

## HH1004: Science and Technology in Historical Perspective (2018-2019, SEM 2)



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Office Hours: Park (Thursday 11:30-13:30)

Lecture: Friday 13:30-15:30 [LT24]

Tutorial: Friday 15:30-16:30 (TR1) / 16:30-17:30 (TR2) / 17:30-18:30 (TR3) [TR+112]

### Learning Objective:

This is a thematic survey in the history of science and technology, focusing on the modern period after the seventeenth century. Students are expected to explore diverse historical problems in science and technology in the global and local contexts. Through this course, students will be able to understand the importance of science and technology in creating modernity. They are also expected to learn how science and technology are located in the cultural landscape of our society, which shapes and is shaped by knowledge and practice in laboratories, factories, and fields. Students will thus find that science and technology are closely associated with what we do not usually think in related terms, such as religion, political ideologies, morality, gender, entertainment, and even magic.

### Course Structure:

2 Hour Weekly Lecture + 1 Hour Weekly Tutorial

### Assignment and Evaluation:

Lecture Attendance and Quiz (10%)

Lecture Participation (5%)

Pre-Lecture Questions (5%)

Midterm Essay (15%)

Tutorial Activity (15%)

Final Exam (50%) – on 29 April 2019

### Lecture Readings

Andrew Ede and Lesley Cormack, *A History of Science in Society: From Philosophy to Utility* (Toronto: University of Toronto Press, 2017).

There will also be a small piece of historical primary sources each week.

## **Tutorial Readings** (schedule TBA)

- Vitruvius, *The Ten Books on Architecture*, trans. Morris Hicky Morgan (New York: Dover, 1960), pp. 17-32.
- George Ovitt, Jr., “The Cultural Context of Western Technology: Early Christian Attitude toward Manual Labor,” *Technology and Culture* 27 (1986), pp. 477-500.
- A. I. Sabra, “Situating Arabic Science: Locality versus Essence,” *Isis* 87 (1996), pp. 654-670.
- Katharine Park and Lorraine J. Daston, “Unnatural Conceptions: The Study of Monsters in Sixteenth- and Seventeenth-Century France and England,” *Past and Present* 92 (1981), pp. 20-54.
- Ronald Numbers, “That Social Darwinism Has Had a Profound Influence on Social Thought and Policy, Especially in the United States of America,” in Ronald L. Numbers and Kostas Kampourakis (eds.), *Newton’s Apple and Other Myths about Science* (Cambridge, Mass.: Harvard University Press, 2015), pp. 139-146.
- Daniel R. Headrick, *Tentacles of Progress: Technology Transfer in the Age of Imperialism, 1850-1940* (Oxford: Oxford University Press, 1988), pp. 171-208.
- Stephen Meyer, *The Five Dollar Day* (Albany: State University of New York Press, 1981), pp. 123-168.
- Amy Sue Bix, *Inventing Ourselves Out of Jobs? America’s Debate over Technological Unemployment, 1929-1981* (Baltimore: Johns Hopkins University Press, 2000), pp. 9-42.
- Kirill Rossianov, “Editing Nature: Joseph Stalin and the ‘New’ Soviet Biology,” *Isis* 84 (1993), pp. 728-745.
- Ruth Cowan, *More Work for Mother: The Ironies of Household Technology* (New York: Basic Books, 1985), pp. 3-15, 192-216.
- Gregg Mitman, “Cinematic Nature: Hollywood Technology, Popular Culture, and the American Museum of Natural History,” *Isis* 84 (1993), 637-661.
- Alexander Geppert, “Extraterrestrial Encounters: UFOs, Science, and the Quest for Transcendence, 1947-1972,” *History and Technology* 28 (2012), pp. 335-362.
- Spencer Weart, “The Physicist as Mad Scientist,” *Physics Today* 41 (1988), pp. 28-37.

## **Midterm Essay**

The professor will assign a topic in the form of a question during the lecture. Students are expected to write an essay about it using course readings and other resources available, including “optional readings.” The content of the paper must answer the question with approximately 1,000 words, excluding footnotes and bibliography. The recommended style of the essay can be found in *Chicago Manual of Style* (available in the NTU Library). You should submit your paper to the course portal of NTU Learn. After logging on, please click “Midterm Assignment.” Please be on time. Any late submission, along with overly long or short papers, may be subject to penalty. Please submit your file in the doc (MS word) format rather than the pdf format.

## **What You Should Do before and during Lectures:**

There will be a quiz during every lecture. This will also be used for monitoring attendance. Even if you do not choose the “correct answer” (only in terms of class context) for the quiz, your attendance in the

lecture will still be acknowledged. But getting the right answer will let you earn extra marks (total 10%). To do so, you need to pay attention to the lectures and finish at least some portions of the lecture readings assigned for each week before coming to the lecture hall. Students are also expected to download, install, and register for the TurningPoint Cloud through NTULearn. In addition, the professor will occasionally ask questions amid the lecture. You are encouraged to answer these questions and ask your own to earn credit for your “lecture participation” (5%).

### **Pre-Lecture Questions:**

There are a number of articles and book chapters assigned for each week. Students are expected to read as much as they can before attending the lectures. These readings will facilitate their understanding of the course content. The professor expects that students shall find something that they cannot easily understand during this class preparation. Students can also come up with some questions on the basic assumptions and directions of the paper they read. Students can upload all these questions in the “Pre-Lecture Questions” link within the courseweb of NTULearn. The professor will review these questions, and discuss some of them during the class. These questions count 5% of the final mark.

### **Tutorials:**

There are three tutorial sessions, and you need to attend just one. During the class, tutors will interact with students to talk about a paper for your better understanding of the week’s subject. You are encouraged to be active during the tutorials, since your attendance and activity will be monitored and will contribute to your marks (15% of the total).

### **Final Exam:**

On 29 April 2019, you will take the final exam. There will be ten questions reflecting the ten weeks out of 13 weeks of lectures and tutorials. You will have to write down an analytic essay for each question. At least one question will be about images in the lecture/tutorial readings. This is an open book exam.

### **How to Find Readings:**

The textbook is available in the campus bookstore, while tutorial readings are available in NTULearn’s course portal.

### **Plagiarism:**

Plagiarism is a serious academic misconduct and may endanger a student’s career in a highly severe way. It is done intentionally or unintentionally using another person’s ideas and writings without any proper citation and/or quotation marks. Collusion, which may involve a close collaboration in completing an assignment, is another problem. Unless instructed otherwise, your midterm assignment should be done by yourself alone. Paraphrasing is an act of rewriting other people’s ideas or arguments using your own words. While this is an acceptable practice in most cases, it can be an issue if you do not indicate that the ideas have come from another person’s works. If you are not sure about how you

should do regarding these issues, please do cite the referred sources in footnotes/endnotes and use the quotation marks around the terms you did not originally write. Even if you cited the source, your paper can be a problem without the proper use of quotation marks. If any plagiarized sentence or paragraph is detected, the grade will be reduced to zero.