SUSTAINABLE STANFORD

AC Credit 2: Learning Outcomes

Total Stanford Graduates, 2014-2015: 4,956
Graduates with Degrees from Programs with Sustainability Learning Outcomes: 3,212

Degree Programs with Sustainability Learning Outcomes:

Department: Aeronautics and Astronautics

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 65

Sustainability Learning Outcome:
Despite short-term fluctuations, the most conservative projections of long-term growth for commercial aviation indicate that, without significant technological advances, the environmental impact of aviation will begin to grow again after decades of continuous reductions. Emissions at ground-level and in the air (such as carbon dioxide, nitrogen oxides, water vapor, particulate matter, and unburned hydrocarbons), engine and airframe noise, and the creation of contrails and cirrus clouds contribute significantly to the environmental footprint of commercial aviation and to global warming and climate change.

Enabling growth with decreased environmental impact will require innovative ideas in a variety of areas. We will need a better understanding of the physics (acoustics, atmospheric chemistry, combustion, global climate impact), advanced aircraft configurations with radically improved fuel-burn and vastly reduced noise and emissions, advanced air-traffic management approaches, and alternative fuels. This will require a multidisciplinary research effort that, in addition to a number of well-known approaches, can draw from creative ideas, such as flying airplanes in formation, altering significantly the overall configuration of the aircraft (such as by using blended wing bodies or truss-braced wings or by flying slower at different altitudes), and devising aircraft component technologies to reduce noise and emissions.

Department: American Studies

Undergraduate Degrees Awarded: 8
Graduate Degrees Awarded: 0

Sustainability Learning Outcome: *The Program in American Studies is an interdisciplinary undergraduate major that seeks to convey a broad understanding of American culture and society in all their complexity. Building on a foundation of courses in history and institutions, literature and the arts, and race and ethnicity, students bring a range of disciplines to bear on their efforts to analyze and interpret America's past and present, forging fresh and creative syntheses along the way.*

The core requirements illustrate how different disciplines approach the study and interpretation of American life and include three courses in each of two main areas: History & Institutions; and Literature, Art, and Culture. The required gateway seminar, "Perspectives on American Identity," explores the tensions between commonality and difference from a variety of disciplinary perspectives.

Beyond the core requirements of the major, American Studies expects students to define and pursue their own interests in interpreting important dimensions of American life. Accordingly, each student designs a thematic concentration of at least five courses drawn from fields such as history, literature, art, communication, theater, political science, African American studies, feminist studies, economics, cultural and social anthropology, religious studies, Chicana/o studies, law, sociology, education, Native American studies, music, and film. At least one of the five courses in a student's thematic concentration should be a small group seminar or a colloquium. With program approval, students may conclude the major with a capstone honors research project during their senior year.

Whether defined broadly or narrowly, the thematic focus or concentration should examine its subject from the vantage of multiple disciplines. Examples of concentrations include: Race and the Law in America, Gender in American Culture and Society, Technology in American Life and Thought, Health Policy in America, Nature and the Environment in American Culture, Politics and the Media, and The Artist in American Society.

Department: Anthropology

Undergraduate Degrees Awarded: 17
Graduate Degrees Awarded: 14

Sustainability Learning Outcome:
Anthropology is devoted to the study of human beings and human societies as they exist across time and space. It is distinct from other social sciences in that it gives central attention to the full time span of human history, and to the full range of human societies and cultures, including those located in historically marginalized parts of the world. It is therefore especially attuned to questions of social, cultural, and biological diversity, to issues of power, identity, and inequality, and to understanding the dynamic processes of social, historical, ecological, and biological change over time. Education in Anthropology provides excellent preparation for living in a multicultural and globally-interconnected world, and helps to equip students for careers in fields including law, medicine, business, public service, research, ecological sustainability, and resource management.

Department: Applied Physics

Undergraduate Degrees Conferred: 0
Graduate Degrees Conferred: 22

Sustainability Learning Outcome:
The Department emphasizes fundamental research in areas of potential technological importance and in areas of science where a physics point of view is particularly effective. The Department also has a tradition of inventing new tools for science and new devices for technology. Present activities include research in accelerator physics, atomic and molecular physics, biophysics, condensed matter and materials physics, nanoscience and technology, photonics, quantum information, synchrotron radiation and ultrafast science.

Because of the broad range of techniques and intellectual points of view that are relevant to contemporary applied physics, the coursework and research in the Department are designed to bring the

student into contact with activity in several disciplines related to physics, such as engineering, materials science, biology and chemistry. The program of graduate training is designed to prepare graduates for professional leadership careers in science and technology, either in academia or in industrial environments.

Department: Archaeology

Undergraduate Degrees Conferred: 3
Graduate Degrees Conferred: 0

Sustainability Learning Outcome:
Our goal is to share our passion for research by giving students a strong basis in the discipline and its ethical standards while providing the opportunity for diverse and open-minded enquiry in facing the challenges that confront archaeologists today…We aim to train the future leaders in archaeology and heritage. We provide a robust academic program that has a multi-disciplinary and global reach. We believe that nurturing an environment of collaboration gives rise to opportunities for growth and innovation—elements that make for a stronger generation of archaeologists. We recognize that today archaeology is no longer just about digging up the past. It is also about contributing to the present…The Center collaborates with other units in the university to support post-doctoral researchers, and it promotes research in specific areas from conservation of natural and cultural capital to human rights and heritage ethics. It supports public programs for diverse communities.

Department: Biochemistry

Undergraduate Degrees Conferred: 0
Graduate Degrees Conferred: 4

Sustainability Learning Outcome:
Our diversity enriches our intellectual environment and provides an incredibly broad spectrum of expertise that benefits all of us, as we tackle a wide variety of important questions. All of us study molecules: we use and advance physical techniques such as spectroscopy, laser light traps and crystallography, cell biological techniques such as light microscopy and cell fractionation, biochemical techniques such as enzyme purification and high throughput cross-linking/mapping, and computational techniques including machine learning, interactive simulation, and crowdsourcing, along with cutting edge molecular biological techniques and genetics. By attacking problems using these complementary approaches, we are best suited to pave the way towards solving the questions at hand. Many of the techniques invented here, including genetic engineering and high-throughput RNA expression analysis, are fueling current advances in biotechnology and medicine.

Department: Bioengineering

Undergraduate Degrees Conferred: 0
Graduate Degrees Conferred: 36

Sustainability Learning Outcome:

Bioengineers are focused on advancing human health and promoting environmental sustainability, two of the greatest challenges for our world. Understanding complex living systems is at the heart of meeting these challenges. The mission of Stanford's Department of Bioengineering is to create a fusion of engineering and the life sciences that promotes scientific discovery and the development of new biomedical technologies and therapies through research and education.

Department: Biology

Undergraduate Degrees Awarded: 97
Graduate Degrees Awarded: 39

Sustainability Learning Outcome:
Faculty in the area of population biology are interested in a broad range of conceptual and empirical issues - from population ecology, ecosystems ecology, the biochemistry/biophysics and physiology of adaptations and evolutionary genetics, floristic and systematic botany to systematic zoology. Research groups work with a diversity of plants, birds, insect, lizards, and marine invertebrates….The research in this area has not only enriched our basic understanding of living systems, it has also provided insights relevant to a variety of problems of great practical importance, including strategies for the control of insect pests, the design of nature reserves and the prevention of species extinctions and habitat destruction….Research in population, behavioral and ecosystem ecology benefits from proximity of the 1,300 acre Jasper Ridge Biological Preserve - the largest and most biologically diverse preserve on any American university campus. It is located five miles from the Herrin/Gilbert laboratories.

Department: Chemical Engineering

Undergraduate Degrees Awarded: 39
Graduate Degrees Awarded: 62

Sustainability Learning Outcome:
The large number of industries which depend on the synthesis and processing of chemicals and materials place the chemical engineer in great demand.; In addition to traditional examples such as the chemical, energy and oil industries, opportunities in biotechnology, pharmaceuticals, electronic device fabrication, and environmental engineering are increasing. The unique training of the chemical engineer becomes essential in these areas whenever processes involve the chemical or physical transformation of matter. For example …problems in environmental engineering that engage chemical engineers include the development of processes (catalytic converters, effluent treatment facilities) to minimize the release of or deactivate products harmful to the environment. To carry out these activities, the chemical engineer requires a complete and quantitative understanding of both the engineering and scientific principles underlying these technological processes.

Department: Chemistry

Undergraduate Degrees Awarded: 13
Graduate Degrees Awarded: 30

Sustainability Learning Outcome:

Chemistry is critical to understand the world around us; a distinguishing feature of chemistry as a discipline is its focus on creating new forms of matter, investigating the structure and dynamics of atomic and molecular systems, and developing new experimental tools and theoretical approaches to understand and control atomic and molecular behavior. There are few areas of developing scientific knowledge and technology that do not rely heavily on chemistry; those that do include medicine, human health, biotechnology, materials science, biology, applied physics, microscopy, geology, and environmental science, among others. We thus approach the problems in these fields from the mechanistic perspectives of making molecules, investigating molecules, and controlling molecules, through a wide range of programs and initiatives which fulfill our dual roles of excellence in research and teaching.

Department: Civil and Environmental Engineering

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 207

Sustainability Learning Outcome:
The Civil and Environmental Engineering department is committed to finding solutions to our major sustainability challenges this century, and to educating and training the leaders who will have a large impact on our profession and on society. Join us in this important endeavor.

Department: Comparative Medicine

Undergraduate Degrees Conferred: n/a
Graduate Degrees Conferred: n/a

Sustainability Learning Outcome:
Comparative Medicine is a distinct discipline of experimental medicine that uses animal models of human and animal disease in translational and biomedical research. The Department of Comparative Medicine at Stanford is an academic department whose faculty teach at the undergraduate, graduate, professional and post graduate levels. The Department's faculty are also engaged in collaborative and comparative research, with animal model expertise and programs in veterinary pathology, pain and anesthesia, rodent reproductive biology, infectious disease, cancer, bioengineering and neuroscience. In addition, the veterinary faculty in the Department of Comparative Medicine have oversight responsibility for the campus-wide animal research program and provide clinical service in the Veterinary Service Center. Our mission is to advance human and animal health through outstanding research, veterinary care and training.

Department: Comparative Studies in Race and Ethnicity

Undergraduate Degrees Awarded: 12
Graduate Degrees Awarded: 0

Sustainability Learning Outcome:
The Interdepartmental Program in Comparative Studies in Race and Ethnicity (CSRE) is an interdisciplinary program offering students the opportunity to investigate the significance of race and

ethnicity in all areas of human life. Devoted to a rigorous analysis of race and ethnicity and using a comparative and interdisciplinary approach, CSRE is committed to promoting and deepening students' understanding of the multiple meanings of racial diversity in the United States and abroad in ways that prepare students for living and working effectively in a multicultural society.

Department: Computational and Mathematical Engineering

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 37

Sustainability Learning Outcome:
Computational mathematics is at the heart of many engineering and science disciplines and has grown into a strong and very exciting…At ICME we conduct ground breaking research, train and advise our graduate students and provide over 40 courses in computational mathematics and scientific computing at both the undergraduate and graduate level to the Stanford community…The Computational Geoscience (CompGeo) track is designed for students interested in the skills and knowledge required to develop efficient and robust numerical solutions to Earth Science problems using high-performance computing. The CompGeo curriculum is based on four fundamental areas: modern programming methods for Science and Engineering, applied mathematics with an emphasis on numerical methods, algorithms and architectures for high-performance computing and computationally oriented Earth Sciences courses.

Department: Earth Systems Science

Undergraduate Degrees Awarded: 30
Graduate Degrees Awarded: 20

Sustainability Learning Outcome:
The Earth Systems Program is an interdisciplinary environmental science major. Students learn about and independently investigate complex environmental problems caused by human activities in interaction with natural changes in the Earth system. Earth Systems majors become skilled in those areas of science, economics, and policy needed to tackle the globe's most pressing environmental problems, becoming part of a generation of scientists, professionals, and citizens who approach and solve problems in a new way: a systematic, interdisciplinary way.

Department: Education

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 220

Sustainability Learning Outcome:
Aiming towards the ideal of enabling all people to achieve maximum benefit from their educational experiences, the Stanford University School of Education seeks to continue as a world leader in ground-breaking, cross-disciplinary inquiries that shape educational practices, their conceptual underpinnings, and the professions that serve the enterprise. The School also seeks to develop the knowledge, wisdom,

and imagination of its students to enable them to take leadership positions in efforts to improve the quality of education around the globe.

Department: Electrical Engineering

Undergraduate Degrees Awarded: 42
Graduate Degrees Awarded: 291

Sustainability Learning Outcome:
Since its formation in 1893, our Department has had a profound impact on society. Myriad innovations by our faculty and students, such as in electric power generation and transmission, wired and wireless communications, integrated electronics, digital computers, healthcare systems, cellular phones, and Internet-based information technology, have fundamentally transformed all aspects of human life. Today, nearly every tool and manufactured product, from cars and refrigerators to phones and medical devices, includes electronic circuits, uses signal-processing algorithms, and is linked to a network. These innovations have originated from research across…areas that form the intellectual core of the Department. Our faculty and students continue to advance the state-of-the-art, define new directions for electrical engineering, and develop new technologies to help address critical societal challenges in biology and medicine, energy, and the environment. Perhaps even more important is our unceasing commitment to our students, helping them learn, grow, and develop and achieve their goals, whether it is becoming a professor, an entrepreneur, or joining industry.

Department: Emmett Interdisciplinary Program in Environment and Resources

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 19

Sustainability Learning Outcome:
Stanford's Emmett Interdisciplinary Program in Environment and Resources (E-IPER) trains the next generation of interdisciplinary scholars and leaders to address the world's most challenging environmental and sustainability problems. E-IPER students combine academic disciplines, including natural and earth sciences, engineering, economics, humanities, social sciences, law, health, policy, and business to yield new insights and novel solutions to urgent global problems, such as energy use, climate change, food security, freshwater availability, depletion of ocean resources, land degradation, and biodiversity loss.

Department: Energy Resources Engineering

Undergraduate Degrees Awarded: 4
Graduate Degrees Awarded: 10

Sustainability Learning Outcome:
Energy resources engineers are concerned with the design of processes for energy recovery. Included in the design process are characterizing the spatial distribution of hydrocarbon and geothermal reservoir properties, drilling wells, designing and operating production facilities, selecting and implementing

methods for enhancing fluid recovery, examining the environmental aspects of petroleum and geothermal exploration and production, monitoring reservoirs, and predicting recovery process performance. The program also has a strong interest in related energy topics such as renewable energy, global climate change, CO2 sequestration, clean energy conversions (e.g., "clean coal"), and energy systems. The Energy Resources Engineering curriculum provides a sound background in basic sciences and their application to practical problems to address the complex and changing nature of the field. These principles apply equally well to optimizing oil recovery from petroleum reservoirs, geothermal energy production and remediating contaminated groundwater systems.

Department: Ethics in Society

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 0

Sustainability Learning Outcome:
The Center for Ethics in Society is an interdisciplinary center committed to bringing ethical reflection to bear on important social problems. The Center brings in scholars from all corners of campus to build a community and foster conversation… Students combine the analytical rigor of moral and political philosophy with their self-chosen thesis topic to develop a sophisticated understanding of problems of social concern. We encourage students to consider questions such as the meaning of responsibility, the scope of liberty, the legitimacy of government, and other issues that arise in debates about public life.

Department: Geological and Environmental Sciences

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 2

Sustainability Learning Outcome:
The geological and environmental sciences are naturally interdisciplinary, and include the study of earth materials, earth processes, and how they have changed over Earth's 4.56 billion year history. More specifically, courses and research within the department address the chemical and physical makeup and properties of minerals and rocks (at pressures from the surface to the core), as well as of soils, sediments, and water; the formation and evolution of Earth and other planets; the processes that deform Earth's crust and mantle and that shape Earth's surface; the stratigraphic, paleobiological, and geochemical records of Earth history including changes in climate, oceans, and atmosphere; present-day, historical, and long-term feedbacks between the geosphere and biosphere, and the origin and occurrence of our natural resources. The department's research is critical to the study of natural hazards (earthquakes, volcanic eruptions, landslides, and floods), environmental and geological engineering, surface and groundwater management, the assessment, exploration, and extraction of energy, mineral and water resources, remediation of contaminated water and soil, geological mapping and land use planning, and human health and the environment.

Department: Geophysics

Undergraduate Degrees Awarded: 1
Graduate Degrees Awarded: 22

Sustainability Learning Outcome:
Geophysics is a field that integrates geology, mathematics, and physics in order to understand how the Earth works. Geophysicists study Earth processes through a combination of laboratory experiments, computational and theoretical modeling, remote imaging, and direct observation. Research in the Geophysics Department at Stanford has both fundamental and strategic elements. Our students benefit from this breadth of exposure and are highly sought after for rewarding careers in academia, industry, and government.

Department: Global Studies

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 75

Sustainability Learning Outcome:
Stanford's Global Studies Division (formerly International, Comparative and Area Studies) provides an arena for students and scholars to explore our increasingly complex world from multiple economic, political, social, technological and cultural perspectives. As Stanford educates the leaders of the future, we must prepare them to deal with the great issues facing the world – health, peace, prosperity, environmental sustainability – from a basis of cultural and historical understanding as well as a basis of scientific analysis. The School of Humanities and Sciences has established a division of International Comparative and Area Studies (ICA) to strengthen existing international programs and to expand the scope of our scholarship and education to include critically important regions and themes in today's world. It will have an enduring benefit not only for the students and faculty in the School of Humanities and Sciences, but for the other schools and institutes in the university whose applied work will derive its effectiveness from the basic scholarship in our departments spanning the humanities and arts, and the natural and social sciences.

Department: Graduate School of Business

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 415

Sustainability Learning Outcome:
The mission of the Graduate School of Business is to create ideas that deepen and advance the understanding of management and, with these ideas, develop innovative, principled, and insightful leaders. The two-year Master of Business Administration (M.B.A.) degree program is for students who aspire to contribute to society through leadership in business, government, and the nonprofit sector. The general management curriculum rests on a foundation of social science principles and management functions layered with interdisciplinary themes of leadership, entrepreneurship, global management, and social responsibility. A number of joint degree programs allow the M.B.A. to be combined with degrees in the Schools of Education, Law, and Medicine, as well as interdisciplinary degrees in Public Policy and Environmental Studies.

Department: Health Research and Policy

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 5

Sustainability Learning Outcome:
The Health Research and Policy department provides the analytical foundation for research conducted at the Stanford School of Medicine, offering expertise, research, and training on collecting and interpreting the scientific evidence essential to improving human health…The 300 million-plus people in the U.S. will need more effective, safe, and affordable health care in order for the country to thrive in the years to come. Individuals may each carry with them all the information they need to lead healthy, productive lives—their genetic code, their medical records, their behaviors as tracked by electronic devices—yet today this data is largely inaccessible or unusable. Stanford's Health Research and Policy department…provides an incubator for those who are motivated to address these challenges.

Department: Human Biology

Undergraduate Degrees Awarded: 185
Graduate Degrees Awarded: 0

Sustainability Learning Outcome:
The Program in Human Biology is an interschool, interdepartmental, undergraduate major. The program's mission is to provide an interdisciplinary approach to understanding the human being from 7 biological, behavioral, social, and cultural perspectives. The curriculum provides a broad and rigorous introduction to the biological and behavioral sciences and their interrelationships, and explores how this knowledge, in conjunction with studies in other fields, can be applied to formulate and evaluate health, environmental, and other public policies that influence human welfare. Majors later pursue advanced training in professional or graduate programs, or work in diverse sectors.

Department: Law

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 269

Sustainability Learning Outcome:
All JD students must complete at least one advanced course…of ethics instruction." Additionally, "The ethical codes of the American legal profession provide that lawyers should aspire to provide significant pro bono publico legal service. Stanford Law School similarly expects its students and faculty to aspire to provide such service. For purposes of this policy, pro bono legal work includes any uncompensated public service in which legal skills are exercised. Students should volunteer at least 50 hours of law-related pro bono work without compensation or academic credit before graduation. Clinical coursework over and above the number of hours set by clinical instructors as appropriate for their course may be counted toward this standard. Students who meet the aspirational standard will be designated members of the Pro Bono Awards Program.

Department: Management Science and Engineering

Undergraduate Degrees Awarded: 63

Graduate Degrees Awarded: 169

Sustainability Learning Outcome:
Management Science & Engineering's mission is, through education and research, to advance the design, management, operation, and interaction of technological, economic, and social systems.
We support this mission through a diverse portfolio of world-class research activities, leveraging expertise across multiple disciplines and methodologies and through internationally renowned research centers. Our engineering research strength is integrated with a broad based educational program at the undergraduate, masters, and doctoral levels: graduates of our program are not only trained as engineers, but also as future leaders in technology, policy, and industry. Our research and teaching activities are complemented by an outreach program that encourages the transfer of ideas to the fertile environment of Silicon Valley and beyond.

Department: Materials Science and Engineering

Undergraduate Degrees Awarded: 10
Graduate Degrees Awarded: 52

Sustainability Learning Outcome:
Developing materials for renewable energy and sustainability applications is critical to our planet's future. Materials Science & Engineering faculty and students are exploring interests and area of expertise in photovoltaics, energy storage, and hydrogen storage, among others.

Department: Mechanical Engineering

Undergraduate Degrees Awarded: 79
Graduate Degrees Awarded: 202

Sustainability Learning Outcome:
The programs in the Department of Mechanical Engineering (ME) emphasize a mix of applied mechanics, biomechanical engineering, computer simulations, design, and energy science and technology. Since mechanical engineering is a broad discipline, the undergraduate program can be a springboard for graduate study in business, law, medicine, political science, and other professions where understanding technology is important. Both undergraduate and graduate programs provide technical background for work in biomechanical engineering, environmental pollution control, ocean engineering, transportation, and other multidisciplinary problems that concern society. In all programs, emphasis is placed on developing systematic procedures for analysis, communication of work and ideas, practical and aesthetic aspects in design, and responsible use of technology.

Department: Microbiology and Immunology

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 6

Sustainability Learning Outcome:

The mission of the Department of Microbiology and Immunology is to conduct the best possible research and provide the most rigorous and inspiring training in the areas of microbiology, immunology, host-pathogen interaction and related fields. Through such activities, our goal is to improve human and animal health as well as to improve our ability to be responsible stewards of a fragile earth.

Department: Particle Physics and Astrophysics (SLAC)

Undergraduate Degrees Awarded: 0
Graduate Degrees Awarded: 0

Sustainability Learning Outcome:
SLAC National Accelerator Laboratory is one of 10 Department of Energy (DOE) Office of Science laboratories and is operated by Stanford University on behalf of the DOE. Since its opening in 1962, SLAC has been helping create the future. We built the world's longest particle accelerator, discovered some of the fundamental building blocks of matter and created the first website in North America.//Our top-notch research facilities attract thousands of scientists from all over the world each year. Along with our own staff scientists, they're working to discover new drugs for healing, new materials for electronics and new ways to produce clean energy and clean up the environment.

Department: Physics

Undergraduate Degrees Awarded: 21
Graduate Degrees Awarded: 25

Sustainability Learning Outcome:
Students who study physics or engineering physics are prepared to work on forefront ideas in science and technology, in academia, the government, or the private sector. Careers might focus on basic research in astrophysics, cosmology, particle physics, atomic physics, photonics or condensed matter physics, or in more applied research in areas such as renewable energy, quantum information science, materials development, biophysics, or medical physics. Careers could also include teaching, medicine, law (especially intellectual property or patent law), science writing, history of science, philosophy of science, science policy, energy policy, government, or management in technical fields.

Department: Political Science

Undergraduate Degrees Awarded: 44
Graduate Degrees Awarded: 17

Sustainability Learning Outcome:
The mission of the undergraduate program in Political Science is to provide students with a solid grasp of the American political system and other political systems within the context of global forces, international conflicts, social movements, ideological systems and diversity. Courses in the major are designed to help students gain competency in the primary subfields of political science including American and comparative politics, international relations, and the theory/philosophy of politics; to introduce students to a variety of research methodologies and analytical frameworks; and to develop students' written and oral communication skills.

Department: Public Policy

Undergraduate Degrees Awarded: 23
Graduate Degrees Awarded: 25

Sustainability Learning Outcome:
The overall educational objectives of the Public Policy Program, and the associated areas of academic study, are: understanding the advantages of and barriers to effective human social and political cooperation (theory of collective action, game theory, organizational behavior, social psychology, politics); acquiring a framework for formulating and evaluating appropriate normative objectives, defined in terms of justice of fairness (ethics, moral and political philosophy, economic analysis of law); mastering analytical tools useful for evaluating public policies and programs in terms of their absolute and comparative efficacy in achieving given social objectives (microeconomics, welfare economics, public finance, econometric analysis, benefit-cost-risk analysis); and bringing these principles and tools into practical application for decision making in the real world, from the perspectives of political leaders as well as citizens (applied fields such as health or environmental policy; practica, internships).

Department: Science, Technology, and Society

Undergraduate Degrees Awarded: 99
Graduate Degrees Awarded: 0

Sustainability Learning Outcome:
The mission of the Science, Technology and Society (STS) Program is to provide Stanford undergraduates with intellectually stimulating education that will prepare them for life in the contemporary era, one in which science and technology are pervasive and potent forces for transformative social change. To that end, STS courses explore the evolving natures and interrelationship of science and technology, influences of science and technology on different kinds of societies, how societies manage and otherwise shape their scientific and technological endeavors and products, and ethical, social, cultural, and policy issues raised by scientific and technological innovations in contemporary societies. STS faculty believe that probing study of this vital subject matter provides an innovative form of liberal arts and pre-professional education, one that helps STS students fulfill their future civic and professional roles in an informed, responsible manner. STS is an interdisciplinary and multidisciplinary program. STS students learn to critically analyze the interplay of science and technology with human values and world views, political and economic forces, and cultural and environmental systems. To a set of core STS courses promoting such learning, Program majors add structured sets of pertinent disciplinary courses in the humanities, social sciences, natural sciences, and engineering.

Department: Sociology

Undergraduate Degrees Awarded: 12
Graduate Degrees Awarded: 24

Sustainability Learning Outcome:

The mission of the undergraduate program in Sociology is to provide students with the skills necessary to understand and address social problems and inequalities in global, institutional, and interpersonal social relations.

Department: Urban Studies

Undergraduate Degrees Awarded: 8
Graduate Degrees Awarded: 0

Sustainability Learning Outcome:
The Urban Studies program treats urbanism as an interdisciplinary field; it brings together students, faculty, and outside specialists concerned with cities, and the impacts of cities on society and people's lives. The Urban Studies major encourages students to inquire deeply into the nature of cities and the techniques used to modify urban environments. It prepares students to address urbanization, and gives students a knowledge base and theoretical, analytical, and practical skills to understand urban social systems and effect social change.