Master European Studies on Society, Science and Technology

Find another programme

During the second semester of the programme, you will select an area of specialisation. You will attend the corresponding university to follow an introductory course on your specialisation topic and write your master's thesis there.

Click on the specialisations for more information about the individual programmes, or visit the website of the international master's programme European Studies of Society, Science and Technology

Institute	Specialisation
NKUA/NTUA, Athens, Greece	Philosophy and History of Science and Technology
	Technology and Sustainability: North-South Comparison
	Enabling and Disabling Dimensions of Technological Change
	Law, Science and Technology
Aalborg University, Denmark	Innovation Systems, Social and Ecological Change
Alpen-Adria-Universität Klagenfurt, Austria	Governance, Innovation and Sustainability
University of Lisbon, Portugal	Watermanagement and water uses
Université Catholique de Louvain, Belgium	Ethical and Philosophical Stakes of the Sciences in Societies
Lund University, Sweden	Sustainability Transitions and the Geography of Innovation
Autonomous University of Madrid, Spain	Economics and Management of Innovation
Maastricht University, the Netherlands	Science and Public Policy
University Notre-Dame de la Paix, Namur, Belgium	Historical, Philosophical, Ethical and Governance aspects of ICT
	Attention economy and grey ecology
	Sociologocial and organizational aspects of ICT
Oslo University, Norway	Science and Technology in Politics and Society
	Innovation and global challenges
Tallinn University of Technology, Estonia	Innovation Policy and Small States
Nicolaus Copernicus University in Torun, Poland	The Theory and Practice of Risk Society
University of Strasbourg, France	The Politics of Knowledge: Assessing and Communicating Risk
University of Trento, Italy	Science and Environment in Society; Science and Environment Communication

ESST also has a double-degree programme with the Higher School of Economics in Moscow. ESST students can thus also spend their specialisation phase in Moscow.

Master's Programme

Semester 1

Faculty of Arts and Social Sciences

Introduction in Society, Science and Technology Studies

Full course description

The basic characteristic of the ESST programme is an insistence on the necessity to think about social, cultural, historical, political and economic circumstances in order to understand the evolution of science and technology. The development of science is often seen as, in essence, an autonomous process - a process of gradual accumulation of knowledge, driven by purely internal imperatives, such as the search for truth. In the same vein, technology has been largely considered as a process of applied science, a kind of “lesser cousin”, which simply followed from previous scientific advance. The field of Science and Technology Studies (STS) challenges this perspective. The first module in the ESST programme will introduce students into the field of STS. Students will gain a thorough understanding of the argument that understanding the development of science and technology involves the recognition that internal scientific and technological advance occurs in the context of powerful social and economic forces, which shape the development of both science and technology, while also influencing the impact of any advances. Besides the foundations of STS, this module will also discuss several STS approaches on how to tackle the study of living in today’s technological culture.

Course objectives

After this module, students are are able to explain the differences between Technological determinism, Social determinism, and the STS-approach (including social constructivism, co-construction of science, technology, and society). In addition, students are able to explain the methodologies of Social Construction of Technology, Actor-Network Theory, and Large Technical Systems.

Furthermore, this module trains students to to formulate strong research questions, do independent library searches, and to build an argument, and integrate texts and issues discussed during the course.

Recommended reading

Bijker, W.E., Hughes T.P., & Pinch T. (2012). The Social Construction of Technological Systems. New Directions in the Sociology and History of Technology, Cambridge MA.: MIT Press.

EST4000
Period 1
4 Sep 2017
29 Sep 2017
Print course description
ECTS credits:
6.0
Instruction language:
English

Master European Studies on Society, Science and Technology

Coordinator:

- V.C. Lagendijk

Teaching methods:
Assignment(s), PBL, Work in subgroups, Lecture(s), Presentation(s), Skills
Assessment methods:
Participation, Final paper, Assignment
Keywords:
Sociology of science & technology, technological determinism, progress and (dis)utopia, Social Construction of Technology, Actor-Network Theory, Large Technological Systems, philosophy and ethics of science & technology.
Faculty of Arts and Social Sciences

Science and Technology in the Making: Entering the World of the Laboratory

Full course description

Students will be introduced to the way experimental research programs are set up and how they involve negotiations, translations of interests, and have political as well as cultural relevance. The anthropological perspective of science that we will use, involves a close look at the actual way scientists work in constructing facts and artifacts. Facts are not given by nature. They are not discovered by scientists in any simple sense of the word. Their establishment results from complex processes involving heterogeneous networks of scientists, machines, techniques, institutions, engineers, intellectual property rights, politicians, skills, corporate labs versus public labs, role of industry, state and military, information, commercialization, knowledge, strategies, choices, patents, ethical conflicts, controversies, innovations, etc. Establishing facts, in other words, is a heterogeneous mixing of humans and non-humans, facts and artifacts, fictions and realities. Additionally, the module includes discussion sessions with scientists from the life sciences. Life sciences AND a one day anthropological fieldwork (in teams) in a lab to observe real science-in-action. In terms of knowledge to be acquired, students are expected, at the end of the course period, to have an advantaged understanding of the way science in action actually function. This includes their internal functioning, the way they fulfill various functions in modern societies (industry, state, commerce and military) and the way they relate to other laboratories and sustain links with industrial contexts.

Course objectives

The primary aim of this Module is to acquaint students with the analysis of the complexities involved in the production and dissemination of scientific knowledge. In essence, this course is an introduction into science studies and involves: a micro-analytical perspective on the complexities involved in the processes of building up scientific facts, and a meso-analytical perspective on the altered institutional ecologies as well as a macro-analytical perspective on the role of industry, the State and the society at large.

Prerequisites

Successful completion of module 1

Recommended reading

Kleinman, D.L. (2003). Impure Cultures: university biology and the world of commerce. Madison: The University of Wisconsin Press. Sismondo, Sergio (2010). An Introduction in Science andTechnology Studies. 2nd revised ed. Oxford: Wiley-Blackwell Publishing.

EST4001
Period 1
2 Oct 2017
27 Oct 2017
Print course description
ECTS credits:
6.0
Instruction language:
English
Coordinator:

- J. Mesman

Teaching methods:
Assignment(s), Work in subgroups, Lecture(s), Presentation(s), Research, Skills, Working visit(s)
Assessment methods:
Participation, Presentation
Keywords:
science studies; commodification of knowledge; epistemic cultures; integrity of science; life sciences; ethnographic research
Faculty of Arts and Social Sciences

Interpreting the History of Science and Technology

Full course description

The third module trains students in historiographical awareness and introduces them to historical methods. Two historical sub-disciplines are under scrutiny, namely History of Science and History of Technology. The first half deals with (re)interpretations of the Scientific Revolution (e.g. the role of experiments, mathematical and mechanical ways of explanation), and the second half deals with history of modernisation in the 19th and 20th century from the perspective from History of Technology. The module will be asking questions going beyond a mere “what happened?” by problematising historical events, episodes, and developments, in order to force students to reconsider what it meant to become (and what it means to be) modern. The module thus examines history as a subject of interpretation juxtaposing different historical positions.

Course objectives

After following this module, students are able to explain and analyse the historical development of science and technology, including the Scientific Revolution, modernisation, the mathematisation of

science, the relation between empiricism and authority, but also the link between technology and the nation. In addition, they are able to analyse and evaluate different interpretations and perspectives of such developments. To do so, students are introduced to the analysis and evaluation of historical sources.

Prerequisites

Successful completion of module 1 and 2.

Recommended reading

see course book

EST4002
Period 2
30 Oct 2017
24 Nov 2017
Print course description
ECTS credits:
6.0
Instruction language:
English
Coordinator:

- G.J. Somsen

Teaching methods:
Lecture(s), Skills, Training(s)
Assessment methods:
Take home exam, Participation, Presentation
Keywords:
Scientific revolution, Industrial Revolution, Historiography
Faculty of Arts and Social Sciences

Science and Technology Dynamics

Full course description

From a policy perspective a need has been felt to better understand the innovation process and to determine how, through policy measures, this process may be strengthened to provide impetus for sustained economic growth - arguably a major policy priority for nation-states around the globe. An outcome of these developments has been the emergence of government-sponsored projects to capture the impacts of technology and R&D on national economic performance. The fourth module of the ESST course examines the dynamics of science and technology from an Economics and policymaking perspective. Moving beyond the narrow and mechanistic confines of mainstream economics, the module draws on concepts from evolutionary and institutional economics to provide systemic perspectives on the role of technology in economic development. Module 4 provides the students with an understanding and appreciation of the innovation process as viewed from the evolutionary, institutional, and systems- based perspectives and how this understanding may be applied in critical examination of STS-related areas of interest.

Course objectives

The course aims to provide students with an introduction into some of the key concepts and ideas on innovation, including evolutionary, institutional, and responsible innovation. Students will be assessed on their ability to apply such concepts while analysing STS topics of their own choice, and also write a policy brief on this.

Prerequisites

Successful completion of module 1, 2 and 3.

Recommended reading

See coursebook

EST4003
Period 2
27 Nov 2017
22 Dec 2017
Print course description
ECTS credits:
6.0
Instruction language:
English
Coordinator:

- V.C. Lagendijk

Teaching methods:
Lecture(s), Skills, Training(s), PBL, Assignment(s)
Assessment methods:
Take home exam, Participation, Assignment
Keywords:
economic growth, Innovation, institutions, Transitions, Network-based Industries, Appropriation Regimes, economic indicators
Faculty of Arts and Social Sciences

Politics of Knowledge

Full course description

The fifth module addresses the political dimension of contemporary science and technology. How is the production of scientific and technological knowledge both connected to and constitutive of power relations? The module draws on scholarship in science and technology study that has probed how knowledge claims have politics[1], in the sense that they are 1.) shaped by selective and context-bounded practices, values and interests, and 2.) help to create, maintain, legitimize the use of power. In stark contrast to a purely political science-based perspective on power, the course seeks to integrate historical and anthropological methods that explain the contingent nature of knowledge and its related politics. In each seminar students will be made aware to which extent complex social histories and social worlds are embedded in the concepts, theories, classifications, and narrative by

which techno-scientific issues are identified, framed and contested. Finally, a main motive of the course, is to open science and technology for politization and democratic debate.

Course objectives

The course is meant to introduce students into the analysis of the political dimensions and implications of science and technology in contemporary societies.

Prerequisites

Successful completion of the previous modules of Semester 1.

Recommended reading

see course book
EST4004
Period 3
8 Jan 2018
2 Feb 2018
Print course description
ECTS credits:
6.0
Instruction language:
English
Teaching methods:
PBL, Lecture(s), Skills, Presentation(s)
Assessment methods:
Take home exam, Participation
Keywords:
risk society; politics & policy; controversies; expert; citizen, participation; media

Semester 2

Faculty of Arts and Social Sciences

Science and Public Policy

Full course description

One of the most striking developments of contemporary public policy making governance has been the increasing engagement with the world of science, broadly interpreted as including social and natural sciences. This is no longer only the case for the special domain of research and development policy where public authorities seek to actively promote scientific and technological innovations. Within the recent decades nearly all domains of public policy-making have become profoundly "scientized": be it the negotiation of a climate policy agreement, endorsement of a new method or means of medical therapy, release of a genetically modified organism, treatment schemes for sexual delinquency, regulation of financial instruments and trade, public aid programs to combat poverty or transfer of technologies to developing countries. There is barely an area of governance where policymakers do not base their decisions on the scrutinized evaluation and consultation by scientific or professional experts. The evolution, structure and the wider social implications of this tightening nexus between science and policy are the themes of this specialization. By addressing this and

related questions this specialization program provides its students with the reflective resources necessary to understand and scrutinize the ways in which public policy operates under the conditions of an emerging knowledge-society. This specialization will prepare the students for a broad spectrum of professional functions related to the formulation, execution, and the consequences of science- based policies.

Course objectives

The specialization combines insights and methods from science and technology studies from the core of the ESST program with those of related fields of public policy analysis (political science, political sociology, institutional economics). The specialization deals with the phenomenon of science-policy interaction as a general phenomenon of contemporary society. The students will gain in-depth appreciation of different methods, theories, and practical tools to deconstruct complex policy choice problems and to identify and evaluate viable policy alternatives. The participants will be introduced to the main case-based theoretical models for problem definition, design of policy alternatives, and outcome assessment. This specialization allows students to concentrate on case studies of specific interest to them but analyzed using a mix of tools provided through lectures by the faculty, guest lectures, seminar discussions, and assignments.

While participants will become technically equipped, they are also encouraged to develop a sense of humility about the limits of their tools and the relative adequacy or inadequacy of alternative models for decision making. Most importantly, the participants will learn how to communicate their expertise concisely and convincingly.

EST4008
Period 4
5 Feb 2018
9 Mar 2018
Print course description
ECTS credits:
8.0
Instruction language:
English
Coordinator:

- J.D. Lachmund

Teaching methods:
PBL
Assessment methods:
Assignment, Final paper
Faculty of Arts and Social Sciences

Extern

Full course description

For further information please contact the course coordinator.

Master European Studies on Society, Science and Technology

EST4901
Period 4
5 Feb 2018
9 Mar 2018
Print course description
ECTS credits:
8.0
Instruction language:
English
Coordinator:

- V.C. Lagendijk

Teaching methods:
PBL
Faculty of Arts and Social Sciences

Thesis

Full course description

thesis topic

Course objectives

To allow students to demonstrate their intellectual grasp of a relevant area and their ability to research and present a complex set of ideas.

Prerequisites

ESST Semester 1 and successful completion of module 6

Recommended reading

depends on specialization and thesis topic
EST4800
Period 4
5 Feb 2018
30 Jun 2018
Print course description
ECTS credits:
22.0
Instruction language:
English
Coordinator:

- V.C. Lagendijk

Assessment methods:
Final paper
Keywords:
thesis; supervision; data collection & analysis; methodology; argumentation and writing skills