

# Science and Technology Studies (STS)

*NOTE: Beginning September 2020, admissions to majors in Science and Technology Studies and Math have been suspended. We are continuing to offer courses in these areas so that current students can complete their degree program.*

*Not all courses listed are offered each year. Please consult with the Director for more information about current and planned course offerings.*

Science and technology are among the most powerful forces transforming our world today. They have changed social institutions like work and the family, produced new medicines and foods, influenced economies and international affairs, and have the capacity to alter and destroy human life as well as the natural environment itself. These forces come with a vast and complicated array of ethical and social dilemmas that affect both our daily lives and our world. An individual cannot be considered well educated nor can they participate in civil society as an informed citizen without substantial knowledge of what science and technology are and how they interact with society.

From the perspective of the humanities and social sciences, STS takes a critical, balanced, and interdisciplinary approach, and promotes neither unbridled enthusiasm for, nor an activist rejection of science and technology. While science and technology can be appreciated for their valuable contributions, it is also important to acknowledge the range of negative and unintended consequences that often follow in their wake.

Students with a background in STS will bring a unique social and ethical perspective to pivotal debates in the 21st century including the relations between science and gender, science and religion, technology and social values, the politics of technological innovation, the impacts of disease and natural disasters on society, or whether nano-technologies will change the very nature of what it means to be human.

Students may obtain a Minor, Major or Honors in Science and Technology Studies. The Minor, Major and Honors requirements are stated below.

## Honours

In addition to the requirements for a Major in STS, an Honors degree in STS requires a total

## Major

36 credits hours are required for a Major in STS. These include required courses in the core theoretical concepts in the discipline of STS, and at least 6 credit hours in science. Students can then follow their own particular interests and complete the Major requirements drawing from a range of 2000- and 3000-level courses in STS and from courses in other disciplines, recognized as STS electives. The details are that the Major in STS must include:

- (i) the following core STS courses:
  - STS 1003. Science, Technology & Society I
  - STS 2103. Science, Technology & Society II
  - STS 3103. Science, Technology & Society III
- (ii) at least 6 credit hours in science (selected from: STS 1503/1513 Principles of Biology I/II)
- (iii) a total of 9 credit hours selected from an 2000-level STS course (and which may include no more than 6 credit hours electives from ENG 2313, ENG 2393, ENVS 2023, SOC 2323, GRBK 2206)
- (iv) a total of 15 credit hours selected from an 3000-level STS course (and which may include no more than 6 credit hours electives selected from ECON 3323, ENVS 3013, HIST 3403, HIST 3423, POLS 3213, RELS 3513, RELS 3523, SOC 3523, SOC 3693)

## Minor

18 credits hours are required for a Minor in STS. These must include:

- (i) STS 1003. Science, Technology & Society I, and
- (ii) an additional 15 credit hours in STS courses at the 2000-3000 level (which may include no more than 6 credit hours from courses in other disciplines, recognized as STS electives. See list of non-STS courses under sections (iii) and (iv) of the requirements for Majors.)

## Course Offerings

### STS-1003. Science, Technology and Society I

Science and technology are among the most powerful forces in our world today and come with a vast and complicated array of social, ethical, political, legal, and economic implications. This course introduces students to the core theories and various branches of the dynamic field of Science and Technology Studies (STS) in order to facilitate thoughtful analysis of the intertwined relations among science, technology, and society.

### STS-2103. Science, Technology and Society II

This course provides an intermediate-level study of the core theories and various branches of the dynamic field of Science and Technology Studies (STS) in order to facilitate thoughtful analysis and discussion of relevant topics which may include: science and public policy, STS and the environment, science and the media, the public understanding of science, gender and science, and/or expertise and scientific knowledge production. Prerequisite: STS 1003.

### STS-2123. Food, Science & Sustainability (ENVS)

This course explores the relationships in our society among science, technology, and food by examining the ways that technology and scientific knowledge have altered food production. In addition, we will look more broadly at how our technical relationship to food has laid the foundations of modern civilization. We will also look at advocates of alternative modes



this class is on learning and understanding rather than on memorizing; the class is structured to foster the retention of workable knowledge. Prerequisites: None.

### **STS-2703. History of Life Science**

This course examines the historical background and development of the life sciences from the ancient Greek world to the present. Particular attention will be focused on the fields of biology, ecology, medicine and genetics.

### **STS-2903. The Political of Science**

This course introduces students to the manner in which science interacts with political interests. This includes the manner in which political considerations from outside of science and elected officials influence the development of science. It also includes the manner in which political interests from within science itself control the development of science and how scientific concerns often guide the development of public policies made by politicians.

### **STS-2913. Communicating Science In Democracy**

In modern democratic societies, the sciences are dominant forces that affect everyone. This course examines how critical scientific issues are communicated to (or with), members of the public, government, and within the scientific community itself. The basic question will be exploring is: What science communication strategies work, what don't work, and most importantly, why? This course explores the relationship between the communication of complex scientific issues and democracy.

### **STS 3003 - Scientific Reasoning**

This course provides students with the tools needed to pursue research in Science and Technology Studies. The course will typically cover the basic elements of a traditional conceptual framework used by scientists to describe their work, including the concepts of prediction, testing, theoretical models, and scientific change over time, as well as the basic elements of alternative theoretical frameworks. Some mathematical content. Prerequisite: at least 9 credit hours in STS or permission of the instructor.

### **STS-3013. Conference (e:amT-TEMC/S(o)9( )1/CID 163n)cha of6 (e and )41 (T)71 (ech)TEM**

**STS-3063. Science, Religion, and Galileo's Trial (HMRT 3283)**

Examines the complex interactions between Western science and the Judeo-Christian religious tradition in the ancient, medieval, and early modern periods culminating with a close study of Galileo's trial before the Inquisition in 1632 to reveal how variable and complex interactions between science and religion have been characterized at different times by conflict, cooperation, separation, misunderstanding, mis-understanding, dialogue, and alienation. Prerequisite: STS 2243 or permission of the instructor.

**STS 3103 - Science, Technology & Society III**

This course further develops an integrative understanding of the core theories and various



