



AK1202 History of Science and Technology 7.5 credits

Teknik- och vetenskapshistoria

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for AK1202 valid from Spring 2014

Grading scale

A, B, C, D, E, FX, F

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Applicants registered on a regular KTH programme are eligible.

For applicants not registered on a regular KTH programme: Completed upper secondary education including documented proficiency in Swedish corresponding to Swedish B/ Swedish 3 and English corresponding to English A/ English 6

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

In order to pass, the students should be able to:

-Show that they can recognise, compare and discuss some of the central theories that historians use to analyse past and present societies.

-Identify important historical changes in the area of scientific, technological and industrial change and present relevant arguments for their interpretation.

-Show an ability to present rationally founded arguments in a clear and readable manner. Furthermore, show that they can handle the most basic concepts and tools of the historian. That is, students should have learnt how to handle sources correctly (i.e., basic source criticism), to make correct quotations, and how to provide the reader with information (by way of footnotes) about the sources they have used when writing their texts.

-Explain some basic differences between humanities, social sciences, engineering and natural science.

-Show an ability to work in a group. As a group project, the students will have to write and hand in an essay, and to choose independent but complementing reading assignments within the group.

-Show an ability to work independently, by writing and handing in a mini-essay and a personal log, which shows how they have disposed their time in the course, and also what parts of the group project that they have had responsibility for.

-Point to the following problems in texts written by others: 1) incorrect handling of sources and source criticism 2) flawed, unclear or dishonest arguments.

For higher grades, the students should also be able to do one or several of the following:

-Show their intellectual independence, by making judgements of the relative quality of the texts read in the course, and by using the tools that have been specified above.

-In a clear and relevant manner, explain the central concepts of at least two important theories concerned with historical change on the macro level.

-Discuss historical events, and 1) account for what the literature considers the most important factors for the development of historical events 2) creatively make judgements about the relative importance of different factors to historical change.

-Make independent judgements about the value of different theories that aim to explain historical change on a macro-level.

-Draw conclusions about historical examples of the different use of technology in different cultural contexts.

-Show, by way of argument and examples, that they have understood why it is necessary to handle sources correctly.

Course contents

This is a course in the history of technology and science in a global perspective. It will focus on a macrolevel of historical analysis. This means that the primary focus will be on large-scale historical changes over long timespans. The course's primary aim is to be a complementary course for engineering students who want a deeper understanding of the history, and historic implications, of what they do. It also functions as an introduction to further studies in history of technology and science.

The course consists of three parts. The first is an overview of the world in global historical perspective, with a special focus on the history of science and technology, and a general overview of theoretical perspectives. Focus is here on 1) the understanding of the difference between different levels of analysis (macro, meso, and micro), 2) theories and methods in the history of science and technology and history in general. The second part explores case studies on the meso- and microlevel respectively. Cases on the meso-level look at the connections between science, technology and empire, with examples from Asia, Africa, and South America. The micro-study will be chosen by the students from a list of articles.

The third part of the course revolves around three themes. Students will work with one of the themes in a group setting. Theme 1: Cultural encounters and the mechanisms of mutual exchange and transfer in the scientific, technological and industrial development in Europe and Asia since the Renaissance. Theme 2: A transnational approach to Europe/USA and Africa/South America in the last 300 years. Theme 3: Modernisation theories and technology transfer from the developed to the developing world during the last 100 years, with a special focus on the differences before and after colonialism.

Disposition

The course consists of three parts. The first is an overview of the world in global historical perspective, with a special focus on the history of science and technology, and a general overview of theoretical perspectives. Focus is here on 1) the understanding of the difference between different levels of analysis (macro, meso, and micro), 2) theories and methods in the history of science and technology and history in general. The second part explores case studies on the meso- and microlevel respectively. Cases on the meso-level look at the connections between science, technology and empire, with examples from Asia, Africa, and South America. The micro-study will be chosen by the students from a list of articles.

The third part of the course revolves around three themes. Students will work with one of the themes in a group setting. Theme 1: Cultural encounters and the mechanisms of mutual exchange and transfer in the scientific, technological and industrial development in Europe and Asia since the Renaissance. Theme 2: A transnational approach to Europe/USA and Africa/South America in the last 300 years. Theme 3: Modernisation theories and technology transfer from the developed to the developing world during the last 100 years, with a special focus on the differences before and after colonialism.

Course literature

Kurslitteratur: 1000-1200 pages

Equipment

None

Examination

- INL1 - Assignment Work, 7.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Other requirements for final grade

The students will be examined and graded through:

- Active participation in lectures and seminars.
- A personal mini-essay and log of activities.
- A longer essay composed as a group project.
- Students will also be required to criticise another group's essay at a concluding seminar.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.