www.ucl.ac.uk/sts/directory](http://www.ucl.ac.uk/sts/directory) for contact information.

# HPSCGA modules at a glance

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Module information and syllabi are available [http://www.ucl.ac.uk/sts/study\\_msc](http://www.ucl.ac.uk/sts/study_msc)

# 2015-16 Term 1

## Introductory Module (Compulsory)

### HPSCGA01 Introduction to Science and Technology Studies

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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 in the STS or HPS MSc programmes, for which it is compulsory.

Module Leader:	All Staff
Credits:	15 (contributing 15/180 to degree)
Assessment:	Coursework (2000 words) – 20% and 2 hour exam – 80%
Teaching Session:	Term 1 – students attend 1 x 2 hour session per week
External Examiner:	TBC

## Modules with HPS themes

### HPSCGA23 Science, Art and Philosophy

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This course 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 common link between scientific and artistic visual practices. Integrating the history and philosophy of scientific and artistic representations, the course 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”.

Module Leader	Dr Chiara Ambrosio
Credits	15 (contributing 15/180 to degree)
Assessment	Coursework (1000 words) – 20% and Coursework (4000 words) – 80%
Teaching Session:	Term 1 – students attend 1 x 2 hour session per week
External Examiner:	Dr Sabina Leonelli – Exeter University

### HPSCGA24 Science in the Nineteenth Century

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The nineteenth century saw the origin of much of what we might identify as 'modern' scientific and technological research and practice. Laboratories, factories explorations, empires – all had scientific significance and all were paramount in nineteenth century science. This is also perhaps the period which has enjoyed most sustained attention from historians of science. This course will give a critical introduction to some major themes of nineteenth century science, from a range of historical approaches.

*Module information and syllabi are available [http://www.ucl.ac.uk/sts/study\\_msc](http://www.ucl.ac.uk/sts/study_msc)*

Module Leader:	Dr Carole Reeves
Credits:	15 (contributing 15/180 to degree)
Assessment:	Coursework (5000 words) – 100%
Teaching Session:	Term 1 – students attend 1 x 2 hour session per week
External Examiner:	Dr James Sumner – University of Manchester

## **HPSCGA27 Causality, Mechanism and Evidence in Science**

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Much of science aims to find and use causes. Does penicillin cure bacterial infection? How big a dose and how often should we give it for it to be effective? Mechanisms are most obviously important in the biomedical sciences, but are relevant far beyond them. For example, we seek to explain how penicillin cures bacterial infection by describing the mechanism by which it kills bacteria in the body. So finding evidence of causes and mechanisms is a core problem of science. Further, our fundamental view of the world we live in has been profoundly affected by the kinds of causes and mechanisms we discover. This module explores the most important views of causality and mechanisms and how we seek evidence for them, and examines how they affect our view of the world around us.

Module Leader:	Dr Phyllis Illari/Dr Brendan Clarke
Credits:	15 (contributing 15/180 to degree)
Assessment:	Coursework (1000 words) – 20% and Coursework (4000 words) – 80%
Teaching Session:	Term 1 – students attend 1 x 2 hour session per week
External Examiner:	Dr Sabina Leonelli – Exeter University

## **Modules with STS themes**

### **HPSCGA42 Sociology of Science and Technology**

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This course provides an overview of a range of sociological approaches to the analysis of science and technology. These approaches in the sociology of science and technology are analysed in the context of wider social theory. The course will look at foundational sociological theories, using this sociological grounding to form a better understanding of contemporary theories of science, technology and society.

Module Leader	Dr Martin Savransky
Credits	15 (contributing 15/180 to degree)
Assessment:	Coursework (1000 words) – 20% and Coursework (4000 words) – 80%
Teaching Session:	Term 1 – students attend 1 x 2 hour session per week
External Examiner:	Dr Jane Calvert – Edinburgh University

## HPSCGA44 Science, Media and Culture

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This module will provide both a theoretical analysis and a practical understanding of the interface between science, the media and culture. Key tools and frameworks that enable us to better understand how science is covered in the media will be explored, as well as the role of science within wider culture. Concepts relating to audience targeting and segmentation will underpin all aspects of this module, along with issues relating to how (and why) audience are attracted to different messages and media. Starting with a consideration of traditional (print) media, the narrative will move on to consider the implications of the increasing dependence on digital media. Specific case study examples will explore contemporary developments such as Citizen Science, the 'geekocracy' movement, and sci-art. Students will have the opportunity to both analyse the implications of such movements as well as devise their own activities for embedding science within wider culture. A range of assessment formats – including a verbal debate, a written essay and a portfolio containing proposals for new activity ideas – will allow students to demonstrate their skills and expertise across a range of formats, as well as provide solid evidence that they can draw on in future employment situations.

Module Leader:	Dr Jean-Baptiste Gouyon
Credits:	15 (contributing 15/180 to degree)
Assessment:	Coursework (1500 words) – 30%, Coursework (2000 words) – 40% and Presentation – 30%
Teaching Session:	Term 1 – students attend 1 x 2 hour session per week
External Examiner:	TBC

## HPSCGA47 Responsible Science and Innovation

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Science and innovation have huge potential for benefit and harm. With power should come responsibility, but history is littered with countless cautionary tales that suggest that innovation is a form of 'organised irresponsibility'. Should we expect more from scientists? Should we hold them responsible for the policy or technological failure? Are there ways to steer and improve technologies while they are still emerging? In this course, we will look at rationales and methods for making science and innovation more responsible. We will look at the responsibilities scientists might have to their profession and how these change when they are 'in public', as experts, innovators or communicators. The course will look back at case studies of technological failure and scientific misdemeanour, while looking ahead to emerging issues such as geo-engineering and human enhancement. We will use ideas from ethics, sociology of science, philosophy of technology and science policy studies.

Module Leader:	Dr Jack Stilgoe
Credits:	15 (contributing 15/180 to degree)
Assessment:	Coursework (2500 words) – 50%, Coursework (2500 words) – 50%
Teaching Session:	Term 1 – students attend 1 x 2 hour session per week
External Examiner:	Dr Jane Calvert – Edinburgh University

# 2015-16 Term 2

## Modules with HPS themes

### HPSCGA20 Medieval Science and Medicine in Global Perspective

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This seminar studies the transfer of scientific knowledge from the ancient Greco-Roman world to an Arabic context from the ninth century onward and a Western Christian context from the eleventh century to the eve of the Renaissance. We will examine how and why centres of learning, such as Alexandria and Baghdad or southern Italy and Spain, brought both continuity and change to the scientific tradition. By studying geography, astronomy, physiology, contagious diseases, and pharmacology, we will explore the ways in which Muslim, Jewish and Christian views of knowledge influenced each other in the formation of a scientific method and spirit of inquiry into the natural world based on a pagan past. How did the different sciences, such as medicine, geography, astrology, and mathematics, connect with each other and with philosophy and theology? We will also consider the Western spread of scientific knowledge out of the learned Latin-speaking world to a broader audience through translations into the European vernaculars.

Module Leader:	Dr William MachLehose
Credits:	15 (contributing 15/180 to degree)
Assessment:	Coursework (1000 words) – 20%, Coursework (4000 words) – 80%
Teaching Session:	Term 2 – students attend 1 x 2 hour session per week
External Examiner:	Dr James Sumner – University of Manchester

### HPSCGA25 Science in Antiquity

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This course 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 look at the study of the heavens, including theories of how the world came into being, medicine, mathematics and technology. We also look at how the Greeks thought of disciplines such as astrology and alchemy and how their activities related to magic. While the main focus is the Greeks, we also look at the Babylonian and Roman cultures, their medicine, technology and how they conceived of the world around them.

Module Leader:	Prof Andrew Gregory
Credits:	15 (contributing 15/180 to degree)
Assessment:	Coursework (5000 words) – 100%
Teaching Session:	Term 2 – students attend 1 x 2 hour session per week
External Examiner:	Dr James Sumner – University of Manchester

### HPSCGA28 Knowledge, Explanation, and Classification in Science

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In this course, students will examine some of the core topics in contemporary philosophy of science. There are 3 core themes: (1) What counts as scientific knowledge. (2) What counts as a scientific explanation? (3)

*Module information and syllabi are available [http://www.ucl.ac.uk/sts/study\\_msc](http://www.ucl.ac.uk/sts/study_msc)*

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 some of the other topics discussed in other courses, including models, representations, mechanisms, causality and evidence.

Module Leader:	Dr Emma Tobin
Credits:	15 (contributing 15/180 to degree)
Assessment:	Coursework (1000 words) – 20%, Coursework (4000 words) – 80%
Teaching Session:	Term 2 – students attend 1 x 2 hour session per week
External Examiner:	Dr Sabina Leonelli – Exeter University

## Modules with STS themes

### HPSCGA40 Science in the Twentieth Century and Beyond

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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 the new ideas of quantum theory and relativity. The life sciences responded to genetics and molecular approaches to life science. Geology uncovered evidence for continental drift, while astronomy explored an expanding universe. These intellectual developments were intimately connected to social, economic, political and cultural trends and events, not least global conflicts, ideological clashes and economic transformations. This course introduces and guides the student through accounts of these changes produced by historians and other commentators.

Module Leader:	Prof Jon Agar
Credits:	15 (contributing 15/180 to degree)
Assessment:	Coursework (2500 words) – 50%, Coursework (2500 words) – 50%
Teaching Session:	Term 2 – students attend 1 x 2 hour session per week
External Examiner:	Dr James Sumner – University of Manchester

### HPSCGA41 STS Perspectives on Security and War

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This course focuses on how history, philosophy and social studies of science investigates the relationship between science, technology and security issues. Our focus will be on security in relation to war and violence, particularly the control of biological, chemical and nuclear weapons; automation and simulation in war; the use of non-lethal weapons; and the politics and epistemology of counting casualties. In a contemporary context, however, it is essential that we do not ignore how 'security' has become a term that social scientists, policy-makers and practitioners increasingly apply to a far wider range of phenomenon: epidemic disease control and biosecurity, climate change and sustainability, food and water security, and energy security are just a few examples. To address this issue, the course will explore two related theoretical fields in relation to security. First, concepts and ideas derived from science and technology studies (such as tacit knowledge; social shaping of technology; actor-network theory; risk; secrecy, uncertainty, ignorance and science). Secondly, the emerging literature on the political economy of the life sciences and convergence of security issues (for example, biopolitics, biosecurity and biocapital; resilience; convergence; securitisation; immunity).

Module Leader:	Prof Brian Balmer
Credits:	15 (contributing 15/180 to degree)
Assessment:	Coursework (4000 words) – 80%, Coursework (1000 words) – 20%
Teaching Session:	Term 2 – students attend 1 x 2 hour session per week
External Examiner:	TBC

## **HPSCGA43 Curating Science and Technology**

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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-up access to the Science Museum's galleries, reserve collections and curators, revealing the ways that the history of science and technology are preserved, researched, and displayed in a national museum. The module commences with a consideration of collections 'in the raw', as kept at the Museum's West London store, and with general museological questions about how to use objects in historical work. The remainder of the course discusses how different topics and kinds of objects feature in the museum's work, from acquisition through to being placed on display.

Module Leader:	Dr Tim Boon
Credits:	15 (contributing 15/180 to degree)
Assessment:	Presentation (10 minutes) – 20%, Coursework (4000 words) – 80%
Teaching Session:	Term 2 – students attend 1 x 2 hour session per week
External Examiner:	Dr James Sumner – University of Manchester

## **HPSCGA45 Practical Science Communication and Engagement**

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A practical course in communicating science based around three core tasks: (1) writing science news articles on current topics, (2) writing feature articles suitable for *New Scientist* or the science pages of the 'quality' press, and (3) producing multi-media features that include interviewing, story-building, editing and production. Issues in public understanding of science and public engagement are examined from the view of communication practitioners. This module has additional timetabling requirements.

Module Leader:	Prof Steve Miller
Credits:	15 (contributing 15/180 to degree)
Assessment:	Coursework (500 words) – 10%, Coursework (3000 words) – 40% and Coursework (Recording) – 50%
Teaching Session:	Term 2 – students attend 1 x 2 hour session per week
External Examiners:	TBC

## **HPSCGA46 Social Justice, Identity and Science**

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Where, how, with whom, how much and why we encounter science (or not) matters. In this module we will 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 look at 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 wide range of concepts from philosophy, sociology, education, cultural studies and STS.

Module Leader	Dr Emily Dawson
Credits	15 (contributing 15/180 to degree)
Assessment	Coursework (2500 words) – 50%, Coursework (2500 words) – 50%
Teaching Session:	Term 2 – students attend 1 x 2 hour session per week
External Examiner:	TBC

### **HPSCGA59 Special Topics Seminar: Science in Continental Thought**

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What role has science played in twentieth-century 'continental' thought? While the discipline of philosophy of science has been largely dominated by Anglo-American thought, continental philosophers have exerted a crucial influence in the development of the social studies of science –including sociology, anthropology and cultural studies– and many of them remain foundational figures and active resources in such fields. This module offers an introduction to some of the central twentieth-century thinkers and philosophers in the so-called 'continental' tradition that have engaged with questions of science and technology and have influenced, and still contribute to shaping, research in STS. Focusing primarily on the French tradition, we will discuss the particular character of continental thought, read the original works of central thinkers who have proven influential in contemporary social studies of science, and consider the specific questions and problems they raise in their engagement with the sciences, technology, medicine and society.

Module Leader:	Dr Martin Savransky
Credits:	15 (contributing 15/180 to degree)
Assessment:	Coursework (5000 words) – 100%
Teaching Session:	Term 2 – students attend 1 x 2 hour session per week
External Examiner:	Dr Jane Calvert – Edinburgh University

## Term 1 and 2 Module

### HPSCGA98 Research Project

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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>	HPSCGA01 – Introduction to Science and Technology Studies
Module Leader:	All academic staff serve as supervisors.
Credits:	60 (contributing 60/180 to degree)
Assessment:	Research Proposal (2000 words) – 15% and Dissertation (10,000 words) – 85%
Teaching Session:	Term 1 and Term 2 – preparatory workshops will be scheduled Term 3 - intensive workshops will be scheduled Summer - fortnightly meetings with their dissertation supervisor
External Examiner:	All STS External Examiners