CENTERS, LABORATORIES, AND INSTITUTES

Independent research laboratories, centers, and institutes perform multidisciplinary research that extends beyond the scope of any one of the University’s organized schools. The listings are not all-inclusive. A comprehensive list of Stanford offices is available on the University’s A to Z Index page (http://www.stanford.edu/atoz/).

The following tabs contain information on programs for undergraduates:

- Arts Institute (http://exploredegrees.stanford.edu/ schoolofhumanitiesandsciences/artsinstitute/)
- Interdisciplinary Honors in the Arts Program
- Arts Immersion
- Creative Cities
- Center for Spatial and Textual Analysis (CESTA) (https://cesta.stanford.edu)
- Graduate Certificate of Digital Humanities
- Center for the Study of Poverty and Inequality (CPI (p. 2))
  - Certificate Program on Poverty and Inequality
- Freeman Spogli Institute for International Studies (FSI) (p. 4)
- Interschool Honors Program in Democracy, Development, and the Rule of Law
- Interschool Honors Program in International Security Studies

Office of Vice Provost and Dean of Research

Vice Provost and Dean of Research: Ann M. Arvin

Office: 450 Serra Mall, Main Quadrangle, Building 60
Mail Code: 94305-2064
Phone: 650-723-8789 / Fax 650-723-0662
Office Fax: 650-723-0662

The following independent Laboratories, Centers, and Institutes report to the Vice Provost and Dean of Research:

Biological and Life Sciences

- Bio-X, the interdisciplinary program related to bioengineering, biomedicine, and biosciences, http://biox.stanford.edu (http://biox.stanford.edu/)
- Spectrum (formerly the Stanford Center for Clinical and Translational Education and Research), http://spectrum.stanford.edu (http://spectrum.stanford.edu/)

Environmental Sciences

  - Global Climate and Energy Project (G-CEP), http://gcep.stanford.edu (http://gcep.stanford.edu/)

Humanities and Social Sciences

- Center for Advanced Study in the Behavioral Sciences (CASBS), http://www.casbs.org (http://www.casbs.org/)
- Center for the Study of Language And Information (CSLI), http://www-csli.stanford.edu (http://www-csli.stanford.edu/)
- Freeman Spogli Institute for International Studies (FSI), http://fsi.stanford.edu (http://fsi.stanford.edu/)
  - Stanford Health Policy (Center for Health Policy/Center for Primary Care and Outcomes Research), http://healthpolicy.stanford.edu (http://healthpolicy.stanford.edu/)
  - Center for International Security and Cooperation (CISAC) http://cisac.stanford.edu (http://cisac.stanford.edu/)  
  - Walter H. Shorenstein Asia-Pacific Research Center (Shorenstein APARC), http://aparc.stanford.edu (http://aparc.stanford.edu/)
  - The Europe Center, http://tec.stanford.edu
  - Inter-University Center for Japanese Language Studies (IUC), http://www.stanford.edu/dept/IUC (http://stanford.edu/dept/ IUC/)
  - Program on Energy and Sustainable Development (PESD), http://pesd.stanford.edu (http://pesd.stanford.edu/)
  - Human-Sciences and Technologies Advance Research Institute (H-STAR), http://hstar.stanford.edu (http://hstar.stanford.edu/)  
  - Stanford Center for Innovations in Learning (SCIL), http://scil.stanford.edu (http://scil.stanford.edu/)
  - Stanford Center on Longevity (SCL), http://longevity.stanford.edu (http://longevity.stanford.edu/)

Physical Sciences

- Edward L. Ginzton Laboratory, https://ginzton.stanford.edu/
- Geballe Laboratory for Advanced Materials (GLAM), http://stanford.edu/group/glam (http://stanford.edu/group/glam/)
- Kavli Institute for Particle Astrophysics and Cosmology (KIPAC), http://www-group.slac.stanford.edu/kipac (http://www-group.slac.stanford.edu/kipac/), operated jointly with SLAC National Accelerator Laboratory

Centers Reporting to the Dean of Humanities and Sciences

- Center for Space Science and Astrophysics (http:// www.stanford.edu/group/CSSA/)
- Center for Spatial and Textual Analysis (CESTA) (https://cesta.stanford.edu)  
  - CESTA offers a graduate Certificate of Digital Humanities program
- Institute for Research in the Social Sciences (http://iriss.stanford.edu) (IRISS)
2. **Elective Foundation Course:** The second foundation course is selected from among the normative, empirical, and policy courses listed below. These courses examine the principles by which certain types of living conditions may be deemed unjust or impoverished (i.e., normative analysis), the social processes and forces by which poverty and inequality are generated and maintained (i.e., empirical analysis), and the types of policies and interventions that might reduce or increase poverty and inequality (i.e., policy analysis).

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHICSOC 136R</td>
<td>Introduction to Global Justice</td>
<td>4</td>
</tr>
<tr>
<td>ETHICSOC 171</td>
<td>Justice</td>
<td>4-5</td>
</tr>
<tr>
<td>INTNLREL 136R</td>
<td>Introduction to Global Justice</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 76</td>
<td>Introduction to Global Justice</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 171</td>
<td>Justice</td>
<td>4-5</td>
</tr>
<tr>
<td>POLISCI 136R</td>
<td>Introduction to Global Justice</td>
<td>4</td>
</tr>
<tr>
<td>PUBLPOL 103C</td>
<td>Justice</td>
<td>4-5</td>
</tr>
</tbody>
</table>

3. **Research Project:** Students must complete a research paper on poverty or inequality. Students are invited to join one of the ten CPI research groups and become involved in an ongoing CPI research project that might become the basis for their research paper. Alternatively, students write an independent research paper rather than joining a CPI Research Group. The research paper may either take the form of a research proposal or an empirical research project based on quantitative or qualitative methods. This paper should be completed while the student is enrolled in Independent Study with a CPI faculty affiliate (http://www.stanford.edu/group/scspi/).

4. **Additional Elective:** Students must take an elective course with a poverty or inequality focus. This requirement may be satisfied by taking an additional foundation course from the list provided above or by taking any of the preapproved elective courses listed below. Additionally, other unlisted courses addressing issues of poverty and inequality may also satisfy this requirement, although such courses require CPI approval (which is requested by submitting the Course Approval Form (http://www.stanford.edu/group/scspi/)). It is recommended that approval be secured in advance of taking an unlisted course. If a new applicant to the certificate program wishes to count a completed course toward the requirements, that course should be indicated on the application form and, if necessary, the Course Approval Form (http://www.stanford.edu/group/scspi/) should be filled out.

<table>
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<tbody>
<tr>
<td>ECON 11N</td>
<td>Understanding the Welfare System</td>
<td>3</td>
</tr>
<tr>
<td>SOC 135</td>
<td>Poverty, Inequality, and Social Policy in the United States</td>
<td>3-4</td>
</tr>
</tbody>
</table>

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**Stanford Center on Poverty and Inequality Certificate Program on Poverty and Inequality**

The Stanford Center on Poverty and Inequality (CPI) monitors and publicizes trends in poverty and inequality; publishes the country’s leading magazine on poverty and inequality (Pathways Magazine), supports research on the causes of poverty and inequality, and examines the effects of public policy on poverty and inequality. The center carries out these activities with ten research groups addressing the following topics:

- poverty measurement and trends
- educational access and achievement
- income inequality
- social mobility
- safety net use
- recession and recovery effects
- spatial segregation
- racial and ethnic inequality
- discrimination, poverty, and the labor market
- Hispanic poverty, inequality, and mobility.

The Certificate in Poverty and Inequality recognizes undergraduates who have developed expertise in one or more of these research areas. The certificate is conferred as soon as the coursework and research requirements listed below are completed. Although the certificate does not appear on an official University transcript, it provides formal recognition of a rigorous program of study in the field of poverty and inequality.

**Admission**

Applications to the CPI certificate program are available on the CPI website (http://www.stanford.edu/group/scspi/) and may be filed at any time. Admitted students are assigned an adviser who assists in planning coursework and providing research opportunities within CPI. Contact CPI (inequality@stanford.edu) with any questions.

**Requirements**

The student’s course and research plan, which is submitted with the application, should meet the four requirements listed below.

1. **Core Foundation Course:** (SOC 140). This required introductory course examines the causes and consequences of poverty, inequality, and mobility. It is available as both a regular and online course.

2. **Elective Foundation Course:** The second foundation course is selected from among the normative, empirical, and policy courses listed below. These courses examine the principles by which certain types of living conditions may be deemed unjust or impoverished (i.e., normative analysis), the social processes and forces by which poverty and inequality are generated and maintained (i.e., empirical analysis), and the types of policies and interventions that might reduce or increase poverty and inequality (i.e., policy analysis).

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<td>ECON 11N</td>
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<tr>
<td>SOC 135</td>
<td>Poverty, Inequality, and Social Policy in the United States</td>
<td>3-4</td>
</tr>
</tbody>
</table>

---

**Preapproved Elective Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>EARTH/106</td>
<td>World Food Economy</td>
<td>5</td>
</tr>
<tr>
<td>ECON 11N</td>
<td>Understanding the Welfare System</td>
<td>3</td>
</tr>
<tr>
<td>ECON 106</td>
<td>World Food Economy</td>
<td>5</td>
</tr>
<tr>
<td>SOC 135</td>
<td>Poverty, Inequality, and Social Policy in the United States</td>
<td>3-4</td>
</tr>
</tbody>
</table>

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**Educational Access and Achievement**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 146</td>
<td>Economics of Education</td>
<td>5</td>
</tr>
<tr>
<td>EDUC 102</td>
<td>Examining Social Structures, Power, and Educational Access</td>
<td>2-4</td>
</tr>
<tr>
<td>EDUC 173</td>
<td>Gender and Higher Education: National and International Perspectives</td>
<td>3-4</td>
</tr>
</tbody>
</table>
Graduate Certificate in Digital Humanities

Overview
The Center for Spatial and Textual Analysis (CESTA) offers a Graduate Certificate in Digital Humanities (GCDH) to meet a growing need among the humanities for training in digital methods by leveraging existing resources at Stanford University. The Graduate Certificate in Digital Humanities allows graduate students to acquire and deepen their technical and conceptual skills as well as to strengthen their position in the competitive job market within and beyond the academy. The certificate program has been established as a pilot program from 2014-17.

Completion of the program results in a Certificate, signed by the CESTA director and the chair of the doctoral student's home department.

The Graduate Certificate in Digital Humanities is issued by the Center for Spatial and Textual Analysis (CESTA) and will not appear on any University record, including the student's transcript.

Contact
Office: Wallenberg Hall, 450 Serra Mall, Building 160
Mail Code: 94305-2084
Freeman Spogli Institute for International Studies (FSI)

Contacts
Office: Encina Hall Center, First Floor, 616 Serra Street
Mail Code: 94305-6055
Phone: 650-723-4581 / Fax 650-725-2592
Web Site: http://fsi.stanford.edu/

The Freeman Spogli Institute for International Studies (FSI) provides opportunities for undergraduate research through the CDDRL Undergraduate Honors Program and the CISAC Interschool Honors Program in International Security Studies.

Interschool Honors Program in Democracy, Development, and the Rule of Law

Director: Stephen J. Stedman

The Center on Democracy, Development, and the Rule of Law (CDDRL) Undergraduate Senior Honors Program provides students majoring in any Stanford academic department the opportunity to conduct an independent honors thesis focused on the fields of democracy, development, and the rule of law. Students are required to complete a three quarter long honors research seminar that begins Spring Quarter of the junior year. They will spend the last quarter of the senior year working independently with their faculty adviser to complete and submit their honors thesis ahead of their formal defense in mid-May. Upon fulfilling individual department course requirements and completing the honors program, students graduate with a certificate in Honors in Democracy, Development, and the Rule of Law.

Students interested in the program consult with their prospective honors advisers in their junior year to determine the tentative thesis topic, which should have some degree of policy relevance. Prerequisites for the program include: a 3.5 grade-point average at the time they apply; a strong overall academic record; sufficient depth and breadth in the fields of democracy, economic and social development, rule of law, and human rights course work; and demonstrated skills in writing and conducting independent research.

Students are required to attend honors college in Washington, D.C. in September before Autumn Quarter classes begin. Applicants are discouraged from studying abroad during the duration of the CDDRL Undergraduate Honors program.

Required Course Work

Two courses that explore the areas of democracy, development, and the rule of law to be approved by the faculty director. CDDRL’s flagship undergraduate lecture course taught during Autumn Quarter, which ideally should be completed before the student enters the honors program. DDRL Honors Research Methods Seminars meet on a weekly basis to present their project theses and receive feedback.

Typical Schedule for CDDRL Honors Program

<table>
<thead>
<tr>
<th>Junior</th>
<th>Units</th>
<th>Autumn</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select one of the following:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democracy, Development, and the Rule of Law (INTNLREL 114D)</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democracy, Development, and the Rule of Law (POLISCI 114D)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDRL 189 Honors Research Methods</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year Total:</td>
<td>5</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Senior

<table>
<thead>
<tr>
<th>Units</th>
<th>Autumn</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDRL 190 Honors Research Workshop</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDRL 190 Honors Research Workshop</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>DDRL 191 Independent Study (Optional)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year Total:</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total Units in Sequence:</td>
<td>14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Optional any quarter during senior year for 1-5 units, repeatable once for credit.

Admitted students must be able to fulfill all course requirements in their individual majors by the time they graduate, in addition to the units required for the honors program. For more information, contact Kristin Chandler, CDDRL Administrative Manager at kdchandl@stanford.edu or go to http://cddrl.stanford.edu/.

Interschool Honors Program in International Security Studies

Co-Directors: Rod Ewing, Amy Zegart

The Center for International Security and Cooperation (CISAC) coordinates a University-wide Interschool Honors Program in International Security Studies. Students chosen for the honors program intern with a security-related organization (prior to the start of senior year), attend the program’s honors college in Washington, D.C., in September, participate in a year-long core seminar, and under the direction of a faculty advisor produce an honors thesis relevant to international security policy. Upon fulfilling individual department course requirements and completing the honors program, students graduate in their major with the award of Honors in International Security Studies. To be considered for the program, students must demonstrate sufficient depth and breadth of international security course work.

- Students must be enrolled at Stanford for all three quarters of the 2020-21 academic year (Autumn, Winter, Spring) to participate in CISAC honors.
- Students who elect to take a leave of absence for any part of the 2020-21 academic year are encouraged to reapply to honors for 2021-22. Given the small size of the program and the large number of applications, the program is unable to offer deferred admissions.
- The deadline for informing the program that a student intends to take a leave of absence and withdraw from CISAC honors is August 1, 2020.

Successful applicants to the program are expected to have taken:

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS&amp;E 193 Technology and National Security: Past, Present, and Future</td>
</tr>
<tr>
<td>POLISCI 114S International Security in a Changing World</td>
</tr>
<tr>
<td>and at least one related course such as</td>
</tr>
<tr>
<td>ECON 106 World Food Economy</td>
</tr>
<tr>
<td>HISTORY 103F The Changing Face of War: Introduction to Military History</td>
</tr>
<tr>
<td>HUMBIO 129S Global Public Health</td>
</tr>
<tr>
<td>INTNLREL 114D Democracy, Development, and the Rule of Law</td>
</tr>
<tr>
<td>INTNLREL 140A International Law and International Relations</td>
</tr>
<tr>
<td>LAW 5013 International Law (formerly LAW 479)</td>
</tr>
<tr>
<td>MS&amp;E 93Q</td>
</tr>
<tr>
<td>MS&amp;E 190</td>
</tr>
<tr>
<td>POLISCI 42Q</td>
</tr>
</tbody>
</table>

Stanford Bulletin 2020-21
Center for Space Science and Astrophysics

**Emeriti:** (Professors) Robert Cannon, (Professors, Research) Donald L. Carpenter, Aldo V. daRosa, Daniel B. DeBra, W. Gary Ernst, Von R. Eshleman, Antony Fraser-Smith, Robert A. Helliwell, Bruce B. Lusignan, Ronald J. P. Lyon, Laurence A. Manning, Bradford W. Parkinson, J. David Powell, Peter A. Sturrock, G. Leonard Tyler, Robert V. Wagoner

**Director:** Roger W. Romani

**Associate Directors:** Umran S. Inan, Philip H. Scherrer

**Professors:** Roger Blandford (Physics, SLAC), Elliot Bloom (SLAC), Lambertus Hesselink (Electrical Engineering), Umran S. Inan (Electrical Engineering), Steven Kahn (Physics, SLAC), Tune Kame (SLAC), Peter F. Michelson (Physics), Vahé Petrosian (Physics), Roger W. Romani (Physics), Norman H. Sleep (Geophysics), Guenther Walther (Statistics), Howard Zebker (Electrical Engineering, Geophysics)

**Associate Professors:** Tom Abel (Physics, SLAC), Steve Allen (Physics, SLAC), Sarah Church (Physics),

**Assistant Professors:** Stefan Funk (Physics, SLAC), Chao-Lin Kuo (Physics, SLAC), Risa Wechsler (Physics, SLAC)

**Professors (Research):** C-W. Francis Everitt (HEPL), Philip H. Scherrer (Physics)

**SLAC Staff Physicist:** Grzegorz Madejski

Center Offices: Varian, Room 340
Mail Code: 94305-4060
Phone: (650) 723-1439
Email: danav@stanford.edu


The Center for Space Science and Astrophysics is an interdepartmental organization coordinating research in space science and astrophysics. Its members are drawn from the Department of Geological and Environmental Sciences in the School of Earth Sciences; the departments of Aeronautics and Astronautics, Electrical Engineering, and Mechanical Engineering in the School of Engineering; the departments of Applied Physics, Physics, and Statistics in the School of Humanities and Sciences; the W. W. Hansen Experimental Physics Laboratory; and the SLAC National Accelerator Laboratory. Its membership also includes all faculty and appropriate staff at the Kavli Institute for Particle Astrophysics and Cosmology, located at SLAC and the Physics department.

The facilities of the center are available to any interested and qualified student, who must be admitted by and registered in a department. 

Other Academic Programs and Centers, and Independent Research Laboratories, Centers, and Institutes

- Hoover Institution on War, Revolution and Peace, http://www.hoover.org (http://www.hoover.org/)