Science and Technology Studies (STS)

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 uses 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

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 any 2000-level STS course (and which may include no more than 6 credit hours electives from ENG 2313, ENG 2393, ENVS 2023, SOC 2323, GRID 2206)

(iv) a total of 15 credit hours selected from any 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.)

Program Approval

All students contemplating either a Major or an Honours in Science and Technology Studies must obtain the approval of the Program Director for their proposed course of studies before the end of their second year. Any and all subsequent changes to their course of studies must also have the approval of the Program Director.

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
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

importance of fundamental knowledge of anatomy for clinical work. The emphasis in 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 Sciences
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 Politics of Science
This course introduces students to the many ways in which science interacts with political interests. This includes the ways in which political considerations from outside of science and elected officials influence the development of science. It also includes the ways 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 we 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. Controversies in Science and Technology
This course explores controversial issues involving science and technology in order to investigate the underlying dynamics of science and technology themselves since it is during controversies that the normally hidden social dimensions of techno-science become more explicit. Various controversies, such as climate change, transgenic foods, biofuels, and chemical additives in food are studied to reveal the rhetorical tools, underlying assumptions, and social, political, economic, and philosophical struggles embedded within science and technology. Prerequisite: STS 1003.

STS-3043. Heaven and Earth: Astronomy and Matter Theories from the Ancient World to the Scientific Revolution
This course explores theories explaining the structure and material makeup of the universe from ancient times to the Scientific Revolution. Technical details of astronomy and matter theories are examined in philosophical, theological, and medical contexts. Topics include: the shift from an earth-centered to a sun-centered astronomy, medical astrology, the shift from ancient atomism to mechanistic theories of matter, and the implications of postulating empty space in the macro and micro universe.

scientific authority (particularly in the biological and life sciences) rationalizes and normalizes gender stereotypes and inequalities, and also marginalizes women from its institutions. The content and positions of various perspectives (as well as counter-arguments) are studied for their political, philosophical, and epistemic assumptions. Prerequisite: at least 9 credit hours in STS or permission of the instructor.

STS-3533. Science and Scientific Knowledge
This course examines the study of science and scientific knowledge from a sociological perspective. It focuses on the effort of the Edinburgh School to provide a materialist resolution to the debate between positivist and relativist epistemologies.

STS-3563. Philosophy of Science (PHIL)
This course will examine science from the perspective of philosophy. Topics will include the historical relation between science and philosophy, the differences between the social

Courses at the University of New Brunswick

The University of New Brunswick offers a number of courses in the Sciences and courses that fall under the description of Science and Technology Studies but are offered by departments such as history and sociology. St. Thomas students who wish to register for any of the courses described immediately above may do so only with the approval of the Director of Science and Technology Studies and the approval of the Registrar's Office.

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