

SCIENCE AND TECHNOLOGY STUDIES

Minor or Integrative Studies Concentration Only

Science and Technology Studies (STS) is a multidisciplinary field.

It uses the perspectives and approaches of the humanities and social sciences to examine the social contexts in which science and technology are produced, and the social consequences and cultural reactions to them. The STS Program gives special attention to the impact of the automobile and automobile industry on American culture.

The STS Program at UM-Dearborn was launched in 2002 by a group of interdisciplinary faculty from the College of Arts, Sciences, and Letters and the College of Engineering and Computer Science. It is the first in the nation to provide a special focus on a particular technology and particular industry—the automobile—with national and global impact. The STS Program is thus designed to bring together students and faculty who want to understand the societal dimensions of science and technology, whether they are studying science, engineering, the humanities, social or behavioral sciences, or business.

STS is an ideal complement for almost any major, whether in physics or philosophy, engineering or economics, management or math, communications or chemistry. In a world that's increasingly shaped by science and technology, and in a region where many jobs are still connected to an automobile industry undergoing its most profound changes in over a century, STS provides new ways of understanding the scientific and technological issues facing us in our lives and our careers.

The STS minor/concentration consists of an introductory course, STS 300 (Introduction to Science and Technology Studies), and at least one course from each of three groups of upper-level course offerings on "Science, Technology, and Cultures," "Science, Technology, and Labor," and "Science, Technology, and Environments." Many of the Program's courses, including the introductory one, contain at least some focus on the automobile, but students are also able to study a variety of other topics, from environmental ethics to the legal and political issues raised by the internet to women and science.

Minor or Integrative Studies Concentration Requirements

| Code | Title | Credit Hours |
|--|--------------------------------|--------------|
| STS 300 | Intro to Sci & Technol Studies | 3 |
| Science, Technology and Cultures (CABT) | | |
| Select one course from the list below: | | 3 |
| STS/SOC 310 | Digital Media and Society | |
| STS 326/ NSCI 325/ WGST 325 | Gender, Science & Engineering | |
| STS/ANTH 340 | Race and Evolution | |
| STS/ANTH 345 | Cultural Ecology & Evolution | |
| STS/HIST 349 | Thomas Edison and His Era | |

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|-----------------------|---|
| STS/PHIL 360 | Philosophy of Technology |
| STS/HIST 374 | Hist of Industrial Technology ¹ |
| STS/HIST 386 | Comparative Hist of Technology ¹ |
| STS/JASS 403 | Issues in Cyberspace |
| STS/ANTH 409 | Human Body, Growth & Health |
| STS 410/ PHIL 310 | Darwinism and Philosophy |
| STS/ANTH 430 | Medical Anthropology |
| STS/PHIL 485 | Philosophy of Science |
| STS/ENGL/ ENST 488 | Env Lit & Reps of Nature |

| Science, Technology and Labor (CABY) | |
|---|--|
| Select one course from the list below: | 3 |
| STS 305 | Social Issues in Auto Design ¹ |
| STS/SOC 310 | Digital Media and Society |
| STS/ECON 321 | Labor in the American Economy ¹ |
| STS/HIST 383 | Labor in America ¹ |
| STS/SOC 442 | Sociology of Work ¹ |
| STS/PSYC 464 | Applied Cognitive Psychology |

| Science, Technology and Environments (CABE) | |
|--|---|
| Select one course from the list below: | 3 |
| STS/ENST 301 | Concepts of Environmentalism ¹ |
| STS 305 | Social Issues in Auto Design ¹ |
| STS 308/ ENST 300/ GEOG 300 | Urban Geography |
| STS 309/ ENST 310/ GEOG 310 | Economic Geography ¹ |
| STS/ENST/ PHIL 312 | Environmental Ethics |
| STS/ENST/ POL 325 | Environmental Politics ¹ |
| STS/ENST 365 | Environmental Psychology ¹ |
| STS/HIST 3666 | Henry Ford and His Place |
| STS/HIST 3695 | The American City ¹ |

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| Select one additional course from any of the above | 3 |
| Total Credit Hours | 15 |

¹ A course that contains some attention to the automobile.

STS 300 Intro to Sci & Technol Studies 3 Credit Hours
An examination of the social contexts and consequences of science and technology, with special attention to the impacts of the automobile and automobile industry on American society. Topics include the automobile's role in the history of manufacturing; the impact of various production techniques on work and workers; the effects of the automobile on the natural environment, the design of cities and development of suburbs, and ways of life; the iconic status of the car in American culture and the relationship between automobile design and aesthetics. (YR).

STS 301 Concepts of Environmentalism 3 Credit Hours

Designed to identify the underlying concepts of any environmental issue. The course will demonstrate the interdisciplinary nature of environmental problem-solving through current readings, classical monographs, and films. Students will conduct a systems analysis of a household and a local community. A major research paper on an environmental topic will be required. The course will not be open to students who take ENST 105. (YR).

STS 305 Social Issues in Auto Design 3 Credit Hours

An examination of the impact of four contemporary social issues - vehicle safety, energy consumption, environmental impact, and a changing workforce - on the design and engineering of automobiles in the context of globalization and rapid technological change. Using a series of case studies, the course will focus on the ways social concerns, government regulation, and professional ethics, as well as industry standards and technical considerations, affect the decision-making processes of automobile designers and engineers. (OC).

Prerequisite(s): COMP 105 or COMP 110 or Composition Placement Score with a score of 30 or Composition Placement Score with a score of 107

STS 308 Urban Geography 3 Credit Hours

The geography of human settlement and urbanization. Particular emphasis is placed on human transformation of the physical environment, and resource use throughout history from ancient civilizations to modern megalopolises. Universal urban challenges, such as sprawl, pollution, congestion, crime, poverty, etc., are addressed. (F,W).

STS 309 Economic Geography 3 Credit Hours

Spatial aspects of the ways people make their living. Discussion of the spatial distribution of resources and wealth at various scales. Introduction of site selection and location analysis. (F).

STS 310 Computers and Society 3 Credit Hours

A sociological discussion of computers and other information technology starting with the larger concept of technology and social change, an exploration of various forms of information technology, their history and development, their relationship to the changing social structure of a post-industrial society like 20th/21st-century USA. Case studies could include "Computers and the Workplace," "Computers in Medicine," "Computers and Education," and "Computers in Popular Culture." Course concludes with a discussion of new social problems and possible futures. (OC).

Prerequisite(s): SOC 200 or SOC 201

STS 312 Environmental Ethics 3 Credit Hours

The relationship of human beings to the non-human environment raises pressing moral and political issues. This course will use the theories and concepts of philosophical ethics to explore such questions as human obligations to non-human animals; the preservation of wilderness; balancing economic, aesthetic, and spiritual values; and the problems of pollution, urban sprawl, and ecological justice. (OC).

Prerequisite(s): PHIL 100 or PHIL 233 or CRJ 240 or ENST 105 or ENST 301

STS 321 Labor in the American Economy 3 Credit Hours

An analysis of the nature and underlying causes of the problems facing the worker in modern economic society. Includes an examination of wages, unemployment, economic insecurity, the trade union movement, collective bargaining, and labor legislation. (F).

Prerequisite(s): ECON 201 and ECON 202

STS 325 Environmental Politics 3 Credit Hours

An examination of policy making about problems affecting the environment, at a global, national, and local scale.

STS 326 Gender, Science & Engineering 3 Credit Hours

Explores some of the history of women in science and engineering, the current status of women in science and engineering, and feminist theory in research. Topics include cultural influences on women in science and engineering, careers and life balance, and a feminist approach to scientific and engineering teaching and research.

STS 340 Beyond Race: Understanding Human Variation 3 Credit Hours

This course examines the concept of race from a biocultural perspective. It focuses on several intertwined themes, including: (1) the nature of human biological variation, (2) how human populations have adapted to diverse environments across the world, (3) how Western scientific thought and colonization influenced ideas about race, and (4) how the concept of race has varied both cross-culturally and over time. Students will be asked to critically evaluate current and historical concepts of race and human variation, and to apply this understanding to contemporary issues. Prerequisite ANTH 101 recommended. (YR).

Prerequisite(s): ANTH 101

Restriction(s):

Can enroll if Class is Sophomore or Junior or Senior

STS 345 Cultural Ecology & Evolution 3 Credit Hours

An introduction to the study of human ecology. This course employs the case-study method to develop an evolutionary and biocultural perspective on the relationship between human beings and their environments. (OC).

STS 349 Thomas Edison and His Era 3 Credit Hours

This course will introduce students to the life and work of Thomas Edison. Breaking with the stereotype of the lone inventor/genius, we will examine how Edison helped shape and was in turn shaped by the context of the Gilded Age America when the United States emerged as an urban, industrial nation. Lectures and discussions will be supplemented by slides, films, and visits to the Edison-related sites at the Henry Ford. Throughout the course the following themes will be explored: invention and the labor process, the significance of manufacturing and marketing, the origins of modern consumer culture. (OC).

STS 360 Philosophy of Technology 3 Credit Hours

A study of both the history of, and current issues in, the philosophy of technology. This course will examine the deeper meaning and implications of our modern technological society. Questions examined include: What is the definition and nature of technology? How did the concept originate in Western thought? What is the relationship between modern industrial technology and the 'mechanistic' worldview? How do Western religious beliefs influence our attitudes about technology? Is technological progress socially determined, or is it culturally independent? In what ways has our technological society been supportive of, or detrimental to, overall human well-being? Students will cover both classic and contemporary readings.

STS 365 Environmental Psychology 3 Credit Hours

A survey of the contributions of the behavioral sciences to the understanding and solution of environmental problems that threaten our survival. Insights derived from psychology, anthropology, and computer science are discussed. Major topics include overpopulation, overconsumption of resources and energy, future shock, cognitive limitations in our understanding of ecological-political systems, and the use of behavioral control. (OC).

Prerequisite(s): PSYC 170 or PSYC 171

STS 3666 Henry Ford and His Place 3 Credit Hours

Using the biography of Henry Ford as a touchstone, the course will examine the trajectories of historical change and regional development between 1870 and 1950. Of fundamental concern will be southeastern Michigan's transformation from a 19th century outpost on the Great Lakes to the nation's "engine of change" in the 20th century. Henry Ford was the major player in that revolutionary transformation. This course examines his role in history and mythology as well as the causes and implications of that transformation. (OC).

STS 374 Hist of Industrial Technology 3 Credit Hours

Focusing on western Europe and the United States since the Industrial Revolution, this course will examine the history of manufacturing technologies and will include the following topics: mechanization and the rise of the factory; mass production; the process of innovation; design and diffusion of new technologies; technologies; technology and the changing nature of work; discussions, and examination of artifacts (actual tools and machines), students will consider the central role played by technology in the making of modern society. (YR).

STS 383 Labor in America 3 Credit Hours

A survey of urban workers from colonial times to the present. Among the topics covered are changing standards of living, the experiences of industrial work, labor organizations, and working-class politics. (OC).

STS 386 Comparative Hist of Technology 3 Credit Hours

This course will examine the history of technology from a comparative perspective; studying the development and impact of technology in different societies during various historical eras. Topics include: irrigation control and the rise of ancient empires; technology's role in the industrial revolution; technological innovation and the pace of social change. Current issues and various analytical perspectives in the history of technology will also be examined. (OC).

STS 390 Topics in STS 3 Credit Hours

Examination of problems and issues in selected areas of Science and Technology Studies. Title as listed in the Schedule of Classes will change according to content. Course may be repeated for credit when specific topics differ. (OC).

STS 390F Topics in STS-Skin & Ink-The Science, Culture & Business of Tattoos 3 Credit Hours

Topic Title: Skin & Ink-The Science, Culture & Business of Tattoos- This course is an intersectional study of Tattoos. Tattoos-the impression of a design on skin- have been an indelible part of human history over thousands of years. This hybrid course will explore tattoo anthropology, history, economics, skin and skin tissue, skin as a canvas, skin as parchment, economics, pigments and inks, branding, safety issues and concerns, and promising uses such medical tattoos. This is hybrid course, requires a field trip and online interaction in addition to on-campus lectures and seminars. (OC).

Restriction(s):

Can enroll if Class is Junior or Senior

STS 4021 Economics of the Labor Sector 3 Credit Hours

Theoretical analysis and empirical studies of the nature and operation of labor markets. Includes theories of wage determination and income distribution, the nature of unemployment, the impact of collective bargaining on the economy, the extent and economic effects of discrimination, and the nature and effects of government wage and employment policies. ECON 321/STS 321, Labor in the American Economy, is valuable background to this course although it is not a prerequisite. This course counts as a required capstone (4000-level) course in Economics and also counts toward the Economics Honors designation.

Prerequisite(s): ECON 302

STS 403 Issues in Cyberspace 3 Credit Hours

This course will explore some of the social, political, legal, and technological issues associated with the use of new media technology to move ideas and information in a democratic society. Examples of areas to be explored include the Internet and World Wide Web, privacy, the future of the mass audience, and the meaning of the First Amendment in the 21st Century. (AY).

Prerequisite(s): COMM 280

STS 409 Human Body, Growth & Health 3 Credit Hours

This course provides an advanced undergraduate introduction to the topic of human growth and shows how human growth can be a reliable measure of the psychological, social, economic and moral conditions of a society. A major theme will be the interplay of biology and culture in shaping the patterns of human growth and, consequently, the health of populations and individuals. (OC).

STS 410 Darwinism and Philosophy 3 Credit Hours

Darwinism represents a challenge to the traditional view of human life as radically separate from the rest of the natural world. This course will examine the philosophical implications of this world view. It will address questions such as these: Is Darwinism compatible with traditional religion? Does Darwinism imply that human life and the cosmos are without purpose? Can human life be meaningful if it is the result of evolution and natural selection? Does Darwinism require us to change our view of nature? What are the ethical implications of a Darwinian view of life and the universe? (OC).

Prerequisite(s): PHIL 100 or PHIL 210 or PHIL 200 or PHIL 233 or PHIL 240

Restriction(s):

Cannot enroll if Class is

STS 430 Medical Anthropology 3 Credit Hours

A comprehensive examination of how culture mediates processes of illnesses and healing. Comparative materials examined, which provide a context for an anthropological analysis of modern biomedicine. (YR).

Restriction(s):

Can enroll if Class is Sophomore or Junior or Senior

STS 442 Sociology of Work 3 Credit Hours

The study of work roles in modern society. The impact of industrialization, professionalization, and unionization on the conditions of work, worker motivation, and job satisfaction. Career choice processes and career patterns, occupational status and prestige, and occupations associations are among the topics to be considered. (YR).

Prerequisite(s): SOC 200 or SOC 201

STS 464 Applied Cognitive Psychology 3 Credit Hours

The focus will be on the application of principles of cognitive psychology (defined broadly to include sensation and perception) to benefit the student in real-life settings. Specific areas might include human factors, retention, recall, attention, reasoning, problem-solving, decision making, reading, comprehension, learning, and language. (YR).

Prerequisite(s): PSYC 170 or PSYC 171 or PSYC 101

STS 485 Philosophy of Science 3 Credit Hours

A critical study of the foundations of the sciences, natural and social, with emphasis on the following topics: the nature of scientific method, theories and explanation, probability and determinism, the unity of the sciences. (OC).

Prerequisite(s): PHIL 100 or PHIL 120 or PHIL 200 or PHIL 233 or PHIL 240

STS 488 Env Lit & Reps of Nature 3 Credit Hours

An interdisciplinary study of the ways in which the relationship between "nature" and humankind has been represented in literature and other forms of cultural expression. Emphasis on American and British texts of the 19th and 20th centuries, but assigned materials may include readings from other cultures and historical periods. (OC).

Prerequisite(s): (COMP 106 or COMP 220 or COMP 280 or Composition Placement Score with a score of 40 or COMP 270) and (ENGL 230 or ENGL 231)

* An asterisk denotes that a course may be taken concurrently.

Frequency of Offering

The following abbreviations are used to denote the frequency of offering: (F) fall term; (W) winter term; (S) summer term; (F, W) fall and winter terms; (YR) once a year; (AY) alternating years; (OC) offered occasionally