SCIENCE, TECHNOLOGY, AND SOCIETY


The Program in Science, Technology, and Society (STS) aims to provide students with an interdisciplinary framework through which to understand the complex interactions of science, technology and the social world. To major in STS, students work through a common core of courses drawn from the social sciences, the humanities, the natural and physical sciences and engineering. Students pursue coursework in one of five specialized areas:

- Communication and Media
- Innovation and Organization
- Nature and Environment
- Life Sciences and Health
- Politics and Policy

Students may also undertake research in affiliated laboratories and through the honors program for course units. All students complete a capstone project, either by taking one of the senior capstone courses (STS 200) or by applying for and completing an STS honors thesis. Students are encouraged to pursue mastery in at least one field from within the humanities or social sciences and at least one field from within the sciences or engineering. Majors may declare either a B.A. or a B.S. degree (see the specific requirements for each degree).

The Program’s affiliated faculty represent over a dozen departments, including Anthropology, Communication, Computer Science, Education, Electrical Engineering, History, Law, Management Science and Engineering, Political Science and Sociology. By learning to bring such a rich collection of disciplinary approaches to bear on questions of science and technology, students graduate uniquely equipped to succeed in professions that demand fluency with both technical and social frameworks. Recent graduates of STS have entered top-ranked Ph.D. and MBA programs and forged successful careers in a variety of fields, including business, engineering, law, public service, medicine and academia.

Learning Outcomes (Undergraduate)

The Program expects undergraduate majors to be able to demonstrate the following learning outcomes. These learning outcomes are used in evaluating students and the Program in Science, Technology, and Society. Students are expected to demonstrate:

1. A knowledge of core theories and methods in the interdisciplinary field of STS.
2. An ability to deploy these theories and methods to analyze interactions between science, technology and society in particular historical and cultural contexts.
3. An ability to critically evaluate empirical evidence and theoretical claims in STS-related debates.
4. An ability to communicate clearly and persuasively about STS issues to a general audience in multiple media including oral presentation and writing.

Advising and Course Selection

The Program in Science, Technology, and Society offers an advising process that includes faculty, staff and peer advisers. Prospective majors must first meet with a peer adviser and then with the Program’s Student Services Officer to determine which degree they will pursue (the B.A. or B.S.) and how they will fulfill the Program’s basic requirements. When they are ready to declare, they meet with the Program’s Student Services Officer to submit their degree plan and then the Associate Director reviews the coursework for intellectual coherence. Majors are then assigned to a faculty adviser who serves as an intellectual mentor and helps them identify the core questions driving their interest in the field. The Program also sponsors a wide variety of events designed to help students meet their colleagues and Program alumni, discover research and internship opportunities, and make their way toward the career of their choice.

STS Core

The program offers a Bachelor of Arts and Bachelor of Science in Science, Technology, and Society. Both degree programs require that the student complete the STS Core.

With a grade of 'C' or higher in each course, complete 8 courses satisfying the following requirements:

A. Gateway Requirement

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>STS 1</td>
<td>The Public Life of Science and Technology</td>
<td>4</td>
</tr>
</tbody>
</table>

B. Disciplinary Requirement: six courses, one of these courses must be a STS WIM course and at least one of these courses must be a STS Global course. Note 1 & 2

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTHRO 41</td>
<td>Genes and Identity</td>
<td>13-20</td>
</tr>
<tr>
<td>ANTHRO 82</td>
<td>Medical Anthropology</td>
<td></td>
</tr>
<tr>
<td>ANTHRO 90C</td>
<td>Theory of Ecological and Environmental Anthropology</td>
<td></td>
</tr>
<tr>
<td>ANTHRO 93B</td>
<td>Prefield Research Seminar: Non-Majors</td>
<td></td>
</tr>
<tr>
<td>ANTHRO 126</td>
<td>Urban Culture in Global Perspective</td>
<td></td>
</tr>
<tr>
<td>ANTHRO 138</td>
<td>Medical Ethics in a Global World: Examining Race, Difference and Power in the Research Enterprise</td>
<td></td>
</tr>
<tr>
<td>ANTHRO 167A</td>
<td>A Wilderness Empire: The Political Ecology of California</td>
<td></td>
</tr>
<tr>
<td>COMM 104W</td>
<td>Reporting, Writing, and Understanding the News</td>
<td></td>
</tr>
<tr>
<td>COMM 120W</td>
<td>Digital Media in Society</td>
<td></td>
</tr>
<tr>
<td>COMM 137W</td>
<td>The Dialogue of Democracy</td>
<td></td>
</tr>
<tr>
<td>COMM 142W</td>
<td>Media Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 106</td>
<td>World Food Economy</td>
<td></td>
</tr>
<tr>
<td>EDUC 120</td>
<td>Sociology of Science</td>
<td></td>
</tr>
<tr>
<td>HISTORY 44Q</td>
<td>Gendered Innovations in Science, Medicine, Engineering, and Environment</td>
<td></td>
</tr>
<tr>
<td>HISTORY 104D</td>
<td>International Security in a Changing World</td>
<td></td>
</tr>
<tr>
<td>HISTORY 140</td>
<td>World History of Science</td>
<td></td>
</tr>
<tr>
<td>HISTORY 140A</td>
<td>The Scientific Revolution</td>
<td></td>
</tr>
<tr>
<td>HISTORY 144</td>
<td>Women and Gender in Science, Medicine and Engineering</td>
<td></td>
</tr>
<tr>
<td>PHIL 167A</td>
<td>Philosophy of Biology</td>
<td></td>
</tr>
<tr>
<td>POLISCI 233F</td>
<td>Science, technology and society and the humanities in the face of the looming disaster</td>
<td></td>
</tr>
<tr>
<td>RELIGST 31</td>
<td>The Religious Life of Things</td>
<td></td>
</tr>
</tbody>
</table>
Concentration Areas

In addition to the Core requirements common to all STS students, a minimum of 50 units, at least twelve courses, are required from among those designated on the appropriate Concentration Area course list (available in the Concentration Areas tab (p. 2) and on the STS web site). All courses must be taken for a letter grade if offered and may not be double-counted with core course work. Students may count no more than two course petitions outside the list of approved Concentration Area courses toward their STS degree plan. Thematic concentrations are organized around an STS-related area or topic:

1. Communication and Media
2. Innovation and Organization
3. Nature and Environment
4. Life Sciences and Health
5. Politics and Policy
6. Self-Designed Concentration

A student pursuing a Bachelor of Arts degree must take at least 8 classes from the Socio-Cultural Course menu, including at least 3 designated as Foundational, and at least 4 classes from the Technical Course menus.

A student pursuing a Bachelor of Science degree must take at least 8 classes from the Technical Course menu, and at least 4 classes from the Socio-Cultural Course menus, including at least 3 designated as Foundational.

Students in both degree programs are encouraged to pursue sequences of courses that build on one another to increase the coherence of their program and give depth to their skill set and knowledge related to STS.

Alternatively, subject to program approval, a student may choose to design a self-designed concentration. Students interested in designing their own concentration must work with the associate director and have their proposal approved at least 2 quarters prior to your graduating quarter. A proposal (5 to 10 pages) should (a) describe your intellectual objectives in detail, (b) explain why a self-designed concentration is the optimal way to pursue these objectives (as opposed to the five STS concentrations or other majors at Stanford), and (c) list at least 12 courses and 50 units that comprise the plan of study. Students with a self-designed concentration must fulfill the same core requirements as other STS students. More information can be found on the STS website (https://sts.stanford.edu/major-sts/thematic-concentrations).

Each student’s Concentration Area, certified or self-designed, requires the approval of the STS Associate Director.

Concentration Area Course Lists

Communication and Media

Thematic concentration in Communication and Media:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMSTUD 133</td>
<td>Technology and American Visual Culture</td>
</tr>
<tr>
<td>AMSTUD 143X</td>
<td>Starsstuff: Space and the American Imagination</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTSTUDI 173B</td>
<td>Cell Phone Photography</td>
</tr>
<tr>
<td>ARTSTUDI 174I</td>
<td>Creativity in the Age of Facebook: Making Art for and from Networks</td>
</tr>
<tr>
<td>ARTSTUDI 236</td>
<td>Future Media, Media Archaeologies</td>
</tr>
<tr>
<td>COMM 106</td>
<td>Communication Research Methods</td>
</tr>
<tr>
<td>COMM 108</td>
<td>Media Processes and Effects</td>
</tr>
<tr>
<td>COMM 120W</td>
<td>Digital Media in Society</td>
</tr>
<tr>
<td>COMM 142W</td>
<td>Media Economics</td>
</tr>
<tr>
<td>COMM 154</td>
<td>The Politics of Algorithms</td>
</tr>
<tr>
<td>COMM 166</td>
<td>Virtual People</td>
</tr>
<tr>
<td>COMM 172</td>
<td>Media Psychology</td>
</tr>
<tr>
<td>CS 181</td>
<td>Computers, Ethics, and Public Policy</td>
</tr>
<tr>
<td>EARTHSYS 177</td>
<td>Specialized Writing and Reporting: Environmental and Food System Journalism</td>
</tr>
<tr>
<td>EDUC 120</td>
<td>Sociology of Science</td>
</tr>
<tr>
<td>EDUC 226</td>
<td>Curating Experience: Representation in and beyond Museums</td>
</tr>
<tr>
<td>ENGR 131</td>
<td>Ethical Issues in Engineering</td>
</tr>
<tr>
<td>ENGR 145</td>
<td>Technology Entrepreneurship</td>
</tr>
<tr>
<td>FILMSTUD 6</td>
<td>Introduction to Media</td>
</tr>
<tr>
<td>HISTORY 204D</td>
<td>Advanced Topics in Agnotology</td>
</tr>
</tbody>
</table>

Students interested in designing a concentration in Communication and Media must take at least 8 classes from the Concentration Area Course Lists, including at least 3 designated as Socio-Cultural Courses and at least 3 designated as Technical Courses.

A student pursuing a Bachelor of Arts degree must take at least 8 classes from the Concentration Area Course Lists, including at least 3 designated as Socio-Cultural Courses and at least 3 designated as Technical Courses.

A student pursuing a Bachelor of Science degree must take at least 8 classes from the Concentration Area Course Lists, including at least 3 designated as Socio-Cultural Courses and at least 3 designated as Technical Courses.

For more information, visit the STS web site (https://sts.stanford.edu/major-sts/thematic-concentrations).
INTLPOL 221 Politics of Data: Algorithmic Culture, Big Data, and Information Waste
ME 267 Ethics and Equity in Transportation Systems
MS&EE 180 Organizations: Theory and Management
OSPFLOR 28 Between Art and Science: the Evolution of Techniques from Antiquity to Leonardo da Vinci
OSPFLOR 48 Sharing Beauty in Florence: Collectors, Collections and the Shaping of the Western Museum Tradition
OSPFLOR 49 On-Screen Battles: Filmic Portrayals of Fascism and World War II
OSPFLOR 67 The Celluloid Gaze: Gender, Identity and Sexuality in Cinema
OSPPARIS 30 The Avant Garde in France through Literature, Art, and Theater
PSYCH 30 Introduction to Perception
PSYCH 75 Introduction to Cultural Psychology
RELIGST 31 The Religious Life of Things
SOC 180A Foundations of Social Research
STS 123 Making of a Nuclear World: History, Politics, and Culture
STS 151 The Future of Information
STS 166 Knowledge and Information Infrastructures
STS 181 Techno-metabolism: Technology, Society, and the Anthropocene
STS 191 Doing STS: Introduction to Research
SYMSYS 1 Minds and Machines
SYMSYS 245 Cognition in Interaction Design
TAPS 253T Virtual Realities: Art, Technology, Performance

Technical Courses
ARTSTUDI 130 Interactive Art: Making it with Arduino
ARTSTUDI 160 Intro to Digital / Physical Design
ARTSTUDI 168 Data as Material
ARTSTUDI 176 Time Shifts
ARTSTUDI 177 Video Art I
ARTSTUDI 179 Digital Art I
ARTSTUDI 275 PHOTOGRAPHY II: Digital
CEE 112A Industry Applications of Virtual Design & Construction
CMIE 108 Introduction to Scientific Computing
COMM 113 Computational Methods in the Civic Sphere
COMM 176 Advanced Digital Media Production
CS 102 Big Data - Tools and Techniques
CS 103 Mathematical Foundations of Computing
CS 105 Introduction to Computers
CS 106A Programming Methodology
CS 106B Programming Abstractions
CS 106X Programming Abstractions (Accelerated)
CS 107 Computer Organization and Systems
CS 108 Object-Oriented Systems Design
CS 109 Introduction to Probability for Computer Scientists
CS 110 Principles of Computer Systems
CS 124 From Languages to Information
CS 144 Introduction to Computer Networking
CS 145 Data Management and Data Systems
CS 147 Introduction to Human-Computer Interaction Design
CS 148 Introduction to Computer Graphics and Imaging
CS 154 Introduction to Automata and Complexity Theory

CS 161 Design and Analysis of Algorithms
CS 194H User Interface Design Project
CS 221 Artificial Intelligence: Principles and Techniques
CS 224W Analysis of Networks
CS 247 Human-Computer Interaction Design Studio
CS 248 Interactive Computer Graphics
CS 255 Introduction to Cryptography
CS 376 Human-Computer Interaction Research
ECON 102A Introduction to Statistical Methods (Postcalculus) for Social Scientists
EE 101A Circuits I
EE 101B Circuits II
EE 102A Signal Processing and Linear Systems I
EE 102B Signal Processing and Linear Systems II
EE 108 Digital System Design
EE 168 Introduction to Digital Image Processing
EE 169 Introduction to Bioimaging
EE 180 Digital Systems Architecture
ENGR 150 Data Challenge Lab
HUMBIO 145L The Biology and Evolution of Language
ME 125 Visual Frontiers
MS&EE 111 Introduction to Optimization
MS&EE 120 Probabilistic Analysis
MS&EE 130 Information Networks and Services
MS&EE 135 Networks
MUSIC 220A Fundamentals of Computer-Generated Sound
MUSIC 220B Compositional Algorithms, Psychoacoustics, and Computational Music
MUSIC 254 Music Query, Analysis, and Style Simulation
MUSIC 257 Neuroplasticity and Musical Gaming
OSPCPTWN 67 ICT4D: An Introduction to the Use of ICTs for Development
SOC 180B Introduction to Data Analysis
STATS 60 Introduction to Statistical Methods: Precalculus
STATS 191 Introduction to Applied Statistics

Innovation and Organization
Thematic concentration in Innovation and Organization:

Socio-Cultural Courses
AMSTUD 96 Signal to Noise: The Sounds of American Culture
AMSTUD 133 Technology and American Visual Culture
ANTHRO 41 Genes and Identity
ANTHRO 136 The Anthropology of Global Supply Chains
ANTHRO 154 Anthropology of Drugs: Experience, Capitalism, Modernity
ARTHIST 147 Modernism and Modernity
ARTSTUDI 174 Creativity in the Age of Facebook: Making Art for and from Networks
ARTSTUDI 236 Future Media, Media Archaeologies
BIO 182 Modeling Cultural Evolution
CEE 328 Design Theory
CLASSICS 156 Design of Cities
COMM 154 The Politics of Algorithms
CS 181 Computers, Ethics, and Public Policy
ECON 118 Development Economics
ECON 145 Labor Economics
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EDUC 120 Sociology of Science
ENGR 145 Technology Entrepreneurship
HISTORY 1C Global History: The Modern Age
HISTORY 44Q Gendered Innovations in Science, Medicine, Engineering, and Environment
HISTORY 140 World History of Science
HISTORY 140A The Scientific Revolution
HISTORY 144 Women and Gender in Science, Medicine and Engineering
HISTORY 203C History of Ignorance
HUM BIO 173 Science, Innovation and the Law
INTL POL 221 Politics of Data: Algorithmic Culture, Big Data, and Information Waste
ME 120 History and Philosophy of Design
ME 177 Global Engineers' Education
ME 267 Ethics and Equity in Transportation Systems
ME 297 Forecasting for Innovators: Technology, Tools & Social Change
MS&E 175 Innovation, Creativity, and Change
MS&E 177 Creativity Rules
MS&E 180 Organizations: Theory and Management
MS&E 185 Global Work
MS&E 256 Technology Assessment and Regulation of Medical Devices
OSPB 126X A People’s Union? Money, Markets, and Identity in the EU
OSPCPTWN 36 The Archaeology of Southern African Hunter Gatherers
OSPFLOR 28 Between Art and Science: the Evolution of Techniques from Antiquity to Leonardo da Vinci
OSPFLOR 41 The Florentine Sketchbook: A Visual Arts Practicum
OSPFLOR 48 Sharing Beauty in Florence: Collectors, Collections and the Shaping of the Western Museum Tradition
OSPFLOR 58 Space as History: Social Vision and Urban Change
OSPFLOR 115Y Building the Cathedral and the Town Hall: Constructing and Deconstructing Symbols of a Civilization
OSPOXFRD 45 British Economic Policy since World War II
OSPPARIS 30 The Avant Garde in France through Literature, Art, and Theater
OSPPARIS 44 EAP Analytical Drawing and Graphic Art
OSPPARIS 72 The Ceilings of Paris
OSPPARIS 92 Building Paris: Its History, Architecture, and Urban Design
OSPSANTG 29 Sustainable Cities: Comparative Transportation Systems in Latin America
OSPSANTG 71 Santiago: Urban Planning, Public Policy, and the Built Environment
OSPSANTG 115 The Chilean Economy: History, International Relations, and Development Strategies
PUBLPOL 134 Ethics on the Edge: Business, Non-Profit Organizations, Government, and Individuals
PUBLPOL 353A Science and Technology Policy
RELIGST 31 The Religious Life of Things
SOC 114 Economic Sociology
SOC 160 Formal Organizations
SOC 162 The Social Regulation of Markets
SOC 168 Global Organizations: The Matrix of Change
SOC 180A Foundations of Social Research

ST 123 Making of a Nuclear World: History, Politics, and Culture
ST 151 The Future of Information
ST 166 Knowledge and Information Infrastructures
ST 181 Techno-metabolism: Technology, Society, and the Anthropocene
ST 190 Issues in Technology and the Environment
ST 191 Doing STS: Introduction to Research
SYMSYS 1 Minds and Machines
SYMSYS 245 Cognition in Interaction Design
TAPS 253T Virtual Realities: Art, Technology, Performance

Technical Courses
ARTSTUDI 130 Interactive Art: Making it with Arduino
ARTSTUDI 160 Intro to Digital / Physical Design
ARTSTUDI 168 Data as Material
COMM 113 Computational Methods in the Civic Sphere
CS 102 Big Data - Tools and Techniques
CS 105 Introduction to Computers
CS 106A Programming Methodology
CS 106B Programming Abstractions
CS 106X Programming Abstractions (Accelerated)
CS 107 Computer Organization and Systems
CS 108 Object-Oriented Systems Design
CS 109 Introduction to Probability for Computer Scientists
CS 110 Principles of Computer Systems
CS 124 From Languages to Information
CS 147 Introduction to Human-Computer Interaction Design
CS 194H User Interface Design Project
CS 221 Artificial Intelligence: Principles and Techniques
CS 223A Introduction to Robotics
CS 225A Experimental Robotics
CS 247 Human-Computer Interaction Design Studio
CS 376 Human-Computer Interaction Research
CS 402 Beyond Bits and Atoms: Designing Technological Tools
CS 402L Beyond Bits and Atoms - Lab
ECON 102A Introduction to Statistical Methods (Postcalculus) for Social Scientists
EE 101A Circuits I
EE 101B Circuits II
EE 102A Signal Processing and Linear Systems I
EE 102B Signal Processing and Linear Systems II
EE 108 Digital System Design
EE 169 Introduction to Bioimaging
EE 180 Digital Systems Architecture
ENGR 14 Intro to Solid Mechanics
ENGR 40M An Intro to Making: What is EE
ENGR 60 Engineering Economics and Sustainability
ENGR 110 Perspectives in Assistive Technology (ENGR 110)
ENGR 150 Data Challenge Lab
ME 21 Renaissance Machine Design
ME 80 Mechanics of Materials
ME 101 Visual Thinking
ME 102 Foundations of Product Realization
ME 115A Introduction to Human Values in Design
ME 115B Product Design Methods
## Nature and Environment

The thematic concentration in Nature and Environment highlights a wide range of courses that explore the interactions between the natural world and human societies. This concentration covers various aspects, including environmental science, policy, and technology, with a focus on sustainable practices.

### Socio-Cultural Courses

- **AMSTUD 143X** Starstuff: Space and the American Imagination
- **ANTHRO 90C** Theory of Ecological and Environmental Anthropology
- **ANTHRO 126** Urban Culture in Global Perspective
- **ANTHRO 166** Political Ecology of Tropical Land Use: Conservation, Natural Resource Extraction, and Agribusiness
- **BIOE 122** Biosecurity and Bioterrorism Response
- **CEE 175A** California Coast: Science, Policy, and Law
- **CLASSICS 156** Design of Cities
- **EARTH SYS 61Q** Food and security
- **EARTH SYS 105** Food and Community: Food Security, Resilience and Equity
- **EARTH SYS 112** Human Society and Environmental Change
- **EARTH SYS 177** Specialized Writing and Reporting: Environment and Food System Journalism
- **EARTH SYS 185** Feeding Nine Billion
- **ECON 106** World Food Economy
- **ECON 155** Environmental Economics and Policy
- **EDUC 120** Sociology of Science
- **ESS 112** Human Society and Environmental Change
- **HISTORY 1C** Global History: The Modern Age
- **HISTORY 140** World History of Science
- **HISTORY 140A** The Scientific Revolution
- **HISTORY 203C** History of Ignorance
- **HUM BIO 2B** Culture, Evolution, and Society
- **HUM BIO 4B** Environmental and Health Policy Analysis
- **ME 297** Forecasting for Innovators: Technology, Tools & Social Change
- **MS&E 92Q** International Environmental Policy
- **MUSIC 220A** Fundamentals of Computer-Generated Sound
- **MUSIC 220B** Compositional Algorithms, Psychoacoustics, and Computational Music
- **MUSIC 257** Neuroplasticity and Musical Gaming
- **OSPCPTWN 67** ICT4D: An Introduction to the Use of ICTs for Development
- **STATS 180B** Introduction to Data Analysis
- **STATS 60** Introduction to Statistical Methods: Precalculus
- **STATS 110** Statistical Methods in Engineering and the Physical Sciences
- **STATS 116** Theory of Probability
- **STATS 191** Introduction to Applied Statistics

### Technical Courses

- **BIO 138** Ecosystem Services: Frontiers in the Science of Valuing Nature
- **BIO 144** Conservation Biology: A Latin American Perspective
- **BIOHOPK 172H** Marine Ecology: From Organisms to Ecosystems
- **BIOHOPK 187H** Sensory Ecology
- **CEE 64** Air Pollution and Global Warming: History, Science, and Solutions
- **CEE 70** Environmental Science and Technology
- **CEE 73** Water: An Introduction
- **CEE 100** Managing Sustainable Building Projects
- **CEE 107A** Understanding Energy
- **CEE 120A** Building Information Modeling Workshop
- **CEE 124** Sustainable Development Studio
- **CEE 171** Environmental Planning Methods
- **CEE 176A** Energy Efficient Buildings
- **CEE 176B** 100% Clean, Renewable Energy and Storage for Everything
- **CEE 272R** Modern Power Systems Engineering
- **CHEMENG 60Q** Environmental Regulation and Policy
- **CS 102** Big Data - Tools and Techniques
- **EARTH SYS 101** Energy and the Environment
- **EARTH SYS 102** Fundamentals of Renewable Power
- **EARTH SYS 104** The Water Course
- **EARTH SYS 142** Remote Sensing of Land
- **EARTH SYS 155** Science of Soils
- **EARTH SYS 180** Principles and Practices of Sustainable Agriculture
- **ENERGY 104** Sustainable Energy for 9 Billion
- **ENERGY 120** Fundamentals of Petroleum Engineering
- **ENERGY 160** Uncertainty Quantification in Data-Centric Simulations
- **OSPFLOR 28** Between Art and Science: the Evolution of Techniques from Antiquity to Leonardo da Vinci
- **OSPPARIS 91** The Future of Globalization: Economics, Politics and the Environment
- **OSPPARIS 97** Le Grand Paris: Paris of the 21st Century
- **OSPSANTG 29** Sustainable Cities: Comparative Transportation Systems in Latin America
- **OSPSANTG 52** Energy and Climate Cooperation in the Americas: The Role of Chile
- **OSPSANTG 71** Santiago: Urban Planning, Public Policy, and the Built Environment
- **PHIL 167A** Philosophy of Biology
- **POLISCI 110G** Governing the Global Economy
- **POLISCI 114S** International Security in a Changing World
- **POLISCI 233F** Science, technology and society and the humanities in the face of the looming disaster
- **SAC 180A** Foundations of Social Research
- **STS 123** Making of a Nuclear World: History, Politics, and Culture
- **STS 166** Knowledge and Information Infrastructures
- **STS 181** Techno-metabolism: Technology, Society, and the Anthropocene
- **STS 190** Issues in Technology and the Environment
- **STS 191** Doing STS: Introduction to Research
- **URBANST 164** Sustainable Cities

### Units

- **ECON 155** Environmental Economics and Policy
- **EDUC 120** Sociology of Science
- **ESS 112** Human Society and Environmental Change
- **HISTORY 1C** Global History: The Modern Age
- **HISTORY 140** World History of Science
- **HISTORY 140A** The Scientific Revolution
- **HISTORY 203C** History of Ignorance
- **HUM BIO 2B** Culture, Evolution, and Society
- **HUM BIO 4B** Environmental and Health Policy Analysis
- **ME 297** Forecasting for Innovators: Technology, Tools & Social Change
- **MS&E 92Q** International Environmental Policy
- **OSPCPTWN 36** The Archaeology of Southern African Hunter Gatherers
- **OSPFLOR 28** Between Art and Science: the Evolution of Techniques from Antiquity to Leonardo da Vinci
- **OSPPARIS 91** The Future of Globalization: Economics, Politics and the Environment
- **OSPPARIS 97** Le Grand Paris: Paris of the 21st Century
- **OSPSANTG 29** Sustainable Cities: Comparative Transportation Systems in Latin America
- **OSPSANTG 52** Energy and Climate Cooperation in the Americas: The Role of Chile
- **OSPSANTG 71** Santiago: Urban Planning, Public Policy, and the Built Environment
- **PHIL 167A** Philosophy of Biology
- **POLISCI 110G** Governing the Global Economy
- **POLISCI 114S** International Security in a Changing World
- **POLISCI 233F** Science, technology and society and the humanities in the face of the looming disaster
- **SAC 180A** Foundations of Social Research
- **STS 123** Making of a Nuclear World: History, Politics, and Culture
- **STS 166** Knowledge and Information Infrastructures
- **STS 181** Techno-metabolism: Technology, Society, and the Anthropocene
- **STS 190** Issues in Technology and the Environment
- **STS 191** Doing STS: Introduction to Research
- **URBANST 164** Sustainable Cities

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Life Sciences and Health
Thematic concentration in Life Sciences and Health:

Social-Cultural Courses

AMSTUD 156H Women and Medicine in US History: Women as Patients, Healers and Doctors
ANTHRO 41 Genetics and Identity
ANTHRO 82 Medical Anthropology
ANTHRO 138 Medical Ethics in a Global World: Examining Race, Difference and Power in the Research Enterprise
ANTHRO 139C Anthropology of Global Health
ANTHRO 154 Anthropology of Drugs: Experience, Capitalism, Modernity
ARTSTUDI 284 Art and Biology
BIOE 131 Ethics in Bioengineering
EARTHSYS 112 Human Society and Environmental Change
EDUC 120 Sociology of Science
EDUC 340 Psychology and American Indian Mental Health
FRENCH 219 The Renaissance Body in French Literature and Medicine
GENE 104Q Law and the Biosciences
HISTORY 44Q Gendered Innovations in Science, Medicine, Engineering, and Environment
HISTORY 140 World History of Science
HISTORY 144 Women and Gender in Science, Medicine and Engineering
HISTORY 203C History of Ignorance
HISTORY 243C People, Plants, and Medicine: Colonial Science and Medicine
HISTORY 243G Tobacco and Health in World History
HUMBIO 2B Culture, Evolution, and Society
HUMBIO 3B Behavior, Health, and Development
HUMBIO 4B Environmental and Health Policy Analysis
HUMBIO 122S Social Class, Race, Ethnicity, and Health
HUMBIO 174 Foundations of Bioethics
MED 157 Foundations for Community Health Engagement
MS&E 256 Technology Assessment and Regulation of Medical Devices
OSPFLO R 70 The Value of Life: Philosophical Foundations
OSPMADRD 57 Health Care: A Contrastive Analysis between Spain and the U.S.
OSPMADRD 72 Issues in Bioethics Across Cultures

Technical Courses

ANTHRO 113 Culture and Epigenetics: Towards A Non-Darwinian Synthesis
BIO 45 Introduction to Laboratory Research in Cell and Molecular Biology
BIO 46 Introduction to Research in Ecology and Evolutionary Biology
BIO 47 Introduction to Research in Ecology and Evolutionary Biology
BIO 109A The Human Genome and Disease
BIO 109B The Human Genome and Disease: Genetic Diversity and Personalized Medicine
BIO 144 Conservation Biology: A Latin American Perspective
BIO 150 Human Behavioral Biology
BIOE 44 Fundamentals for Engineering Biology Lab
BIOE 80 Introduction to Bioengineering (Engineering Living Matter)
BIOE 101 Systems Biology
BIOE 103 Systems Physiology and Design
CHEM 31A Chemical Principles I
CHEM 31B Chemical Principles II
CHEM 31X Chemical Principles Accelerated
CHEM 33 Structure and Reactivity of Organic Molecules
CHEM 35 Organic Chemistry of Bioactive Molecules
CHEM 130 Organic Chemistry Laboratory
CHEM 131 Organic Polyfunctional Compounds
CHEM 171 Physical Chemistry I
COMPMED 87Q Laboratory Mouse in Biomedical Research
CS 102 Big Data - Tools and Techniques
EE 102A Signal Processing and Linear Systems I
EE 102B Signal Processing and Linear Systems II
EE 169 Introduction to Bioimaging
EE 372 Data Science for High Throughput Sequencing
HUMBIO 2A Genetics, Evolution, and Ecology
HUMBIO 3A Cell and Developmental Biology
HUMBIO 4A The Human Organism
HUMBIO 89 Introduction to Health Sciences Statistics
HUMBIO 145L The Biology and Evolution of Language
HUMBIO 167 The Art of Vision
OSPAUSTL 10 Coral Reef Ecosystems
OSPAUSTL 25 Freshwater Systems
OSPAUSTL 30 Coastal Forest Ecosystems
SOC 180B Introduction to Data Analysis
STATS 60 Introduction to Statistical Methods: Precalculus
Politics and Policy
Thematic concentration in Politics and Policy.

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<th>Socio-Cultural Courses</th>
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<tr>
<td>AMSTUD 133 Technology and American Visual Culture</td>
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<td>AMSTUD 143X Starstuff: Space and the American Imagination</td>
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<td>ANTHRO 138 Medical Ethics in a Global World: Examining Race, Difference and Power in the Research Enterprise</td>
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<td>ANTHRO 139C Anthropology of Global Health</td>
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<td>ANTHRO 166 Political Ecology of Tropical Land Use: Conservation, Natural Resource Extraction, and Agribusiness</td>
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<td>BIOE 122 Biosecurity and Bioterrorism Response</td>
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<td>COMM 137W The Dialogue of Democracy</td>
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<td>COMM 154 The Politics of Algorithms</td>
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<td>CS 181 Computers, Ethics, and Public Policy</td>
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<td>EARTHYSYS 610 Food and security</td>
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<td>ESS 112 Human Society and Environmental Change</td>
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<td>GERMAN 132 History and Politics of the Future in Germany, 1900-Present</td>
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<td>HISTORY 1C Global History: The Modern Age</td>
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<td>HISTORY 103F The Changing Face of War: Introduction to Military History</td>
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<td>HISTORY 104D International Security in a Changing World</td>
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<td>HISTORY 140 World History of Science</td>
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<td>HISTORY 203C History of Ignorance</td>
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<td>HISTORY 204D Advanced Topics in Agnotology</td>
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<td>HISTORY 261G Presidents and Foreign Policy in Modern History</td>
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<td>HUMBIO 173 Science, Innovation and the Law</td>
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<td>INTLREL 221 Politics of Data: Algorithmic Culture, Big Data, and Information Waste</td>
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<td>INTNLREL 140 International Law and International Relations</td>
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<td>INTNLREL 140C The U.S., U.N. Peacekeeping, and Humanitarian War</td>
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<td>INTNLREL 180 Transitional Justice, Human Rights, and International Criminal Tribunals</td>
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<td>ME 267 Ethics and Equity in Transportation Systems</td>
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<td>MS&amp;E 193 Technology and National Security</td>
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<td>OSPCPTWN 43 Public and Community Health in Sub-Saharan Africa</td>
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<td>OSPPARIS 91 The Future of Globalization: Economics, Politics and the Environment</td>
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<td>OSPPARIS 97 Le Grand Paris: Paris of the 21st Century</td>
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<td>OSPSANTG 52 Energy and Climate Cooperation in the Americas: The Role of Chile</td>
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<td>OSPSANTG 71 Santiago: Urban Planning, Public Policy, and the Built Environment</td>
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<td>OSPSANTG 116 The Chilean Economy: History, International Relations, and Development Strategies</td>
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<th>Technical Courses</th>
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<tr>
<td>CEE 70 Environmental Science and Technology</td>
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<td>CEE 107A Understanding Energy</td>
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<td>CEE 171 Environmental Planning Methods</td>
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<td>CS 105 Introduction to Computers</td>
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<td>CS 106A Programming Methodology</td>
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<td>CS 106B Programming Abstractions</td>
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<td>CS 106X Programming Abstractions (Accelerated)</td>
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<td>CS 107 Computer Organization and Systems</td>
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<td>CS 108 Object-Oriented Systems Design</td>
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<td>CS 109 Introduction to Probability for Computer Scientists</td>
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<td>CS 110 Principles of Computer Systems</td>
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<td>CS 255 Introduction to Cryptography</td>
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<td>MS&amp;E 93Q Nuclear Weapons, Energy, Proliferation, and Terrorism</td>
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<td>PHYSICS 41 Mechanics</td>
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<td>PHYSICS 43 Electricity and Magnetism</td>
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<td>PHYSICS 240 Introduction to the Physics of Energy</td>
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<td>PHYSICS 241 Introduction to Nuclear Energy</td>
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<td>POLISCI 150A Data Science for Politics</td>
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<td>POLISCI 150B Machine Learning for Social Scientists</td>
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<td>POLISCI 150C Causal Inference for Social Science</td>
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<td>STATS 191 Introduction to Applied Statistics</td>
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Interdisciplinary Honors in Science, Technology, and Society

The Program in Science, Technology, and Society (STS) offers an opportunity for undergraduates to graduate with Interdisciplinary Honors in STS. The STS honors program is open to STS majors as well as students from other majors.

Students accepted into the program carry out an original honors project, working with a faculty adviser. For STS majors, this project also fulfills the requirements for a capstone course and a sociocultural concentration course. An STS honors thesis tackles a significant problem or question related to the intersection of science, technology, and society. Students draw research methods from one or more of the disciplines that shape STS, such as history, sociology, communication, anthropology, environmental science, computer programming/modeling, engineering, economics, political science, and art history, while also capitalizing on unique analytical perspectives of STS as an intellectual field. STS interdisciplinary honors signals expertise in a given area, organizational skills, and intellectual rigor, and students have used it as a springboard for graduate studies and for careers in fields such as information technology, entrepreneurship, finance, public policy, media, education, law, medicine, and the nonprofit sector. Past honors projects are on file in the STS office library, as well as the digital repository.

Admission

Students are encouraged to apply to the STS honors program during the Spring Quarter of their junior year. Late application is considered up to the add/drop deadline of the Autumn Quarter of their senior year.

For Majors in Science, Technology, and Society

In preparation for applying to the honors program in STS, students should:

1. Select an area of research interest in STS, prepare related research questions, and identify potential faculty advisers for an honors thesis based on those questions.
2. Attend one or more of the quarterly STS workshops offered for prospective honors students, and/or take STS 191: Introduction to Research in STS (offered Winter Quarter) or an alternative course on research methods approved by the STS honors program director, and/or speak with the STS honors program director.
3. Submit a research statement and an honors program application, following the parameters set out at STS Honors Program (https://sts.stanford.edu/major-STS/honors-program) web site.

For Majors in Other Departments and Programs

In addition to the requirements for STS majors, applicants from other departments should:

1. Meet with the honors program director as early as possible to ensure that they have sufficient background in relevant analytical and methodological approaches.
2. Satisfy one of the following:
   • Complete STS 1: The Public Life of Science and Technology, and either two courses approved as sociocultural foundational courses in STS, or two alternative courses approved by the STS honors program director as relevant to the proposed honors research in STS; or
   • Complete three courses approved by the STS honors program director as relevant to the proposed honors research in STS.

Interdisciplinary Honors Requirements

To graduate with Interdisciplinary Honors in STS, seniors in the honors program need to meet the following criteria:

1. Enroll in STS 299 with an honors faculty adviser to oversee the thesis for a minimum of 10 units total, with up to 5 units per quarter, over Autumn, Winter and Spring quarters. Students who choose to obtain Permit for Services Only (PSO) status during their final quarter may do so with the consent of the STS honors program director but they must still have enrolled in a minimum of 10 units of STS 299 during previous quarters.
2. Attend required monthly workshops for current STS honors students.
3. Complete a thesis judged worthy of an honors program by the faculty adviser and STS adviser.
4. Have an overall Stanford GPA of 3.4 at the end of Winter Quarter, senior year, or demonstrated academic competence.

STS Affiliated Faculty

Director and Professor of Education: John Willinsky

Associate Director: Kyoko Sato

Executive Board: Paula Findlen (History), Duana Fullwiley (Anthropology), Mark Granovetter (Sociology), Hank Greely (Law), Sarah Lochlann Jain (Anthropology), Michael Lepech (Civil and Environmental Engineering), Robert McGinn (Management Science and Engineering), Brad Osgood (Electrical Engineering), Eric Roberts (Computer Science), Scott Sagan (Political Science), Fred Turner (Communication), John Willinsky (Education)

Affiliated Faculty and Staff: Jeremy Bailenson (Communication), Adam Banks (Graduate School of Education), Thomas Byers (Management Science and Engineering), Angelé Christin (Communication), Jean-Pierre Dupuy (French), Paul N. Edwards (CISAC and STS), Paula Findlen (History), Duana Fullwiley (Anthropology), Mark Granovetter, (Sociology), Hank Greely (Law), Ann Grimes (Communication), James T. Hamilton (Communication), Gabrielle Hecht (History), Pamela Hinds (Management Science and Engineering), Hector Hoyos (Iberian and Latin American Cultures), Miyako Inoue (Anthropology), Sarah Lochlann Jain (Anthropology), Robert Laughlin (Physics), Pamela Lee (Art and Art History), Michael Lepech (Civil and Environmental Engineering), Sandra Soo-Jin Lee (Biomedical Ethics), Helen Longino (Philosophy), Henry Lowood (Stanford University Libraries), Robert McGinn (Management Science and Engineering), Thomas Mullaney (History), Brad Osgood (Electrical Engineering), Walter Powell (Education), Robert Proctor (History), Jessica Riskin (History), Scott Sagan (Political Science), Kyoko Sato (STS), Londa Schiebinger (History), Michael Shanks (Classics, Anthropology), Mitchell Stevens (Education), Fred Turner (Communication), John Willinsky (Education)

Emeriti: James Adams (Management Science and Engineering, Mechanical Engineering), Barton Bernstein (History), Martin Hellman (Electrical Engineering), Eric Roberts (Computer Science), Walter Vincenti (Aeronautics and Astronautics), Gavin Wright (American Economic History)

Overseas Studies Courses in Science, Technology, and Society

The Bing Overseas Studies Program (http://bosp.stanford.edu) manages Stanford study abroad programs for Stanford undergraduates. Students should consult their department or program's student services office for applicability of Overseas Studies courses to a major or minor program.

The Bing Overseas Studies course search site (https://undergrad.stanford.edu/programs/bosp/explore/search-courses) displays courses, locations, and quarters relevant to specific majors.

For course descriptions and additional offerings, see the listings in the Stanford Bulletin's ExploreCourses (http://exploreCourses.stanford.edu) or Bing Overseas Studies (http://bosp.stanford.edu).
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<td>OSPAUSTL 25</td>
<td>Freshwater Systems</td>
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<td>OSPAUSTL 30</td>
<td>Coastal Forest Ecosystems</td>
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<td>OSPBER 126X</td>
<td>A People's Union? Money, Markets, and Identity in the EU</td>
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<td>The Archaeology of Southern African Hunter Gatherers</td>
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<td>OSPFLOR 28</td>
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