Science, Technology, and Society

As our students enter into a world of accelerating change, it has become ever more important that these future scientists, engineers, computer and data scientists, health care practitioners, social scientists, teachers, policymakers, and more be able to reason about the social and ethical implications of science and technology in their fields and in public life. The Undergraduate Minor in Science, Technology and Society (STS) brings Berkeley undergraduates to the forefront of understanding the global impact of science, technology and medicine-related challenges.

The STS Minor provides students critical thinking skills to effectively contribute to a world shaped by computing and artificial intelligence, environmental change, new medical technologies, and genetic engineering. Students engage with current technoscientific issues in historical context, develop capacities to examine scientific and technical processes, and practice speaking about them effectively to multidisciplinary audiences.

Declaring the Minor

To declare the minor:

1. **Complete the core course** with a C (2.0) or better. In Spring 2022, the core course is HISTORY 182A. After Spring 2022, the core course is STS C100.
2. **Complete the** STS Minor Application **(**https://docs.google.com/forms/d/e/1FAIpQLSeRESHsqR25fmZ0rOC4jldtVJtVGfYFenFfgEcnuiu740ScFw/viewform/**)**, listing your proposed (or any already-taken) elective courses, to declare the minor by the deadline listed above.

The STS Minor advisor will notify the student whether their proposal satisfies the requirements for the minor, and will advise the student on their proposed self-designed pathway, if applicable.

To complete the STS minor:

1. **Complete four upper-division electives** toward the minor. See below for suggested paths through the minor and elective options.
2. **Petition (FORTHCOMING)** to have STS any elective courses not currently on the approved list (if any) included in your minor. These must be upper-division or graduate-level courses.
3. **Complete the STS Minor Application** (FORTHCOMING) with all upper-division elective terms and grades entered to complete the minor by the deadline listed above.
4. **NOTE: If you will be completing courses toward the minor during your graduating semester,** please email cstms@berkeley.edu to let us know by the deadline listed above. Then, complete the STS Minor Application form as soon as your grades are posted and email cstms@berkeley.edu again.
5. Complete the general minor petition in L&S or your home college (https://lsadvising.berkeley.edu/sites/default/files/minorcompletion_fillable.pdf).

Program Requirements and Recommendations

Students must take one required upper-division core course and four upper-division elective courses that relate to Science, Technology, and Society and are taught by affiliated faculty.

Students have the option to choose one of four pathways through the Minor, selecting their four electives from among the approved courses in that pathway, or to design their own pathway in consultation with the Minor Advisor. Each elective may be no fewer than 3 units. See below for a list of approved upper-division elective courses.

A lower-division gateway course of HISTORY 30, DATA 4AC, ANTHRO 84, and/or ISF 60 for the minor is recommended but not required. These courses serve as channels to the Minor, familiarizing students with fundamental STS topics and setting them up to succeed in the Minor.

Pathways through the STS Minor

Students may follow one of four recommended pathways through the Minor, detailed below, or propose their own pathway in consultation with the STS Minor Advisor when declaring the Minor. These pathways draw on approved course offerings curated by the Center for Science, Technology, Medicine and Society and offer guidance on how the STS Minor complements popular majors on campus including computer science, data science, molecular and cell biology, sociology, history, environmental studies, and more. They have been developed in consultation with the STS faculty across UC Berkeley. They are:

1. History and Philosophy of Science
2. Medicine, the Body, and Society
3. Environmental Change and Society
4. The Human Contexts of Data and Computing

A list of courses for each pathway is provided below.

Course Policies Regarding the STS Minor

One of the four elective courses that counts toward the minor can be taken outside UC Berkeley (pending the approval of the undergraduate minor advisor); the rest must be taken at UC Berkeley and cannot be transferred from other institutions. The core course must be taken at UC Berkeley.

Students must take all five minor courses for a letter grade, and maintain an average of 2.0 in those courses, to fulfill the minor. There is no overall minimum GPA requirement to declaring or completing the minor.

Students may use a single course from a single major to satisfy a minor requirement. The overlapping course must not exceed four units.

Upper-Division Elective Courses for the STS Minor

Following is a list of courses in each of the predefined pathways of the STS Minor, as well as a full list of STS-related courses that can be used as electives for the Minor if a student chooses to build their own pathway.

Upper-division and graduate-level STS-related courses not currently on the list of approved electives can be approved by petition to the STS Minor advisor. Students must submit the syllabus of the course with their

petition. Eligible courses must be at least three units and be taken for a letter grade.

Courses for the STS Minor Pathways

Students who choose one of the pathways through the STS Minor will choose from the following courses to complete the Minor:

1. THE HISTORY AND PHILOSOPHY OF SCIENCE

ANTHRO 155	Modernity	4
HISTORY 100S	Special Topics in the History of Science	4
HISTORY 138	History of Science in the U.S.	4
or HISTORY 138T	History of Science in the US CalTeach	
HISTORY 180	The Life Sciences since 1750	4
or HISTORY 180T	History of the Life Sciences Since 1750 (Cal Teach)	
HISTORY C182C	Introduction to Science, Technology, and Society	4
or STS C100	Introduction to Science, Technology, and Society	
HISTORY C191	Death, Dying, and Modern Medicine: Historical and Contemporary Perspectives	4
INFO 103	History of Information	4
LD ARCH C171	The American Designed Landscape Since 1850	3
PHILOS 121	Moral Questions of Data Science	4
POLECON W160A	Political Economy in Historical Context: The Twentieth Century: Economies, Societies, Polities, Technologies	4
RHETOR 107	Rhetoric of Scientific Discourse	4
RHETOR 115	Technology and Culture	4
RHETOR 145	Science, Narrative, and Image	4

2. MEDICINE, THE BODY, AND SOCIETY

ANTHRO 115	Introduction to Medical Anthropology	4
ANTHRO 119	Special Topics in Medical Anthropology	4
CHICANO 176	Chicanos and Health Care	3
DEMOG C126	Sex, Death, and Data	4
or SOCIOL C126	Sex, Death, and Data	
ENGLISH 172	Literature and Psychology	4
ESPM 162	Bioethics and Society	4
ESPM 162A	Health, Medicine, Society and Environment	4
GWS 130AC	Gender, Race, Nation, and Health	4
GWS 131	Gender and Science	4
HISTORY 183A	Disease, Health and Medicine in American History	4
HISTORY C191	Death, Dying, and Modern Medicine: Historical and Contemporary Perspectives	4
INTEGBI 117	Medical Ethnobotany	2
LEGALST 151	Law, Self, and Society	3
LEGALST 156	Bioethics and the Law	4
LEGALST 168	Sex, Reproduction and the Law	4
L & S 180AC	Archaeology of Sex and Gender	4
PB HLTH 116	Seminar on Social, Political, and Ethical Issues in Health and Medicine	3
PB HLTH C155	Sociology of Health and Medicine	4
SOCIOL C115	Sociology of Health and Medicine	4
SOCIOL 115G	Health in a Global Society	4
UGIS 110	Introduction to Disability Studies	3

UGIS C133	Death, Dying, and Modern Medicine: Historical and Contemporary Perspectives	4

3. ENVIRONMENTAL CHANGE AND SOCIETY

ANTHRO 137	Energy, Culture and Social Organization	4
ENE,RES W100	Energy and Society	4
ENE,RES 101	Ecology and Society	3
ENE,RES 131	Data, Environment and Society	4
ENE,RES 160	Course Not Available	4
ENE,RES 171	California Water	3
ENGIN 157AC	Engineering, The Environment, and Society	4
or IAS 157AC	Engineering, The Environment, and Society	
ENGLISH 180Z	Science Fiction	4
ESPM 151	Society, Environment, and Culture	4
ESPM 161	Environmental Philosophy and Ethics	4
ESPM 163AC	Environmental Justice: Race, Class, Equity, and the Environment	4
ESPM C167	Environmental Health and Development	4
or PB HLTH C160	Environmental Health and Development	
GEOG 108	Geographies of Energy: The Rise and Fall of the Fossil Fuel Economy	3
GEOG 130	Food and the Environment	4
LD ARCH C171	The American Designed Landscape Since 1850	3
PB HLTH 101	A Sustainable World: Challenges and Opportunities	3
SOCIOL 137AC	Environmental Justice: Race, Class, Equity, and the Environment	4

4. THE HUMAN CONTEXTS OF DATA AND COMPUTING

AFRICAM 134	Information Technology and Society	4
or AMERSTD C134	Information Technology and Society	
AFRICAM 136L	Criminal Justice and Surveillance in America	3
BIO ENG 100	Ethics in Science and Engineering	3
DATA C104	Human Contexts and Ethics of Data - DATA/History/STS	4
ENGIN 125	Ethics, Engineering, and Society	3
ENGLISH 180Z	Science Fiction	4
FILM 155	Media Technologies	4
INFO 103	History of Information	4
INFO 188	Behind the Data: Humans and Values	3
ISF 100D	Introduction to Technology, Society, and Culture	4
ISF 100G	Introduction to Science, Society, and Ethics	4
ISF 100J	The Social Life of Computing	4
JOURN 124	Introduction to Data Journalism	3
LEGALST 123	Data, Prediction & Law	4
LEGALST 149	Law, Technology and Entrepreneurship	4
LEGALST 152AC	Human Rights & Technology	4
LEGALST 182	Law, Politics and Society	4
L & S 128	Crowds and Clouds	4
NWMEDIA 151AC	Transforming Tech: Issues and Interventions in STEM and Silicon Valley	4
PHILOS 121	Moral Questions of Data Science	4
POLECON 156	Silicon Valley and the Global Economy	4

RHETOR 115	Technology and Culture	4
SOCIOL 166	Society and Technology	4
SOCIOL 167	Virtual Communities/Social Media	4
UGIS 162Q	Youth, Social Media and Development	4

Courses for Students Building Their Own Pathways

This is a broad list of courses that students should reference if they elect to build their own pathway through the Minor, in collaboration with the Minor advisor.

African American Studies

AFRICAM 112A	Political and Economic Development in the Third World	4
or AFRICAM 112	Political and Economic Development in the Third World	
AFRICAM 134	Information Technology and Society	4
or AFRICAM C134	Information Technology and Society	
AFRICAM 136L	Criminal Justice and Surveillance in America	3
AFRICAM 181AC	Prison	4

American Studies

AMERSTD 101	Examining U.S. Cultures in Time	4
AMERSTD C134	Information Technology and Society	4
AMERSTD C172	History of American Business	3

Anthropology

ANTHRO 115	Introduction to Medical Anthropology	4
ANTHRO 119	Special Topics in Medical Anthropology	4
ANTHRO 137	Energy, Culture and Social Organization	4
ANTHRO 150	Utopia: Art and Power in Modern Times	4
ANTHRO 155	Modernity	4

Bioengineering

| BIO ENG 100 | Ethics in Science and Engineering | 3 |

Chicano Studies

| CHICANO 176 | Chicanos and Health Care | 3 |

Data Science

| DATA C104 | Human Contexts and Ethics of Data - DATA/History/STS | 4 |

Demography

| DEMOG C126 | Sex, Death, and Data | 4 |

Digital Humanities

| DIGHUM 100 | Theory and Method in the Digital Humanities | 3 |

Energy and Resources Group

ENE,RES W100	Energy and Society	4
ENE,RES 101	Ecology and Society	3
ENE,RES 131	Data, Environment and Society	4
ENE,RES 160	Course Not Available	4
ENE,RES 171	California Water	3

Engineering

| ENGIN 125 | Ethics, Engineering, and Society | 3 |
| ENGIN 157AC | Engineering, The Environment, and Society | 4 |

English

ENGLISH 145	Writing Technology	4
ENGLISH 172	Literature and Psychology	4
ENGLISH 180Z	Science Fiction	4

Environmental Science, Policy and Management

ESPM 151	Society, Environment, and Culture	4
ESPM 161	Environmental Philosophy and Ethics	4
ESPM 162	Bioethics and Society	4
ESPM 162A	Health, Medicine, Society and Environment	4
ESPM 163AC	Environmental Justice: Race, Class, Equity, and the Environment	4
ESPM C167	Environmental Health and Development	4
or PB HLTH C160	Environmental Health and Development	

Film & Media Studies

| FILM 155 | Media Technologies | 4 |

Gender and Women's Studies

GWS 102	Transnational Feminism	4
GWS 130AC	Gender, Race, Nation, and Health	4
GWS C155	Course Not Available	
GWS 131	Gender and Science	4

Geography

| GEOG 108 | Geographies of Energy: The Rise and Fall of the Fossil Fuel Economy | 3 |
| GEOG 130 | Food and the Environment | 4 |

History

HISTORY 100S	Special Topics in the History of Science	4
HISTORY 138	History of Science in the U.S.	4
or HISTORY 138T	History of Science in the US CalTeach	
HISTORY 180	The Life Sciences since 1750	4
or HISTORY 180T	History of the Life Sciences Since 1750 (Cal Teach)	
HISTORY 182A	Science, Technology, and Society	4
or HISTORY 182T	Science, Technology, and Society (Cal Teach)	
HISTORY C184D	Human Contexts and Ethics of Data - DATA/History/STS	4
HISTORY C191	Death, Dying, and Modern Medicine: Historical and Contemporary Perspectives	4

International and Area Studies

| IAS 157AC | Engineering, The Environment, and Society | 4 |

Information

| INFO 103 | History of Information | 4 |
| INFO 188 | Behind the Data: Humans and Values | 3 |

Integrative Biology

| INTEGBI 117 | Medical Ethnobotany | 2 |
| INTEGBI 160 | Course Not Available | |

Interdisciplinary Studies Field Major

ISF 100D	Introduction to Technology, Society, and Culture	4
ISF 100G	Introduction to Science, Society, and Ethics	4
ISF 100J	The Social Life of Computing	4

Journalism

| JOURN 124 | Introduction to Data Journalism | 3 |

Landscape Architecture

| LD ARCH C171 | The American Designed Landscape Since 1850 | 3 |

Legal Studies

LEGALST 102	Policing and Society	4
LEGALST 123	Data, Prediction & Law	4
LEGALST 149	Law, Technology and Entrepreneurship	4
LEGALST 151	Law, Self, and Society	3

LEGALST 152AC	Human Rights & Technology	4
LEGALST 156	Bioethics and the Law	4
LEGALST 162AC	Restorative Justice	4
LEGALST 168	Sex, Reproduction and the Law	4
LEGALST 182	Law, Politics and Society	4
LEGALST C185 or LEGALST 185AC	Prison Prison	4
Letters and Science		
L & S 121	Origins in Science and Religion	4
L & S 128	Crowds and Clouds	4
L & S 180AC	Archaeology of Sex and Gender	4
Philosophy		
PHILOS 121	Moral Questions of Data Science	4
PHILOS 128	Philosophy of Science	4
Political Economy		
POLECON 156	Silicon Valley and the Global Economy	4
POLECON W160A	Political Economy in Historical Context: The Twentieth Century: Economies, Societies, Polities, Technologies	4
Public Health		
PB HLTH 101	A Sustainable World: Challenges and Opportunities	3
PB HLTH 116	Seminar on Social, Political, and Ethical Issues in Health and Medicine	3
PB HLTH C155	Sociology of Health and Medicine	4
Rhetoric		
RHETOR 107	Rhetoric of Scientific Discourse	4
RHETOR 115	Technology and Culture	4
RHETOR 145	Science, Narrative, and Image	4
Sociology		
SOCIOL C115	Sociology of Health and Medicine	4
SOCIOL 115G	Health in a Global Society	4
SOCIOL C126	Sex, Death, and Data	4
SOCIOL 137AC	Environmental Justice: Race, Class, Equity, and the Environment	4
SOCIOL 166	Society and Technology	4
SOCIOL 167	Virtual Communities/Social Media	4
Undergraduate Interdisciplinary Studies		
UGIS 110	Introduction to Disability Studies	3
UGIS C133	Death, Dying, and Modern Medicine: Historical and Contemporary Perspectives	4
UGIS 162Q	Youth, Social Media and Development	4

Expand all course descriptions [+]Collapse all course descriptions [-]

STS C100 Introduction to Science, Technology, and Society 4 Units

Terms offered: Fall 2023, Fall 2022, Fall 2018, Spring 2016, Spring 2015
This course provides an overview of the field of Science and Technology Studies (STS) as a way to study how our knowledge and technology shape and are shaped by social, political, historical, economic, and other factors. We will learn key concepts of the field (e.g., how technologies are understood and used differently in different communities) and apply them to a wide range of topics, including geography, history, environmental and information science, and others. Questions this course will address include: how are scientific facts constructed? How are values embedded in technical systems?
Introduction to Science, Technology, and Society: Read More [+]
Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1.5 hours of discussion per week

Summer:
6 weeks - 7.5 hours of lecture and 3.5 hours of discussion per week
8 weeks - 6 hours of lecture and 3 hours of discussion per week

Additional Details

Subject/Course Level: Science and Technology Studies/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructors: Mazzotti, Winickoff

Also listed as: HISTORY C182C/ISF C100G

Introduction to Science, Technology, and Society: Read Less [-]

STS C104D Human Contexts and Ethics of Data - DATA/History/STS 4 Units

Terms offered: Fall 2023, Spring 2023, Fall 2022, Spring 2022, Fall 2020, Spring 2020
This course teaches you to use the tools of applied historical thinking and Science, Technology, and Society (STS) to recognize, analyze, and shape the human contexts and ethics of data. It addresses key topics such as doing ethical data science amid shifting definitions of human subjects, consent, and privacy; the changing relationship between data, democracy, and law; the role of data analytics in how corporations and governments provide public goods such as health and security to citizens; sensors, machine learning and artificial intelligence and changing landscapes of labor, industry, and city life. It prepares you to engage as a knowledgeable and responsible citizen and professional in the varied arenas of our datafied world.
Human Contexts and Ethics of Data - DATA/History/STS: Read More [+]

Rules & Requirements

Credit Restrictions: Students will receive no credit for DATA C104\HISTORY C184D\STS C104D after completing DATA 104. A deficient grade in DATA C104\HISTORY C184D\STS C104D may be removed by taking DATA 104.

Hours & Format

Fall and/or spring: 15 weeks - 3-3 hours of lecture and 0-1.5 hours of discussion per week

Summer:
6 weeks - 7.5-7.5 hours of lecture and 0-3.5 hours of discussion per week
8 weeks - 6-6 hours of lecture and 0-3 hours of discussion per week

Additional Details

Subject/Course Level: Science and Technology Studies/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Formerly known as: History C184D/Science and Technology Studies C104D

Also listed as: DATA C104/HISTORY C184D

Human Contexts and Ethics of Data - DATA/History/STS: Read Less [-]