

GRADUATE SCHOOL OF EDUCATION

Courses offered by the Graduate School of Education are listed under the subject code EDUC on the Stanford Bulletin's ExploreCourses web site.

Aiming towards the ideal of enabling all people to achieve maximum benefit from their educational experiences, the Graduate 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 Graduate School of Education prepares scholars, teachers, teacher educators, policy analysts, evaluators, researchers, administrators, and other educational specialists. Two graduate degrees with specialization in education are granted by the University: Master of Arts and Doctor of Philosophy. While no undergraduate majors are offered, the school offers a number of courses for undergraduates, an undergraduate minor and an undergraduate honors program.

The Graduate School of Education is organized into three program area committees: Curriculum Studies and Teacher Education (CTE); Developmental and Psychological Sciences (DAPS); and Social Sciences, Humanities, and Interdisciplinary Policy Studies in Education (SHIPS).

In addition, several cross-area programs are sponsored by faculty from more than one area. These programs include the doctoral program in Learning Sciences and Technology Design (LSTD); two master's level programs: the Stanford Teacher Education Program (STEP) and the Learning, Design, and Technology Program (LDT); and the undergraduate honors and minor programs.

These program area committees function as administrative units that act on admissions, plan course offerings, assign advisers, and determine program requirements. Various concentrations exist within most of these areas. Faculty members are affiliated primarily with one area but may participate in several programs. While there is a great deal of overlap and interdisciplinary emphasis across areas and programs, students are affiliated with one area committee or program and must meet its degree requirements.

Detailed information about admission and degree requirements, faculty members, and specializations related to these area committees and programs can be found in the Academics section of the School's web site (<https://ed.stanford.edu/academics>).

The Graduate School of Education offers no correspondence or extension courses, and in accordance with University policy, no part-time enrollment is allowed. Work in an approved internship or as a research assistant is accommodated within the full-time program of study.

Undergraduate Programs in Education

The Graduate School of Education offers a minor and an honors program at the undergraduate level. Further information about these programs can be found at the Graduate School of Education (<https://ed.stanford.edu/academics/undergraduate>) web site.

Regardless of whether they are enrolled in one of these undergraduate programs, undergraduates are also welcome in many graduate-level courses at the GSE.

Graduate Programs in Education

The Graduate School of Education offers Master of Arts and Doctor of Philosophy degrees in several programs (see "Master's" and "Doctoral" tabs on this page). University and Graduate School of Education requirements must be met for each degree. The

University requirements are detailed in the "Graduate Degrees (<http://exploreddegrees.stanford.edu/graduatedegrees>)" section of this bulletin. Students are urged to read this section carefully, noting residency, tuition, and registration requirements. A student who wishes to enroll for graduate work in the Graduate School of Education must be admitted to graduate standing by one of the school's area committees and with the approval of the Associate Dean of Student Affairs. All Graduate School of Education courses are intended for matriculated students in degree programs only.

Complete information about admissions procedures and requirements is available from Graduate Admissions (<http://studentaffairs.stanford.edu/gradadmissions>), or at the Graduate School of Education (<https://ed.stanford.edu/admissions>) web site. All applicants, except coterminal applicants, must submit scores from the Graduate Record Examination General Test (verbal, quantitative, and analytical or analytical writing areas); TOEFL scores are also required from those whose first language is not English. Applicants to the Stanford Teacher Education Program (STEP) are also required to submit specific test scores or acceptable equivalents as required by the California Commission on Teacher Credentialing; see the section on STEP. Test information is available at the Graduate School of Education (<https://ed.stanford.edu/admissions>) web site.

Honors Program in Education

The Honors Program in Education is available to undergraduates to supplement their declared majors by applying their studies to a research project inspired by their interests in education. This program enables qualified undergraduates at Stanford to extend the training in their major field of study by pursuing education courses and undertaking a supervised research thesis in a related area in the study of education. Students apply for entry during either the Autumn or Winter Quarter of their junior year. Application information can be found at the Graduate School of Education (<https://ed.stanford.edu/academics/undergraduate/honors>) web site. The current director of the honors program is John Willinsky, Khosla Family Professor of Education.

Near the end of Spring Quarter of their honors program, successful candidates for honors present brief reports of their research at a mini-conference that all the honors students in Education, as well as other members of the academic community, are invited to attend.

Required Coursework:

1. Students are required to enroll in the Undergraduate Honors Seminar during their senior year: EDUC 199A (Autumn, 3 units), EDUC 199B (Winter, 1 unit), and EDUC 199C (Spring, 1 unit)
2. Students are required to enroll in Honors Research (EDUC 140) with their adviser during Winter and Spring quarters of their senior year. The number of units is to be determined in consultation with the faculty adviser.
3. Students must also complete a minimum of 3 courses taken for a minimum of 3 units each in Education (EDUC units) before the end of their senior year. All courses must be taken for a letter grade and must be approved by the honors director.

Minor in Education (Undergraduate)

The Graduate School of Education awards an undergraduate minor in the field of Education. The minor is structured to provide a substantial introduction to education through a broad-based and focused study of educational research, theory and practice. The goals of the minor are to allow undergraduates to develop an understanding of the core issues facing educators and policymakers, to make connections to their major programs of study, and to provide rigorous preparation for graduate studies in education.

Students interested in pursuing an undergraduate minor in Education begin by contacting the minor director (Jennifer Lynn Wolf, jlwolf@stanford.edu (jlwolf@stanford.edu)), who is responsible for advising all candidates and approving each student's minor plan of study. Applications for the minor are due no later than the second quarter of the junior year.

The Education minor requires three core courses to ensure coverage of the field disciplines, while offering flexibility for students pursuing specific interests. In order to graduate with a minor in Education, undergraduates must complete the minor program of study as described here, for a total of not less than 20 units and not more than 30 units, with a minimum of six courses.

Course Requirements and Distribution

- All minor students are required to take the minor core course:

EDUC 101	Introduction to Teaching and Learning	4
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- All students are also required to take two of the following foundational courses:

EDUC 103B	Race, Ethnicity, and Linguistic Diversity in Classrooms: Sociocultural Theory and Practices	3-5
EDUC 110	Sociology of Education: The Social Organization of Schools	4
EDUC 120C	Education and Society	4-5
EDUC 201	History of Education in the United States	3-5
EDUC 204	Introduction to Philosophy of Education	3

- Each student identifies a subfield of study in which to take at least three elective courses. Established subfields of study within the Graduate School of Education include: Teaching and Learning; Education Research and Policy; and Educational Technology. Suitable elective courses include:

- Subfield 1: Teaching and Learning—

EDUC 103A	Tutoring: Seeing a Child through Literacy	4
EDUC 111	The Young Adult Novel: A Literature For and About Adolescents	4
EDUC 112	Urban Education	3-4
EDUC 121	Hip Hop, Youth Identities, and the Politics of Language	3-4
EDUC 149	Theory and Issues in the Study of Bilingualism	3-5
EDUC 171	Preschool Counts: Engaging Young Children in Math	1-3
EDUC 256	Psychological and Educational Resilience Among Children and Youth	4
EDUC 357	Science and Environmental Education in Informal Contexts	3-4

- Subfield 2: Education Research and Policy—

EDUC 117	Research and Policy on Postsecondary Access	3
EDUC 121	Hip Hop, Youth Identities, and the Politics of Language	3-4
EDUC 165	History of Higher Education in the U.S.	3-5
EDUC 197	Education, Gender, and Development	4
EDUC 218	Topics in Cognition and Learning: Technology and Multitasking	3
EDUC 277	Education of Immigrant Students: Psychological Perspectives	4

- Subfield 3: Learning Design and Technology—

		Units
EDUC 139	Educating Young STEM Thinkers	3-5
EDUC 303	Designing Learning Spaces	3-4
EDUC 328	Topics in Learning and Technology: Core Mechanics for Learning	3
EDUC 333A	Understanding Learning Environments	3
EDUC 342	Child Development and New Technologies	3

- Course work completed for the Education Minor must meet the following criteria:

- All courses must be taken for a letter grade.
- All courses must be completed with a minimum GPA of 3.0.
- Courses used to fulfill the minor may not be used to fulfill any other department degree requirements (major or minor).
- All courses must be taken at Stanford University.

Units

Coterminal Master's Program in Education

The Graduate School of Education admits a limited number of students from undergraduate departments within the University into a coterminal master's program. For information about the coterminal option through the Stanford Teacher Education Program (STEP), see the details under STEP (<https://ed.stanford.edu/step>). Students in a coterminal program receive the bachelor's degree in their undergraduate major and the master's degree in Education. Approval of the student's undergraduate department and admission to the Graduate School of Education's M.A. program are required. Undergraduates may apply when they have completed at least 120 units toward graduation (UTG). The number of units required for the M.A. degree depends on the program requirements; see the Master's Handbook (<https://ed.stanford.edu/academics/masters-handbook>) for additional information.

Units

Applicants may learn more about the GSE's coterminal application process from the Graduate School of Education's (<https://ed.stanford.edu/admissions/application-reqs>) web site. For University coterminal master's degree application forms, see the Registrar's Publications page (<https://studentaffairs.stanford.edu/registrar/publications>).

Units

University Coterminal Requirements

Coterminal master's degree candidates are expected to complete all master's degree requirements as described in this bulletin. University requirements for the coterminal master's degree are described in the "Coterminal Master's Program (<http://exploreddegrees.stanford.edu/cotermdegrees>)" section. University requirements for the master's degree are described in the "Graduate Degrees (<http://exploreddegrees.stanford.edu/graduatedegrees/#masterstext>)" section of this bulletin.

After accepting admission to this coterminal master's degree program, students may request transfer of courses from the undergraduate to the graduate career to satisfy requirements for the master's degree. Transfer of courses to the graduate career requires review and approval of both the undergraduate and graduate programs on a case by case basis.

Units

In this master's program, courses taken three quarters prior to the first graduate quarter, or later, are eligible for consideration for transfer to the graduate career. No courses taken prior to the first quarter of the sophomore year may be used to meet master's degree requirements.

Course transfers are not possible after the bachelor's degree has been conferred.

The University requires that the graduate adviser be assigned in the student's first graduate quarter even though the undergraduate career may still be open. The University also requires that the Master's Degree

Program Proposal be completed by the student and approved by the department by the end of the student's first graduate quarter.

Master of Arts in Education

The M.A. degree is conferred upon fulfillment of degree requirements and by recommendation of the faculty of the Graduate School of Education. Depending on the specialization (please see below), students must complete a minimum of 45-48 units at Stanford, and 27-36 units in the Graduate School of Education (EDUC units) to receive a master's degree in Education. All M.A. students must maintain a grade point average (GPA) of 3.0 or better in courses applicable to the degree. Master's students should obtain detailed program requirements from the Master's Handbook (<https://ed.stanford.edu/academics/masters-handbook>). Additional detailed information regarding program content and degree requirements is available at the Graduate School of Education's (<https://ed.stanford.edu/admissions/application-reqs>) website.

The Graduate School of Education offers Master of Arts degrees in the following specializations:

- Curriculum and Teacher Education. (CTE) (This is not a credentialing program; see STEP below.)
- International Comparative Education (ICE)
- International Education Policy Analysis (IEPA)
- Joint Degree with Graduate School of Business (M.A./M.B.A.)
- Joint Degree with Law School (M.A./J.D.)
- Joint Degree with Public Policy Program (M.A./M.P.P.)
- Learning, Design, and Technology (LDT)
- Policy, Organization, and Leadership Studies (POLS)

In addition, an M.A. degree with a teaching credential is offered in the Stanford Teacher Education Program.

Stanford Teacher Education Program (STEP)

STEP is a 12-month, full-time program leading to a Master of Arts and a preliminary California teaching credential. STEP offers a Master of Arts in Education that prepares program graduates for careers as teachers in single or multiple subject classrooms. STEP Elementary prepares students to become teachers in multiple subject classrooms. STEP Secondary prepares students to become teachers of English, World Languages (French, German, Japanese, Mandarin, Spanish), Mathematics, Science (biology, chemistry, earth science, physics), and History/Social Science. STEP seeks to prepare and support teacher candidates to work with diverse learners to achieve high intellectual, academic, and social standards by creating equitable and successful schools and classrooms.

The 12-month STEP year begins in June with a summer quarter of intensive academic preparation and placement in a local summer school. During the academic year, students continue their course work and begin year-long field placements under the guidance of expert teachers in local schools. The Master of Arts and teaching credential require a minimum of 45 quarter units, taken during four quarters of continuous residency.

Stanford undergraduates who enroll in STEP through the coterminal program must complete their undergraduate coursework and have their bachelor's degree conferred prior to beginning in the STEP year. Coterminal STEP students graduate with a Master of Arts in Education and a recommendation for a preliminary California teaching credential.

Applicants to STEP Elementary are required to meet the basic skills requirement by one of the following methods: pass the California Basic Educational Skills Test (CBEST), an approved out of state basic skills exam, the CSET: Writing Skills or achieve qualifying scores on the SAT, ACT or AP examinations. Applicants must also pass the California

Multiple Subject Examination for Teachers (CSET), and the Reading Instruction Competence Assessment Test (RICA).

Applicants to STEP Secondary are required to meet the basic skills requirement by one of the following methods: pass the California Basic Educational Skills Test (CBEST), an approved out of state basic skills exam, or achieve qualifying scores on the SAT, ACT or AP examinations. Additionally, applicants must demonstrate subject matter competence in one of two ways:

1. by passing the California Subject Examination for Teachers (CSET) in their content area; or
2. by completing a California state-approved subject matter preparation program.

Further information regarding admission requirements, course work, and credential requirements is available at the Stanford Teacher Education Program web site. (<https://gse-step.stanford.edu>)

Doctoral Degrees in Education

The Graduate School of Education offers the Doctor of Philosophy (Ph.D.) degree in all program area committees. The degree is conferred by the University upon recommendation by the faculty of the Graduate School of Education and the University Committee on Graduate Studies. The Ph.D. requires a minimum of 135 units of course work and research completed at Stanford beyond the baccalaureate degree. Students may transfer up to 45 units of graduate course work. Students must consult with the doctoral programs officer if they intend to transfer prior course work. Students must maintain a grade point average (GPA) of 3.0 (B) or better in courses applicable to the degree.

Students should note that admission to the doctoral program does not constitute admission to candidacy for the degree. Students must qualify and apply for candidacy by the end of their second year of study and should obtain information about procedures and requirements during their first year from the doctoral programs officer in Cubberley 135.

The Ph.D. degree is designed for students who are preparing for research work in public school systems, branches of government, or specialized institutions; teaching roles in education in colleges or universities, and research connected with such teaching; or other careers in educational scholarship and research.

Ph.D. students must complete a minor in another discipline taught outside the school, or hold an acceptable master's degree outside the field of education, or complete an approved individually designed distributed minor that combines relevant advanced work taken in several disciplines outside the school.

Upon admission, the admitting area committee assigns an initial adviser from its faculty who works with the student to establish an appropriate and individualized course of study, a relevant minor, and project research plans. Other faculty members may also be consulted in this process. Details about administrative and academic requirements for each area committee and the Graduate School of Education, along with the expected time frame to complete program milestones, are given in the publication Graduate School of Education Doctoral Degree Handbook, available for download at <http://ed.stanford.edu/academics/doctoral-handbook>.

The following doctoral specializations, with their sponsoring area and concentration, are offered:

- Anthropology of Education (SHIPS)
- Developmental and Psychological Sciences (DAPS)
- Economics of Education (SHIPS)
- Educational Linguistics (SHIPS)
- Educational Policy (SHIPS)

- Elementary Education (CTE)
- Higher Education (SHIPS)
- History/Social Science Education (CTE)
- History of Education (SHIPS)
- International Comparative Education (SHIPS)
- Learning Sciences and Technology Design (CTE, DAPS, SHIPS)
- Linguistics (SHIPS)
- Literacy, Language, and English Education (CTE)
- Mathematics Education (CTE)
- Organizational Studies (SHIPS)
- Philosophy of Education (SHIPS)
- Race, Inequality, and Language in Education (SHIPS)
- Science Education (CTE)
- Sociology of Education (SHIPS)
- Teacher Education (CTE)

Ph.D. Minor in Education

Candidates for the Ph.D. degree in other departments or schools of the University may elect to minor in Education. Requirements include a minimum of 20 quarter units of graduate course work in Education and a field of concentration. Students choosing to minor in Education should meet with the Associate Dean for Student Affairs to determine a suitable course of study early in their program.

Emeriti: (Professors) J. Myron Atkin, John Baugh, Edwin M. Bridges, Larry Cuban, James Greeno, Pam Grossman, Edward Haertel, Kenji Hakuta, Linda Darling-Hammond, Connie Juel, Michael Kamil, Michael W. Kirst, Henry M. Levin, Rachel Lotan, James G. March, William F. Massy, Milbrey McLaughlin, Nel Noddings, Denis C. Phillips, Thomas Rohlen, Richard J. Shavelson, Lee S. Shulman, Claude Steele, Myra H. Strober, Carl E. Thoresen, David B. Tyack, Decker F. Walker, Hans Weiler

Dean: Dan Schwartz

Associate Dean for Faculty Affairs: Tom Dee

Associate Dean for Student Affairs: Bryan Brown

Senior Associate Dean for Administration: Geoff Cox

Associate Dean for External Relations: Heather Trippel

Assistant Dean for Academic Services: Shu-Ling Chen

Assistant Dean for HR, Faculty Affairs, Facilities, and Admin Support: Priscilla Fiden

Assistant Dean for Information Technology and CTO: Paul Kim

Professors: H. Samy Alim, Arnetha Ball, Adam J. Banks, Brigid J. Barron, Jo Boaler, Hilda Borko, Eamonn Callan, Martin Carnoy, Geoffrey Cohen, William Damon, Tom Dee, Claude Goldenberg, Patricia J. Gumpert, David F. Labaree, Teresa D. LaFromboise, Susanna Loeb, Bruce D. McCandliss, Raymond P. McDermott, Daniel A. McFarland, Jonathan Osborne, Amado M. Padilla, Roy Pea, Walter Powell, Francisco O. Ramirez, Sean Reardon, Daniel Schwartz, Guillermo Solano-Flores, Deborah J. Stipek, Guadalupe Valdés, Carl Wieman, John Willinsky, Sam Wineburg

Associate Professors: Anthony L. Antonio, Nicole M. Ardoin, Eric Bettinger, Bryan Brown, Ari Y. Kelman, David Rogosa, Maria Araceli Ruiz-Primo, Mitchell Stevens

Assistant Professors: Maren Songmy Aukerman, Paulo Blikstein, Patricia Bromley, Benjamin Domingue, Leah Gordon, Jennifer Langer-Osuna, Sarah R. Levine, Ramón Antonio Martínez, Jelena Obradović, Jonathan Rosa, Candace Thille

Professors (Teaching): Shelley Goldman

Associate Professors (Teaching): David Brazer, Ira Lit, Peter Williamson, Christine Min Wotipka

Professor (Research): David Plank

Associate Professor (Research): Janet Carlson

Assistant Professor (Research): Michelle Reininger, Prashant Loyalka

Courtesy Professors: Jeremy Bailenson, Richard Banks, Stephen Barley, Albert Camarillo, Carol Dweck, Eric Hanushek, John C. Mitchell, Terry Moe, Brad Osgood, Byron Reeves, Robert Reich, John Rickford, Cecilia Ridgeway, Caroline Winterer

Courtesy Associate Professors (Teaching): Shashank Joshi

Courtesy Professor (Teaching): Don Barr, William Koski

Senior Lecturers: Gay Hoagland, Denise Pope, Ann Porteus, Jennifer Wolf

Courses

EDUC 9. Public Service Internship Preparation. 1 Unit.

Are you prepared for your internship this summer? This workshop series will help you make the most of your internship experience by setting learning goals in advance; negotiating and communicating clear roles and expectations; preparing for a professional role in a non-profit, government, or community setting; and reflecting with successful interns and community partners on how to prepare sufficiently ahead of time. You will read, discuss, and hear from guest speakers, as well as develop a learning plan specific to your summer or academic year internship placement. This course is primarily designed for students who have already identified an internship for summer or a later quarter. You are welcome to attend any and all workshops, but must attend the entire series and do the assignments for 1 unit of credit.

Same as: ARTSINST 40, EARTHYSYS 9, HUMBIO 9, PUBLPOL 74, URBANST 101

EDUC 11SC. Work and Family. 2 Units.

Examination into the forces behind the rise in women's paid work and subsequent changes in the workplace and in families. Topics include gendered division of labor, decisions about marriage and childrearing, economic issues, employers' role in structuring work and family, and public policy issues such as anti-discrimination laws, divorce laws, and subsidized child care.

EDUC 12SC. Hip Hop as a Universal Language. 2 Units.

This seminar-cipher considers the prospect of Hip Hop as a Universal Language. Hip Hop Culture has captured the minds of youth "all around the world, from Japan to Amsterdam" (like the homie Kurupt says), shaping youth identities, styles, attitudes, languages, fashions, and both physical and political stances. The field of global Hip Hop studies has emerged as scholars around the world grapple with what is arguably the most profound cultural, musical, and linguistic youth movement of the early 21st century. Participants in this seminar-cipher will be engaged in critical discussions around a particular constellation of concerns: Hip Hop Cultures, youth identities, the politics of language, race, and ethnicity, and the simultaneous processes of globalization and localization. Through the examination of various texts (scholarly readings, documentary films, guest speakers and artists), we span the Global Hip Hop Nation through scenes as diverse as Hong Kong's urban center, Germany's Mannheim inner-city district of Weststadt, the Brazilian favelas, the streets of Lagos and Dar es Salaam, and the hoods of the San Francisco Bay Area to explore Hip Hop's global linguistic flows.

EDUC 13SC. Language, Identity, and the Power of Public Discourse. 2 Units.

Have you ever engaged in a conversation with someone who sounds different than you expect? This course explores instances like those that highlight the interaction between language and identity and its implications for learning. The theme of language and identity emerges as significant because of the subtle yet powerful impact it has on our cultural interactions. We have an inherent expectation of how we expect people to communicate. Yet, do these expectations interfere with teaching and learning practices? Many individuals take seminars and classes that focus on teaching professional modes of communication and discourse. This course will offer a detailed examination of scholarship that investigates the power of the subtle messages embedded in language. In addition, to gain a sense of the power of these interactions in practice, we will engage in the following research activities: (a) Participants will engage in school site visits to examine these interactions in practice; (b) Participants will engage in critical interviews of broadcasters at a local television station to discuss the role of language and identity in their presentation; and (c) We will visit a recording studio to discuss the role of language and identity with local hip-hop producers and artists.

EDUC 14SC. Public Education and Schooling: The Great Equalizer or the Fiercely Competitive Field?. 2 Units.

Everyone seems to have an opinion about the American educational landscape. After all, we all have attended schools of various sorts, which help to shape our understandings about education. Yet, the political, social, and cultural terrains are ever-changing, especially within public education. This seminar will focus on some of the main current issues in U.S. urban schools. This course will take an interdisciplinary approach to examining major issues facing public schools today and to discussing effective policies and practices. There are two main components to the seminar: first, students will engage in a review of current educational research and policy; and second, they will conduct some service learning activity in a local, low-income public high school. In small groups, students will co-design projects that both draw on ideas generated from their readings and discussions and involve local high school students and educators. Through various lenses, we will survey the landscape of urban education in the United States and explore myriad theories or explanations for existing conditions, crises, and policies. Students will read a number of works that focus on the multiple environs of the educational system; the economy, the political context, the demands of accountability and standardization, residential patterns, and social and cultural relationships. Such explanations and issues may transcend U.S. boundaries and could be applicable in multiple contemporary urban education settings.

EDUC 32. The 5th Element: Hip Hop Knowledge, Pedagogy, and Social Justice. 1-5 Unit.

This course-series brings together leading scholars with critically-acclaimed artists, local teachers, youth, and community organizations to consider the complex relationships between culture, knowledge, pedagogy and social justice. Participants will examine the cultural meaning of knowledge as "the 5th element" of Hip Hop Culture (in addition to MCing, DJing, graffiti, and dance) and how educators and cultural workers have leveraged this knowledge for social justice. Overall, participants will gain a strong theoretical knowledge of culturally relevant and culturally sustaining pedagogies and learn to apply this knowledge by engaging with guest artists, teachers, youth, and community youth arts organizations.

Same as: AFRICAAM 32, AMSTUD 32, CSRE 32A, EDUC 432, TAPS 32

EDUC 98. Service Learning Practicum. 1 Unit.

For Alternative Spring Break program leaders. The skills and philosophical framework to develop and lead an ASB experience.

EDUC 100A. EAST House Seminar: Current Issues and Debates in Education. 1 Unit.

Education and Society Theme (EAST) House seminar. In autumn quarter, faculty and other scholars from around the University discuss the latest issues, debates, and research in the field of Education. In winter quarter, research and practice pertaining to sex, gender, and education are presented by professionals and scholars. In the spring, the seminar provides an inquiry into the culture at Stanford and one's personal values. Through an examination of these topics, students are able to share and develop their varied interests in educational research, policy, and practice. Notes: Attendance at first class required. Seminar meets in the EAST House Dining Hall located at 554 Governor's Ave. The seminar is open to all students at Stanford with first-priority given to pre-assign residents of EAST House followed by other residents of EAST and all other undergraduates. Graduate students are allowed to enroll on a space-available basis. Visitors/auditors are not allowed. The seminar is required for all pre-assigned residents of EAST House and is repeatable for credit.

EDUC 100B. EAST House Seminar: Current Issues and Debates in Education. 1 Unit.

Education and Society Theme (EAST) House seminar. In autumn quarter, faculty and other scholars from around the University discuss the latest issues, debates, and research in the field of Education. In winter quarter, research and practice pertaining to sex, gender, and education are presented by professionals and scholars. In the spring, the seminar provides an inquiry into the culture at Stanford and one's personal values. Through an examination of these topics, students are able to share and develop their varied interests in educational research, policy, and practice. Notes: Attendance at first class required. Seminar meets in the EAST House Dining Hall located at 554 Governor's Ave. The seminar is open to all students at Stanford with first-priority given to pre-assign residents of EAST House followed by other residents of EAST and all other undergraduates. Graduate students are allowed to enroll on a space-available basis. Visitors/auditors are not allowed. The seminar is required for all pre-assigned residents of EAST House and is repeatable for credit.

EDUC 100C. EAST House Seminar: Discussions on race and higher education. 1-2 Unit.

Race is an endemic aspect of American higher education, from the founding of the colonial colleges for the education of young, white male elite to affirmative action in college admissions and more recently, student activism such as #blacklivesmatter. This one hour seminar will be a space to discuss current movements and issues with the framing of various scholarly treatments of race and education as a guide. Each week we will focus on one reading and one topic. Topics include: multicultural communities; the campus racial climate; affirmative action in college admissions; multiculturalism and the curriculum; and faculty diversity. Notes: Attendance at first class required. Seminar meets in the EAST House Dining Hall located at 554 Governor's Ave. The seminar is open to all students at Stanford with first-priority given to pre-assign residents of EAST House followed by other residents of EAST and all other undergraduates. Graduate students are allowed to enroll on a space-available basis. Visitors/auditors are not allowed. The seminar is required for all pre-assigned residents of EAST House and is repeatable for credit.

EDUC 101. Introduction to Teaching and Learning. 4 Units.

This course is designed to help undergraduates explore career interests in education; it is the core course for the Undergraduate Minor in Education, and fulfills requirements for Honors in Education. The course considers the philosophy, history, politics, professional practice and social structures of teaching in the United States. Students will read and discuss teaching theory and research, participate in learning activities and visit school teaching sites, as well as examine and analyze artifacts and models of teaching.

EDUC 102. Examining Social Structures, Power, and Educational Access. 2-3 Units.

Goal is to prepare Education and Youth Development fellows for their work with adolescents in the Haas Center's pre-college summer programs and to define their role in addressing educational inequities in the summer programs and beyond.

EDUC 103A. Tutoring: Seeing a Child through Literacy. 3-4 Units.

Experience tutoring grade school readers in a low income community near Stanford under supervision. Training in tutoring; the role of instruction in developing literacy; challenges facing low income students and those whose first language is not English. How to see school and print through the eyes of a child. Ravenswood Reads tutors encouraged to enroll. Service Learning Course (certified by Haas Center). May be repeated for credit.

Same as: EDUC 203A

EDUC 103B. Race, Ethnicity, and Linguistic Diversity in Classrooms: Sociocultural Theory and Practices. 3-5 Units.

Focus is on classrooms with students from diverse racial, ethnic and linguistic backgrounds. Studies, writing, and media representation of urban and diverse school settings; implications for transforming teaching and learning. Issues related to developing teachers with attitudes, dispositions, and skills necessary to teach diverse students.

Same as: AFRICAAM 106, CSRE 103B, EDUC 337

EDUC 104. Introduction to the Profession of Teaching. 3 Units.

This course explores the profession of teaching through an internship in a local elementary or high school classroom. Students will observe and assist instruction for four hours per week. In class, students will read, discuss, and respond to theory and research related to teaching. The course is open to all undergraduates with an interest in the teaching profession; and it may be especially useful for students who are considering entering the profession of teaching and wish to spend time in a classroom. No prior experience in teaching is required.

EDUC 106. Interactive Media in Education. 3-5 Units.

Workshop.

EDUC 107. Education and Inequality: Big Data for Large-Scale Problems. 3-5 Units.

In this course, students will use data from the Stanford Education Data Archive (SEDA) to study the patterns, causes, consequences, and remedies of educational inequality in the US. SEDA is based on 200 million test score records, administrative data, and census data from every public school, school district, and community in the US. The course will include lectures, discussion, and small group research projects using SEDA and other data.

Same as: EDUC 207, SOC 107E, SOC 205

EDUC 109. Educational Issues in Contemporary China. 3-4 Units.

Reforms such as the decentralization of school finance, emergence of private schools, expansion of higher education, and reframing of educational policy to focus on issues of quality. Have these reforms exacerbated educational inequality.

Same as: EDUC 309

EDUC 110. Sociology of Education: The Social Organization of Schools. 4 Units.

Seminar. Key sociological theories and empirical studies of the links between education and its role in modern society, focusing on frameworks that deal with sources of educational change, the organizational context of schooling, the impact of schooling on social stratification, and the relationships between the educational system and other social institutions such as families, neighborhoods, and the economy.

Same as: EDUC 310, SOC 132, SOC 332

EDUC 111. The Young Adult Novel: A Literature For and About Adolescents. 4 Units.

For undergraduates considering teaching or working with adolescents, and for those planning to apply to the coterminal program in the Stanford Teacher Education program (STEP). Students work together to define the genre of young adult novels. What they reveal about adolescence in America. How to read and teach young adult literature.

EDUC 112. Urban Education. 3-4 Units.

(Graduate students register for EDUC 212 or SOC 229X). Combination of social science and historical perspectives trace the major developments, contexts, tensions, challenges, and policy issues of urban education. Same as: AFRICAAM 112, CSRE 112X, EDUC 212, SOC 129X, SOC 229X

EDUC 113N. Mix | Remix | Mixtape: Writing and Reading DJ Culture. 3 Units.

This course looks at the DJ as a crucial figure, a rhetor even, who influences both US and world culture and examines the DJ's practices as writing practices. From there we ask how other kinds of writing-public, academic, creative-can be informed by DJs and DJ culture. We will study specific practices like scratching, remixing, and the mixtape as well as different approaches and spaces in which DJs have shaped culture, from disco to Hip Hop to world music, from radio DJs to party DJs to beat-juggling and turntablism.

EDUC 114N. Growing Up Bilingual. 3 Units.

This course is a Freshman Introductory Seminar that has as its purpose introducing students to the sociolinguistic study of bilingualism by focusing on bilingual communities in this country and on bilingual individuals who use two languages in their everyday lives. Much attention is given to the history, significance, and consequences of language contact in the United States. The course focuses on the experiences of long-term US minority populations as well as that of recent immigrants. Same as: CHILATST 14N, CSRE 14N

EDUC 115N. How to Learn Mathematics. 3 Units.

What is going on in mathematics education in the United States? Why do so many people hate and fear math? What contributes to the high levels of innumeracy in the general population? Why do girls and women opt out of math when they get a chance? In this seminar we will consider seminal research on math learning in K-12 classrooms, including a focus on equity. We will spend time investigating cases of teaching and learning, through watching videos and visiting schools. This seminar is for those who are interested in education, and who would like to learn about ways to help students (and maybe yourselves?) learn and enjoy mathematics. If you have had bad math experiences and would like to understand them and put them behind you, this seminar will be particularly good for you. The final project for this class will involve developing a case of one or more math learners, investigating their journeys in the world of math.

EDUC 116. Service Learning as an Approach to Teaching. 3 Units.

History, theory, and practice. Topics include: responsive community partnerships, cultural awareness, the role of reflection, and best practices in service learning.

EDUC 116N. Howard Zinn and the Quest for Historical Truth. 3 Units.

With more than two million copies in print, Howard Zinn's *A People's History* is a cultural icon. We will use Zinn's book to probe how we determine what was true in the past. A People's History will be our point of departure, but our journey will visit a variety of historical trouble spots: debates about whether the US was founded as a Christian nation, Holocaust denial, and the "Birther" controversy of President Obama.

Same as: HISTORY 116N

EDUC 117. Research and Policy on Postsecondary Access. 3 Units.

The transition from high school to college. K-16 course focusing on high school preparation, college choice, remediation, pathways to college, and first-year adjustment. The role of educational policy in postsecondary access. Service Learning Course (certified by Haas Center).

Same as: EDUC 417

EDUC 117N. Losing My Religion: Secularism and Spirituality in American Lives. 2-4 Units.

In this seminar you will explore theory and practice, sociological data, spiritual writing, and case studies in an effort to gain a more nuanced understanding about how religion, spirituality, and secularism attempt to make legible the constellation of concerns, commitments, and behaviors that bridge the moral and the personal, the communal and the national, the sacred, the profane, and the rational. Together we will cultivate critical perspectives on practices and politics, beliefs and belonging that we typically take for granted.

Same as: AMSTUD 117N, RELIGST 117N

EDUC 118S. Designing Your Stanford. 2 Units.

DYS uses a Design Thinking approach to help Freshmen and Sophomores learn practical tools and ideas to make the most of their Stanford experience. Topics include the purpose of college, major selection, educational wayfinding, and innovating college outcomes - all applied through an introduction to Design Thinking. This seminar class incorporates small group discussion, in-class activities, field exercises, personal reflection, and individual coaching. Admission to be confirmed by email to ACESS registered students prior to first class session.

Same as: ME 104S

EDUC 119S. History of American Indian Education. 5 Units.

How the federal government placed education at the center of its Indian policy in second half of 19th century, subjecting Native Americans to programs designed to erase native cultures and American Indian responses to those programs. Topics include traditional Indian education, role of religious groups, Meriam Report, Navajo-Hopi Rehabilitation Act, Johnson-O'Malley Act, and public schools.

Same as: EDUC 429S, NATIVEAM 119S

EDUC 120. Sociology of Science. 3-4 Units.

The sociology of science concerns the social structures and practices by which human beings interpret, use and create intellectual innovations. In particular we will explore the claim that scientific facts are socially constructed and ask whether such a characterization has limits. Course readings will concern the formation and decline of various thought communities, intellectual social movements, scientific disciplines, and broader research paradigms. A special focus will be placed on interdisciplinarity as we explore whether the collision of fields can result in new scientific advances. This course is suitable to advanced undergraduates and doctoral students.

Same as: EDUC 320, SOC 330

EDUC 120C. Education and Society. 4-5 Units.

The effects of schools and schooling on individuals, the stratification system, and society. Education as socializing individuals and as legitimizing social institutions. The social and individual factors affecting the expansion of schooling, individual educational attainment, and the organizational structure of schooling.

Same as: EDUC 220C, SOC 130, SOC 230

EDUC 121. Hip Hop, Youth Identities, and the Politics of Language. 3-4 Units.

Focus is on issues of language, identity, and globalization, with a focus on Hip Hop cultures and the verbal virtuosity within the Hip Hop nation. Beginning with the U.S., a broad, comparative perspective in exploring youth identities and the politics of language in what is now a global Hip Hop movement. Readings draw from the interdisciplinary literature on Hip Hop cultures with a focus on sociolinguistics and youth culture.

Same as: AFRICAAM 121X, AMSTUD 121X, ANTHRO 121A, CSRE 121X, LINGUIST 155

EDUC 123. Community-based Research As Tool for Social Change: Discourses of Equity in Communities & Classrooms. 3-5 Units.

Issues and strategies for studying oral and written discourse as a means for understanding classrooms, students, and teachers, and teaching and learning in educational contexts. The forms and functions of oral and written language in the classroom, emphasizing teacher-student and peer interaction, and student-produced texts. Individual projects utilize discourse analytic techniques.

Same as: AFRICAAM 130, CSRE 130, EDUC 322

EDUC 126A. Introduction to Public Service Leadership. 1-2 Unit.

Offered through the Haas Center for Public Service. A foundation and vision for a future of public service leadership. Students identify personal values and assess strengths as leaders. The ethics of public service and leadership theory.

EDUC 126B. Public Service Leadership Program Practicum. 1 Unit.

This course is for students in the Public Service Leadership Program offered through the Haas Center for Public Service. The PSLP Practicum provides an opportunity for PSLP students to reflect on their own leadership experiences and to learn from each other's leadership experiences while continuing to build a community of peer service leaders. The PSLP Practicum will meet every other week throughout the quarter.

EDUC 127. The Wellbeing of Children in Immigrant Families. 2 Units.

This course will examine the many factors that affect the social, educational, and medical wellbeing of children in immigrant families. It will do so through a case study of the immigrant children who currently live in the Buena Vista Mobile Home Park in Palo Alto. The course will approach this issue from a Service-Learning perspective, and will be a collaboration between faculty and students from Stanford and the leaders of the Buena Vista residents association. The course will meet once a week for 90 minutes during the winter quarter. In addition, each student will spend 3-4 hours per week meeting with residents of the Buena Vista Mobile Home Park. To the extent possible, and with parents' knowledge and permission, students will interact with and get to know the children who live in the park, with a focus on children in school grades 6-12.

EDUC 128. Professional and Leadership Development for Frosh. 1-2 Unit.

As frosh often have difficulty finding relevant job/internships at this early stage in their education, this course represents a more thorough and direct approach to professional and leadership development. As a small cohort within Stern Hall, we will begin early discussion of career interests and exploration, develop an understanding of individual leadership styles, and garner professional leadership skill sets relevant to myriad sectors and resources to aid in this process. Final projects will work toward off site visits during spring break to explore these sectors hands-on and discuss content learned in class with key industry leaders.

EDUC 130. Introduction to Counseling. 3 Units.

The goal of counseling is to help others to create more satisfying lives for themselves. Clients learn to create and capitalize on unexpected events to open up new opportunities. The success of counseling is judged, not by the words and actions of the counselor, but by the progress that the client makes in the real world after counseling itself is ended. Students are encouraged to exert their full efforts within reasonable time limits to improve their competence.

EDUC 131. Mediation for Dispute Resolution. 3 Units.

Mediation as more effective and less expensive than other forms of settling disputes such as violence, lawsuits, or arbitration. How mediation can be structured to maximize the chances for success. Simulated mediation sessions.

Same as: PSYCH 152

EDUC 133N. The Role of Language in Education and Society. 3 Units.

The goal of this course is to explore the various issues affecting educational policy and classroom practice in multilingual, multicultural settings. In this class we will examine US and international cases to illustrate more general concerns relating to learners' bilingual/multilingual development in formal educational settings. We begin at the macro level, looking at policy contexts and program structures, and move to the micro level to consider teaching and learning in the multilingual classroom. Throughout, we consider how discourses and identities are interwoven in multilingual education policy and practice. We will also consider the role of communities in implementing change in schools.

EDUC 134. Career and Personal Counseling. 3 Units.

Theories and methods for helping people create more satisfying lives for themselves. Simulated counseling experiences.
Same as: EDUC 234, PSYCH 192

EDUC 135. Designing Research-Based Interventions to Solve Global Health Problems. 3-4 Units.

The excitement around social innovation and entrepreneurship has spawned numerous startups focused on tackling world problems, particularly in the fields of education and health. The best social ventures are launched with careful consideration paid to research, design, and efficacy. This course offers students insights into understanding how to effectively develop, evaluate, and scale social ventures. Using TeachAIDS (an award-winning nonprofit educational technology social venture used in 78 countries) as a primary case study, students will be given an in-depth look into how the entity was founded and scaled globally. Guest speakers will include world-class experts and entrepreneurs in Philanthropy, Medicine, Communications, Education, and Technology. Open to both undergraduate and graduate students.
Same as: AFRICAST 135, AFRICAST 235, EDUC 335, HRP 235, HUMBIO 26, MED 235

EDUC 136. World, Societal, and Educational Change: Comparative Perspectives. 4-5 Units.

Theoretical perspectives and empirical studies on the structural and cultural sources of educational expansion and differentiation, and on the cultural and structural consequences of educational institutionalization. Research topics: education and nation building; education, mobility, and equality; education, international organizations, and world culture.
Same as: EDUC 306D, SOC 231

EDUC 136B. Curricular Public Policies for the Recognition of Afro-Brazilians and Indigenous Population. 3-4 Units.

Recently two laws in Brazil (10639/2003 and 13465/2008), which came about due to intense pressure from Black and Indigenous social movements throughout the 20th century, have introduced changes in public education curriculum policies. These new curriculum policies mandate that the study of Afro-Brazilian, African, and Indigenous histories and cultures must be taught at all educational levels including at the elementary, secondary, and post-secondary levels. As part of this mandate, educators are now directed to incorporate considerations of ethnic-racial diversity in relation to people's thinking and experiences. These policies aim to fight racism as well as other forms of discrimination, and moreover, encourage the building of more equitable pedagogies. This course will discuss past and current policies and practices in Brazilian education from the point of view of different social projects organized by Indigenous Peoples, Afro-Brazilians, Asian-Brazilians, as well as Euro-Brazilians. It will also focus on Latin American efforts to promote equity in education, as well as to articulate different points of view, and reinforce and build epistemologies that support the decolonization of thinking, behaviors, research and policies. As part of this process, the course will study the experiences of people demanding these new public policies in terms of the extent to which they were able to influence institutional structures and to establish particular policy reforms. The course will also analyze theoretical frameworks employed by opponents of these movements to resist policies that might challenge their privileged place in society. In doing this, the course will offer theoretical and methodological avenues to promote research that can counter hegemonic curricular policies and pedagogical practices. The course will be fully participatory and oriented towards generating ongoing conversations and discussion about the various issues that arose in Brazil in relation to these two recent laws. To meet these goals, we will do a close reading of relevant scholarly works, paying particular attention to their theoretical frameworks, research designs, and findings.
Same as: AFRICAAM 126B, CSRE 126B, EDUC 236B, PUBLPOL 126B

EDUC 139. Educating Young STEM Thinkers. 3-5 Units.

The course introduces students to the design thinking process, the national conversations about the future of STEM careers, and opportunities to work with middle school students and K-12 teachers in STEM-based after-school activities and intercession camps. The course is both theory and practice focused. The purpose is twofold; to provide reflection and mentoring opportunities for students to learn about pathways to STEM careers and to introduce mentoring opportunities with young STEM thinkers.
Same as: EDUC 239, ME 139, ME 231

EDUC 140. Honors Research. 1-5 Unit.

Provides opportunity for research in pursuit of senior honors theses.

EDUC 141. Counterstory and Narrative Inquiry in Literature and Education. 3 Units.

Counterstory is a method developed in critical legal studies that emerges out of the broad "narrative turn" in the humanities and social science. This course explores the value of this turn, especially for marginalized communities, and the use of counterstory as analysis, critique, and self-expression. Using an interdisciplinary approach, we examine counterstory as it has developed in critical theory, critical pedagogy, and critical race theory literatures, and explore it as a framework for liberation, cultural work, and spiritual exploration.
Same as: EDUC 341

EDUC 145. Writing Across Languages and Cultures: Research in Writing and Writing Instruction. 3-5 Units.

Theoretical perspectives that have dominated the literature on writing research. Reports, articles, and chapters on writing research, theory, and instruction; current and historical perspectives in writing research and research findings relating to teaching and learning in this area.
Same as: CSRE 243, EDUC 243

EDUC 146. Perspectives on the Education of Linguistic Minorities. 3-4 Units.

Social, political, linguistic, and pedagogical issues associated with educating students who do not speak the language or language variety of the majority society. Focus is on the U.S.; attention to minorities elsewhere. American attitudes toward linguistic and racial minorities. Educational problems of linguistically different children and non-English- or limited-English-speaking children. Approaches to solving problems.

EDUC 148. Critical Perspectives on Teaching and Tutoring English Language Learners. 3 Units.

Theoretical foundation for volunteer tutors of English language learners in urban environments working with children in school-based programs or adults in community-based settings.

EDUC 149. Theory and Issues in the Study of Bilingualism. 3-5 Units.

Sociolinguistic perspective. Emphasis is on typologies of bilingualism, the acquisition of bilingual ability, description and measurement, and the nature of societal bilingualism. Prepares students to work with bilingual students and their families and to carry out research in bilingual settings. Same as: EDUC 249

EDUC 155. First Year Reflections Seminar. 1 Unit.

Restricted to first-year undergraduates; limited enrollment. There are two options for how to participate. You can either enroll in three class weekday sessions weeks 4, 5 & 6 or one weekend section. These times provide a structured time for students to explore their identities, values, and the kind of lives they want to lead. Exercises and discussions led by faculty, staff, and upper-class student co-facilitators. Tuesday sessions will occur on 1/31, 2/7 & 2/14; Wednesday sessions will occur on 2/1, 2/8 & 2/15; Thursday sessions will occur on 2/2, 2/9 & 2/16. Weekend sections are on Sunday, 2/5, Saturday, 2/11 OR Saturday, 2/18 (Weekend sessions are longer and students only participate in one).

EDUC 157. Education & Poverty: Research & Solutions. 1 Unit.

This year-long workshop focuses on current research regarding the relationship between poverty, schooling, and educational success. Invited speakers will discuss current research and strategies for improving the educational outcomes of low-income students. Students will read and discuss current research and discuss current strategies for improving education for low-income students. Students may enroll for one quarter at a time or for the entire year.

EDUC 165. History of Higher Education in the U.S.. 3-5 Units.

Major periods of evolution, particularly since the mid-19th century. Premise: insights into contemporary higher education can be obtained through its antecedents, particularly regarding issues of governance, mission, access, curriculum, and the changing organization of colleges and universities.

Same as: AMSTUD 165, EDUC 265, HISTORY 158C

EDUC 170. Preparation for Independent Public Service Projects. 1 Unit.

Open only to recipients of the Haas Summer Fellowship, which offers students the opportunity to initiate and carry out an innovative service project in collaboration with a community partner. Goal is to expand upon the work fellows did during the application process with respect to the feasibility and sustainability of their field projects.

EDUC 171. Preschool Counts: Engaging Young Children in Math. 1-3 Unit.

Restricted to students who participate in a service learning program focused on early math learning. Training for activities in preschool classrooms. Focus is on the teaching of math to young children, but also includes background on issues related to young children's cognitive, language, and social development; classroom management; cultural diversity; and early childhood education programs. May be repeated for credit.

EDUC 173. Gender and Higher Education: National and International Perspectives. 4 Units.

This course examines the ways in which higher education structures and policies affect females, males, and students in relation to each other and how changes in those structures and policies improve experiences for females and males similarly or differently. Students are expected to gain an understanding of theories and perspectives from the social sciences relevant to an understanding of the role of higher education in relation to structures of gender differentiation and hierarchy. Topics include undergraduate and graduate education; identity and sexuality; gender and science; gender and faculty; and the development of feminist scholarship and pedagogy. Attention is paid to how these issues are experienced by women and men in the United States, including people of color, and by academics throughout the world, and how these have changed over time.

Same as: EDUC 273, FEMST 173, SOC 173, SOC 273

EDUC 176. The Design of Technologies for Casual Learning - Lab. 1 Unit.

Lab. Studio-based, participatory, and user-centered development of casual learning technologies is explored, using the Apple iPhone as a prototype platform. The term "casual" is borrowed from casual gaming to denote that the learning technologies are meant for learners to use in "extreme informal" learning circumstances (while "on the go", "any time and any place"). The class builds on learning about and synthesizing knowledge, theory and development activity in four areas including learning theories, mobile technologies, games and participatory design processes.

EDUC 177A. Well-Being in Immigrant Children & Youth: A Service Learning Course. 3 Units.

This is an interdisciplinary course that will examine the dramatic demographic changes in American society that are challenging the institutions of our country, from health care and education to business and politics. This demographic transformation is occurring first in children and youth, and understanding how social institutions are responding to the needs of immigrant children and youth to support their well-being is the goal of this course.

Same as: CHILATST 177A, CSRE 177E, HUMBIO 29A

EDUC 177B. Well-Being in Immigrant Children & Youth: A Service Learning Course. 1-2 Unit.

This is an interdisciplinary course that will examine the dramatic demographic changes in American society that are challenging the institutions of our country, from health care and education to business and politics. This demographic transformation is occurring first in children and youth, and understanding how social institutions are responding to the needs of immigrant children and youth to support their well-being is the goal of this course.

Same as: CHILATST 177B, CSRE 177F

EDUC 177C. Well-Being in Immigrant Children & Youth: A Service Learning Course. 1-3 Unit.

This is an interdisciplinary course that will examine the dramatic demographic changes in American society that are challenging the institutions of our country, from health care and education to business and politics. This demographic transformation is occurring first in children and youth, and understanding how social institutions are responding to the needs of immigrant children and youth to support their well-being is the goal of this course.

Same as: CHILATST 177C, CSRE 177G

EDUC 178. Latino Families, Languages, and Schools. 3-5 Units.

The challenges facing schools to establish school-family partnerships with newly arrived Latino immigrant parents. How language acts as a barrier to home-school communication and parent participation. Current models of parent-school collaboration and the ideology of parental involvement in schooling.

Same as: EDUC 270

EDUC 180. Directed Reading in Education. 1-15 Unit.

For undergraduates and master's degree students. (All Areas).

EDUC 180S. Pre-field Course for Alternative Spring Break. 1 Unit.

Limited to students participating in the Alternative Spring Break program. See <http://asb.stanford.edu> for more inform.

EDUC 181. Multicultural Issues in Higher Education. 4 Units.

The primary social, educational, and political issues that have surfaced in American higher education due to the rapid demographic changes occurring since the early 80s. Research efforts and the policy debates include multicultural communities, the campus racial climate, and student development; affirmative action in college admissions; multiculturalism and the curriculum; and multiculturalism and scholarship.

Same as: CSRE 181, EDUC 381

EDUC 183. Practicum in English-Spanish School & Community Interpreting. 3-4 Units.

This practicum will assist students in developing a set of skills in English-Spanish interpreting that will prepare them to provide interpretation services in school and community settings. The course will build students' abilities to transfer intended meanings between two or more monolingual individuals of who are physically present in a school or community setting and who must communicate with each other for professional (and personal) purposes.

Same as: CHILATST 183X, EDUC 257

EDUC 185. Master's Thesis. 1-15 Unit.

(all areas).

EDUC 190. Directed Research in Education. 1-15 Unit.

For undergraduates and master's students. May be repeated for credit. (all areas).

EDUC 191. Introduction to Survey Research. 3-4 Units.

Planning tasks, including problem formulation, study design, questionnaire and interview design, pretesting, sampling, interviewer training, and field management. Epistemological and ethical perspectives. Issues of design, refinement, and ethics in research that crosses boundaries of nationality, class, gender, language, and ethnicity.

Same as: EDUC 296

EDUC 192A. Interpersonal Learning & Leadership: An Introduction to the RA Role. 2 Units.

Preparing students for roles as Resident and Community Assistants, "Intelligent Leadership" explores research on college student development, leadership and the complex dynamics of our changing society both within and outside the college environment. Participants will engage in course work that builds skills relevant to their positions and allow students to implement these skills in a real world environment. Through reflection, self-examination and engagement in interpersonal dynamics and analysis, students will examine how their peer group develops while at the university.

EDUC 192B. Interpersonal Learning & Leadership - Row Staff Class. 2 Units.

"Interpersonal Learning & Leadership - Row Staff Class" explores research on leadership and the complex dynamics of our changing society. Participants will engage in course work intended to build skills relevant to being on a Row Staff team. Students will practice self reflection, risk taking, facilitating, decision-making and group leadership. Students will develop strategies to build community and facilitate challenging conversations while creating a safe environment for their peers to do the same.

EDUC 192C. Interpersonal Learning and Leadership: An introduction to the RA role while away from campus. 2 Units.

"Interpersonal Learning & Leadership" explores research on leadership and the complex dynamics of our changing society. Participants will engage in course work intended to build skills relevant to the Resident Assistant/College Assistant position. Students will practice listening, question asking, self-reflection, risk taking, facilitating, conflict mediating and decision-making. They will explore how groups of people can come together for intellectual and interpersonal learning and growth within a complex society. Students will develop strategies to build community and facilitate challenging conversations while creating a safe environment for their peers to do the same.

EDUC 192D. Interpersonal Learning and Leadership: Working with Ethnically Diverse Communities. 2 Units.

"Interpersonal Learning & Leadership" explores research on leadership and the complex dynamics of our changing society. Participants will engage in course work intended to build skills relevant to the Ethnic Theme Associate position. Students will practice listening, question asking, self reflection, risk taking, facilitating, conflict mediating, decision-making and group leadership. They will explore how groups of people can come together for intellectual and interpersonal learning and growth within a complex society. Students will develop strategies to build community and facilitate challenging conversations while creating a safe environment for their peers to do the same.

EDUC 192E. Interpersonal Learning and Leadership: Fraternity and Sorority life. 2 Units.

This class will engage fraternity and sorority leadership in a meaningful discussion around the purpose and relevancy of the college fraternity and sorority. Participants will engage in coursework intended to build skills relevant to being a peer elected leader within their chapter. Specifically, students will research, discuss, and present on current trends impacting the contemporary fraternity and sorority community. Students will also practice self-reflection, decision-making, facilitating difficult conversations, and group leadership. Participants will gain a basic understanding of the challenges within the fraternity and sorority community and gain the skills necessary to analyze and approach these challenges successfully. As an outcome of this course, students will be able to look critically at Greek-letter organizations and their respective communities and will become better skilled as leaders to address problems and effect change as necessary.

EDUC 193A. Listen Up! Core Peer Counseling Skills. 2 Units.

Topics: verbal and non-verbal skills, open and closed questions, paraphrasing, working with feelings, summarization, and integration. Individual training, group exercises, role play practice with optional video feedback. Sections on relevance to crisis counseling and student life. Guest speakers from University and community agencies. Students develop and apply skills in University settings.

EDUC 193B. Peer Counseling in the Chicano/Latino Community. 1 Unit.

Topics: verbal and non-verbal attending and communication skills, open and closed questions, working with feelings, summarization, and integration. Salient counseling issues including Spanish-English code switching in communication, the role of ethnic identity in self-understanding, the relationship of culture to personal development, and Chicana/o student experience in University settings. Individual training, group exercises, role play, and videotape practice.

Same as: CHILATST 193B

EDUC 193C. Psychological Well-Being On Campus: Perspectives Of The Black Diaspora. 1 Unit.

Topics: the concept of culture, Black cultural attributes and their effect on reactions to counseling, verbal and non-verbal attending, open and closed questions, working with feelings, summarization, and integration. Reading assignments, guest speakers, role play, and videotaped practice. Students develop and apply skills in the Black community on campus or in other settings that the student chooses.

EDUC 193F. Psychological Well-Being on Campus: Asian American Perspectives. 1 Unit.

Topics: the Asian family structure, and concepts of identity, ethnicity, culture, and racism in terms of their impact on individual development and the counseling process. Emphasis is on empathic understanding of Asians in America. Group exercises.

Same as: ASNAMST 193F

EDUC 193G. Psychological Well-Being on Campus: A Focus on Gender and Sexual Identities. 1 Unit.

This course examines mental health and psychological well-being across the spectrum of gender and sexual identities. It addresses the unique challenges that face LGBTQ-identified students, and provides tools for supporting peers as they navigate these challenges. Discussion topics include current conceptualizations of gender identity and sexual orientation, including sexual and gender fluidity; the intersection of queer identities with multiple identities such as ethnic/racial identity and faith/spirituality; unpacking stereotypes; queer relationships and sexuality, coming out and disclosure, and mental health issues.

Same as: FEMGEN 193G

EDUC 193N. Peer Counseling in the Native American Community. 1 Unit.

Verbal and non-verbal communication, strategic use of questions, methods of dealing with strong feelings, and conflict resolution. How elements of counseling apply to Native Americans including client, counselor, and situational variables in counseling, non-verbal communication, the role of ethnic identity in self-understanding, the relationship of culture to personal development, the impact of family on personal development, gender roles, and the experience of Native American students in university settings. Individual skill development, group exercises, and role practice.

EDUC 193P. Peer Counseling at the Bridge. 1 Unit.

Mental health issues such as relationships, substance abuse, sexual assault, depression, eating disorders, academic stressors, suicide, and grief and bereavement. Guest speakers.

EDUC 193S. Peer Counseling on Comprehensive Sexual Health. 1 Unit.

Information on sexually transmitted infections and diseases, and birth control methods. Topics related to sexual health such as communication, societal attitudes and pressures, pregnancy, abortion, and the range of sexual expression. Role-play and peer-education outreach projects. Required for those wishing to counsel at the Sexual Health Peer Resource Center (SHPRC).

EDUC 196. The Design of Technologies for Casual Learning. 3 Units.

Studio-based, participatory, and user-centered development of casual learning technologies is explored, using the Apple iPhone as a prototype platform. The term "casual" is borrowed from casual gaming to denote that the learning technologies are meant for learners to use in "extreme informal" learning circumstances (while "on the go", "anytime and any place"). The class builds on learning about and synthesizing knowledge, theory and development activity in four areas including learning theories, mobile technologies, games and participatory design processes.

Same as: EDUC 396

EDUC 197. Education, Gender, and Development. 4 Units.

Theories and perspectives from the social sciences relevant to the role of education in changing, modifying, or reproducing structures of gender differentiation and hierarchy. Cross-national research on the status of girls and women and the role of development organizations and processes.

Same as: FEMGEN 297, SOC 134

EDUC 198. Early Education Policy and Practice: A Global Perspective. 4 Units.

This course addresses social and educational policies affecting young children, focusing on France in comparison to the U.S. Values and beliefs about the role of the state versus parents will be considered in discussions related to federal and state/province policies, as well as other political, economic, and ideological factors that affect policies. We then consider what is known about children's social, emotional and cognitive development and the implications for early childhood policies and practices on children's development.

EDUC 199A. Undergraduate Honors Seminar. 3 Units.

Required of juniors and seniors in the honors program in the School of Education. Student involvement and apprenticeships in educational research. Participants share ongoing work on their honors thesis. Prerequisite: consent of instructor. May be repeated for credit once.

EDUC 199B. Undergraduate Honors Seminar. 1 Unit.

Required of juniors and seniors in the honors program in the School of Education. Student involvement and apprenticeships in educational research. Participants share ongoing work on their honors thesis. Prerequisite: consent of instructor. May be repeated for credit once.

EDUC 199C. Undergraduate Honors Seminar. 1 Unit.

Required of juniors and seniors in the honors program in the School of Education. Student involvement and apprenticeships in educational research. Participants share ongoing work on their honors thesis. Prerequisite: consent of instructor. May be repeated for credit once.

EDUC 200A. Introduction to Data Analysis and Interpretation. 4 Units.

Primarily for master's students in the School of Education. Focus is on reading literature and interpreting descriptive and inferential statistics, especially those commonly found in education. Topics: basic research design, instrument reliability and validity, description statistics, correlation, t-tests, one-way analysis of variance, and simple and multiple regression. All offerings of this course (whether meeting on Mon & Weds or Tues & Thurs) will be taught identically.

EDUC 200B. Introduction to Qualitative Research Methods. 4 Units.

(Formerly EDUC 151.) Primarily for master's students: An introduction to the core concepts and methods of qualitative research. Through a variety of hands-on learning activities, readings, field experiences, class lectures, and discussions, students will explore the processes and products of qualitative inquiry. This is a graduate level course. No undergraduates may enroll. Priority will be given to GSE students, and final enrollment depends on instructor approval after the first day of class.

EDUC 200C. Introduction to Statistical Methods in Education. 3-4 Units.

(Formerly EDUC 160.) Basic techniques in descriptive and inferential statistics for educational research will be covered with an emphasis on rigorous preparation for intermediate and advanced courses. Topics include central tendency, variance, probability, distributions, confidence interval, t-test, F-test, correlation, regression, and analysis of variance. Non-parametric statistics and graphical principles for data representation will also be addressed. Students will also be introduced to STATA in preparation for subsequent higher level courses.

EDUC 201. History of Education in the United States. 3-5 Units.

How education came to its current forms and functions, from the colonial experience to the present. Focus is on the 19th-century invention of the common school system, 20th-century emergence of progressive education reform, and the developments since WW II. The role of gender and race, the development of the high school and university, and school organization, curriculum, and teaching.

Same as: AMSTUD 201, HISTORY 258B

EDUC 202. Introduction to Comparative and International Education. 4 Units.

Contemporary theoretical debates about educational change and development, and the international dimension of issues in education. Emphasis is on the development of students' abilities to make cross-national and historical comparisons of educational phenomena.

EDUC 202I. International Education Policy Workshop. 4 Units.

This is a project-based workshop. Practical introduction to issues in educational policy making, education reform, educational planning, implementation of policy interventions, and monitoring and evaluation in developing country contexts. Preference to students enrolled in ICE/IEAPA, but open to other students interested in international development or comparative public policy with instructor's consent. Attendance at first class required for enrollment.

EDUC 203. Using International Test Results in Educational Research. 4 Units.

The course will analyze the origin and rationales given for various international tests, including FIMS, SIMS, TIMSS, PISA, the UNESCO tests in Latin America and Africa, and how they have been used in research and educational policy. The readings will cover the critiques leveled at such tests, the pros and cons about each type of test, the advantages and limitations of using international test data for policy research. The class will probably also do group projects utilizing data from the tests so students can familiarize themselves directly with the data.

EDUC 203A. Tutoring: Seeing a Child through Literacy. 3-4 Units.

Experience tutoring grade school readers in a low income community near Stanford under supervision. Training in tutoring; the role of instruction in developing literacy; challenges facing low income students and those whose first language is not English. How to see school and print through the eyes of a child. Ravenswood Reads tutors encouraged to enroll. Service Learning Course (certified by Haas Center). May be repeated for credit.

Same as: EDUC 103A

EDUC 204. Introduction to Philosophy of Education. 3 Units.

How to think philosophically about educational problems. Recent influential scholarship in philosophy of education. No previous study in philosophy required.

Same as: PHIL 231

EDUC 205. Biosocial Medicine: The Social, Psychological, and Biological Determinants of Behavior and Wellbeing. 2-3 Units.

Explores how social forces, psychological influences, and biological systems combine to affect human behavior in early childhood, in the educational experience, and throughout the life course. Examines how behaviors are linked to well-being. Uses a flipped classroom model, in which a series of lectures are available for students to view on-line before class. In-class time then focuses on case studies from published research. Undergraduates enroll for 3 units. Students enrolling for 3 units attend two meetings per week; students enrolling for 2 units attend one meeting per week. This course must be taken for a minimum of 3 units and a letter grade to be eligible for Ways credit.

Same as: HUMBIO 65, SOMGEN 215

EDUC 206A. Applied Research Methods in International and Comparative Education I: Introduction. 1-3 Unit.

Required for M.A. students in ICE and IEPA. Orientation to the M.A. program and research project; exploration of resources for study and research.

EDUC 206B. Applied Research Methods in International and Comparative Education II: Master's Paper Proposal. 1-3 Unit.

Required for M.A. students in ICE and IEPA. Development of research skills through theoretical and methodological issues in comparative and international education. Preparation of a research proposal for the M.A. monograph.

EDUC 206C. Applied Research Methods in ICE III: Data Collection and Analysis. 1-3 Unit.

Required for M.A. students in ICE and IEPA. Practice in data collection and analysis. Preparation of the first draft of the M.A. monograph.

EDUC 206D. Applied Research Methods in International and Comparative Education IV: Master's Paper Workshop. 3 Units.

Conclusion of the M.A. program in ICE and IEPA; required of M.A. students. Reviews of students' research in preparation for their MA paper.

EDUC 207. Education and Inequality: Big Data for Large-Scale Problems. 3-5 Units.

In this course, students will use data from the Stanford Education Data Archive (SEDA) to study the patterns, causes, consequences, and remedies of educational inequality in the US. SEDA is based on 200 million test score records, administrative data, and census data from every public school, school district, and community in the US. The course will include lectures, discussion, and small group research projects using SEDA and other data.

Same as: EDUC 107, SOC 107E, SOC 205

EDUC 208B. Curriculum Construction. 3-4 Units.

The theories and methods of curriculum development and improvement. Topics: curriculum ideologies, perspectives on design, strategies for diverse learners, and the politics of curriculum construction and implementation. Students develop curriculum plans for use in real settings. Service Learning Course (certified by Haas Center).

EDUC 209A. Policy, Organization, and Leadership Studies Seminar. 1-3 Unit.

This is a required course for all POLS students. The goals of the POLS Seminar (EDUC 209ABC) are to assist students in making the most of their Stanford graduate experience across several dimensions (academic, professional, and social). EDUC 209A is focused on orienting students to the academic and extra-curricular aspects of the experience as quickly as possible, while helping them coalesce as a group and learn how to leverage each other's professional knowledge. Another goal is to help student define their graduate degree goals, so they can plan their year in a very intentional manner that will result in a project or experiences they can highlight during the required Spring quarter POLS Project Forum.

EDUC 209B. Policy, Organization, and Leadership Studies Seminar. 1-3 Unit.

This is a required course for all POLS students. The goals of the POLS Seminar (EDUC 209ABC) are to assist students in making the most of their Stanford graduate experience across several dimensions (academic, professional, and social). EDUC 209B focuses on building career skills and exposing students to a range of education research, policy, and practice and begins helping students conceptualize and frame their Spring POLS Project.

EDUC 209C. Policy, Organization, and Leadership Studies Seminar. 1-3 Unit.

This is a required course for POLS students. The goals of the POLS Seminar (EDUC 209ABC) are to assist students in making the most of their Stanford graduate experience across several dimensions (academic, professional, and social). EDUC 209C focuses on developing the POLS Project for the Spring Forum while continuing to develop career skills and expose students to a range of education research, policy, and practice.

EDUC 210. Policy, Organization, and Leadership Studies Internship Workshop. 1-3 Unit.

Forum for POLS students to link their academic learning to real world experience through in-class discussions, presentations, and reflective writing. Fall Quarter is focused on understanding the intern's role within the larger organization. Winter Quarter is outward looking with a focus on understanding the broader fields the students' organizations reside within. Spring Quarter focus is on students learning from and being prepared to teach others.

EDUC 211. Beyond Bits and Atoms - Lab. 1-3 Unit.

This course is a hands-on lab in the prototyping and fabrication of tangible technologies, with a special focus in learning and education. We will learn how to use state-of-the-art fabrication machines (3D printers, 3D scanners, laser cutters, routers) to design educational toolkits, educational toys, science kits, and tangible user interfaces. A special focus of the course will be to design low-cost technologies, particularly for urban school in the US and abroad.

Same as: CS 402L

EDUC 212. Urban Education. 3-4 Units.

(Graduate students register for EDUC 212 or SOC 229X). Combination of social science and historical perspectives trace the major developments, contexts, tensions, challenges, and policy issues of urban education. Same as: AFRICAAM 112, CSRE 112X, EDUC 112, SOC 129X, SOC 229X

EDUC 213. Introduction to Teaching. 3-4 Units.

Key concepts in teaching and learning; teacher content knowledge and pedagogical content knowledge; student prior knowledge and preconceptions; cognition and metacognition; classroom culture, motivation, and management; teaching diverse populations; comparison of teaching models; analysis of teaching; standards, accountability, and assessment of learning; assessing teaching quality; online learning and teaching.

EDUC 214. Museum Cultures: Material Representation in the Past and Present. 3-5 Units.

Students will open the "black box" of museums to consider the past and present roles of institutional collections, culminating in a student-curated exhibition. Today, museums assert their relevance as dynamic spaces for debate and learning. Colonialism and restitution, the politics of representation, human/object relationships, and changing frameworks of authority make museum work widely significant and consistently challenging. Through thinking-in-practice, this course reflexively explores "museum cultures": representations of self and other within museums and institutional cultures of the museum world itself. 3 credits (no final project) or 5 credits (final project). May be repeat for credit. Same as: AMSTUD 134, ARCHLGY 134, ARCHLGY 234, ARTHIST 284B, CSRE 134, NATIVEAM 134

EDUC 215. LDT Internship Workshop. 1-3 Unit.

The required internship is a cornerstone of the LDT program. This course will provide students an opportunity to link their academic learning to real world experience through in-class discussions, presentations, and reflective writing. It will allow the program director to monitor the quality of the experience and provide timely advice and support as needed for an optimal learning experience. The course will meet several times each quarter, adjacent to LDT seminar (Fridays, 12-1). An internship agreement will be required at the beginning of the course signed by the faculty advisor), as well as a reflection paper at the end of the course. Students will take the course for 1 unit, unless they request additional units for unpaid internship hours.

EDUC 216. Education, Race, and Inequality in African American History, 1880-1990. 3-5 Units.

Seminar. The relationship among race, power, inequality, and education from the 1880s to the 1990s. How schools have constructed race, the politics of school desegregation, and ties between education and the late 20th-century urban crisis.

Same as: AFRICAAM 116, AMSTUD 216, CSRE 216X, HISTORY 255E

EDUC 217. Free Speech, Academic Freedom, and Democracy. 3 Units.

The course examines connected ideas of free speech, academic freedom, and democratic legitimacy that are still widely shared by many of us but have been subject to skeptical pressures both outside and inside the academy in recent years. The course explores the principled basis of these ideas, how well they might (or might not) be defended against skeptical challenge, and how they might be applied in particular controversies about the rights of students, instructors, and researchers.

Same as: ETHICSOC 217X, PHIL 278C

EDUC 218. Topics in Cognition and Learning: Technology and Multitasking. 3 Units.

In our new media ecology, has affinity for social media and multitasking become addictive? Detrimental to learning and well-being? What can we learn from studies in the developmental cognitive sciences and cognitive neurosciences of reward, attention, memory & learning, motivation, stress, and self-regulation for tackling the behavioral design problems we face in crafting better socio-technical systems? This seminar course is designed to engage students in recent advances in this rapidly growing research area via discussions of both historical and late-breaking findings in the literature. By drawing on a breadth of studies ranging from cognitive development, cognitive neuroscience, and educational/training studies, students will gain an appreciation for specific ways interdisciplinary approaches can add value to specific programs of research.

EDUC 219E. The Creative Arts in Elementary Classrooms. 2 Units.

For STEP Elementary only or for candidates in the Multiple Subjects program. Hands-on exploration of visual arts media and works of art.

EDUC 220A. Introduction to the Economics of Education. 4 Units.

The relationship between education and economic analysis. Topics: labor markets for teachers, the economics of child care, the effects of education on earnings and employment, the effects of education on economic growth and distribution of income, and the financing of education. Students who lack training in microeconomics, register for 220Y for 1 additional unit of credit.

EDUC 220B. Introduction to the Politics of Education. 4 Units.

(Same as GSBGEN 349.) The relationships between political analysis and policy formulation in education; focus is on alternative models of the political process, the nature of interest groups, political strategies, community power, the external environment of organizations, and the implementations of policy. Applications to policy analysis, implementation, and politics of reform. (APA).

EDUC 220C. Education and Society. 4-5 Units.

The effects of schools and schooling on individuals, the stratification system, and society. Education as socializing individuals and as legitimizing social institutions. The social and individual factors affecting the expansion of schooling, individual educational attainment, and the organizational structure of schooling.

Same as: EDUC 120C, SOC 130, SOC 230

EDUC 220D. History of School Reform: Origins, Policies, Outcomes, and Explanations. 3-5 Units.

Required for students in the POLS M.A. program; others welcome. Focus is on 20th-century U.S. Intended and unintended patterns in school change; the paradox of reform that schools are often reforming but never seem to change much; rhetorics of reform and factors that inhibit change. Case studies emphasize the American high school. This course is required for POLS students pursuing the PreK-12 concentration.

Same as: HISTORY 258E

EDUC 220Y. Introduction to the Economics of Education: Economics Section. 1-2 Unit.

For those taking 220A who have not had microeconomics before or who need a refresher. Corequisite: 220A.

EDUC 221A. Policy Analysis in Education. 4-5 Units.

Major concepts associated with the development, enactment, and execution of educational policy. Issues of policy implementation, agenda setting and problem formulation, politics, and intergovernmental relations. Case studies. Goal is to identify factors that affect how analysts and policy makers learn about and influence education. Limited enrollment. Prerequisite: consent of instructor.

EDUC 222. Resource Allocation in Education. 4-5 Units.

Problems of optimization and design, and evaluation of decision experience. Marginal analysis, educational production functions, cost effectiveness and cost-benefit analysis, constrained maximization, program evaluation. Introduction to linear models for large-scale data analysis. Implications to model assumptions.

EDUC 226. Curating Experience: Representation in and beyond Museums. 2-4 Units.

In an age when some 50% of museum visitors only "visit" museums online and when digital technologies have broken open archival access, anyone can be a curator, a critic, an historian, an archivist. In this context, how do museums create experiences that teach visitors about who they are and about the world around them? What are the politics of representation that shape learning in these environments? Using an experimental instructional approach, students will reconsider and redefine what it means to curate experience. (This course must be taken for a minimum of 3 units to satisfy a Ways requirement.). Same as: AMSTUD 226X, CSRE 226X

EDUC 227. Education Policy in the United States. 3 Units.

The course will provide students from different disciplines with an understanding of the broad educational policy context. The course will cover topics including a) school finance systems; b) an overview of policies defining and shaping the sectors and institutional forms of schooling, c) an overview of school governance, d) educational human-resource policy, e) school accountability policies at the federal and state levels; and f) school assignment policies and law, including intra- and inter-district choice policies, desegregation law and policy. This course intended for Master's students. Same as: for Master's Students

EDUC 228E. Becoming Literate in School I. 2 Units.

First in a three course sequence. Introduction to reading and language arts theory and methodology for candidates STEP Elementary Teacher program. Instructional methods, formats, and materials.

EDUC 228F. Becoming Literate in School II. 2 Units.

Second in a three-course required sequence of reading and language arts theory and methodology for candidates in the STEP Elementary program. Theories for guiding instruction and curricular choices.

EDUC 228G. Becoming Literate in School III. 2 Units.

Third in a three-course required sequence of reading and language arts theory and methodology for candidates in STEP Elementary Teacher program. Theories for guiding instruction and curricular choices.

EDUC 228H. Literacy, History, and Social Science. 1 Unit.

How elementary school teachers can teach history and social science within a literacy framework. Topics include: historical thinking, reading, and writing; current research; applying nonfiction reading and writing strategies to historical texts; using primary sources with elementary students; adapting instruction to meet student needs; state standards; evaluating curriculum; assessing student knowledge; developing history and social science units; and embedding history and social science into the general literacy curriculum.

EDUC 229A. Learning Design and Technology Seminar. 1 Unit.

Four-quarter required seminar for the LDT master's program. Discussions and activities related to designing for learning with technology. Support for internships and Master's project. Theoretical and practical perspectives, hands-on development, and collaborative efforts. (LDT).

EDUC 229B. Learning Design and Technology Seminar. 1 Unit.

Four-quarter required seminar for the LDT master's program. Discussions and activities related to designing for learning with technology. Support for internships and Master's project. Theoretical and practical perspectives, hands-on development, and collaborative efforts. (LDT).

EDUC 229C. Learning Design and Technology Seminar. 1 Unit.

Four-quarter required seminar for the LDT master's program. Discussions and activities related to designing for learning with technology. Support for internships and Master's project. Theoretical and practical perspectives, hands-on development, and collaborative efforts. (LDT).

EDUC 229D. Learning Design and Technology Seminar. 2-5 Units.

Four-quarter required seminar for the LDT master's program. Discussions and activities related to designing for learning with technology. Support for internships and Master's project. Theoretical and practical perspectives, hands-on development, and collaborative efforts. (LDT).

EDUC 231. Learning Religion: How People Acquire Religious Commitments. 4 Units.

This course will examine how people learn religion outside of school, and in conversation with popular cultural texts and practices. Taking a broad social-constructivist approach to the variety of ways people learn, this course will explore how people assemble ideas about faith, identity, community, and practice, and how those ideas inform individual, communal and global notions of religion. Much of this work takes place in formal educational environments including missionary and parochial schools, Muslim madrasas or Jewish yeshivot. However, even more takes place outside of school, as people develop skills and strategies in conversation with broader social trends. This course takes an interdisciplinary approach to questions that lie at the intersection of religion, popular culture, and education. May be repeat for credit. Same as: AMSTUD 231X, JEWISHST 291X, RELIGST 231X

EDUC 232. Culture, Learning, and Poverty. 2-3 Units.

This course examines the categories and methods used to analyze and explain educational inequalities in the United States from 1950 to present. Approaches to theories of school failure and methods of intervention are distinguished by their ideas on the play of learning, language, cognition, culture, and social class in human development. Particular attention is given to the Culture of Poverty controversies of the 1960s and their recent emergence.

EDUC 233A. Counseling Theories and Interventions from a Multicultural Perspective. 3-5 Units.

In an era of globalization characterized by widespread migration and cultural contacts, professionals face a unique challenge: How does one practice successfully when working with clients/students from so many different backgrounds? This course focuses upon the need to examine, conceptualize, and work with individuals according to the multiple ways in which they identify themselves. It will systematically examine multicultural counseling concepts, issues, and research. Literature on counselor and client characteristics such as social status or race/ethnicity and their effects on the counseling process and outcome will be reviewed. Issues in consultation with culturally and linguistically diverse parents and students and work with migrant children and their families are but a few of the topics covered in this course. Same as: AFRICAAM 233A, CSRE 233A

EDUC 233B. Adolescent Development and Mentoring in the Urban Context. 3 Units.

Continuation of 233A. Topics include: developmental psychology and service learning; collaborating with the community; psychological research on altruism and prosocial behavior; volunteers' motivations; attributions about poverty, and the problem of prejudice.

EDUC 234. Career and Personal Counseling. 3 Units.

Theories and methods for helping people create more satisfying lives for themselves. Simulated counseling experiences. Same as: EDUC 134, PSYCH 192

EDUC 236. Beyond Bits and Atoms: Designing Technological Tools. 3-4 Units.

Practicum in designing and building technology-enabled curricula and hands-on learning environments. Students use software toolkits and state-of-the-art fabrication machines to design educational software, educational toolkits, and tangible user interfaces. The course will focus on designing low-cost technologies, particularly for urban school in the US and abroad. We will explore theoretical and design frameworks from the constructionist learning perspective, critical pedagogy, interaction design for children.

Same as: CS 402

EDUC 236B. Curricular Public Policies for the Recognition of Afro-Brazilians and Indigenous Population. 3-4 Units.

Recently two laws in Brazil (10639/2003 and 13465/2008), which came about due to intense pressure from Black and Indigenous social movements throughout the 20th century, have introduced changes in public education curriculum policies. These new curriculum policies mandate that the study of Afro-Brazilian, African, and Indigenous histories and cultures must be taught at all educational levels including at the elementary, secondary, and post-secondary levels. As part of this mandate, educators are now directed to incorporate considerations of ethnic-racial diversity in relation to people's thinking and experiences. These policies aim to fight racism as well as other forms of discrimination, and moreover, encourage the building of more equitable pedagogies. This course will discuss past and current policies and practices in Brazilian education from the point of view of different social projects organized by Indigenous Peoples, Afro-Brazilians, Asian-Brazilians, as well as Euro-Brazilians. It will also focus on Latin American efforts to promote equity in education, as well as to articulate different points of view, and reinforce and build epistemologies that support the decolonization of thinking, behaviors, research and policies. As part of this process, the course will study the experiences of people demanding these new public policies in terms of the extent to which they were able to influence institutional structures and to establish particular policy reforms. The course will also analyze theoretical frameworks employed by opponents of these movements to resist policies that might challenge their privileged place in society. In doing this, the course will offer theoretical and methodological avenues to promote research that can counter hegemonic curricular policies and pedagogical practices. The course will be fully participatory and oriented towards generating ongoing conversations and discussion about the various issues that arose in Brazil in relation to these two recent laws. To meet these goals, we will do a close reading of relevant scholarly works, paying particular attention to their theoretical frameworks, research designs, and findings. Same as: AFRICAAM 126B, CSRE 126B, EDUC 136B, PUBLPOL 126B

EDUC 238. Teacher Policies in Latin America. 3-5 Units.

We will explore the complex, challenging and often troubled world of teacher policy in Latin America. Education policy is an important instrument of change and the hope of many teachers and students. They affect the lives of many people and therefore their design, implementation and evaluation must have high academic and political rigor. The emphasis of this course is on the design and implementation of teacher policies in Latin America. We will focus on how to use empirical evidence to take into account the impact, feasibility and political complexities of designing and implementing teacher policy in LA.

EDUC 239. Educating Young STEM Thinkers. 3-5 Units.

The course introduces students to the design thinking process, the national conversations about the future of STEM careers, and opportunities to work with middle school students and K-12 teachers in STEM-based after-school activities and intercession camps. The course is both theory and practice focused. The purpose is twofold; to provide reflection and mentoring opportunities for students to learn about pathways to STEM careers and to introduce mentoring opportunities with young STEM thinkers.

Same as: EDUC 139, ME 139, ME 231

EDUC 240. Adolescent Development and Learning. 3 Units.

How do adolescents develop their identities, manage their inner and outer worlds, and learn? Presuppositions: that fruitful instruction takes into account the developmental characteristics of learners and the task demands of specific curricula; and that teachers can promote learning and motivation by mediating among the characteristics of students, the curriculum, and the wider social context of the classroom. Prerequisite: STEP student or consent of instructor. (STEP).

EDUC 241. Race, Justice, and Integration. 3 Units.

Recent philosophical research on injustice, race, and the ideal of racial integration.

Same as: PHIL 142, PHIL 242

EDUC 242. Workshop on Instrument Development for Assessment, Research or Evaluation Purposes I. 3 Units.

This course is designed with the belief that collecting information is a routine activity in which most researchers and educators are involved. Developing and improving instruments to gather information for descriptive, assessment, research, or evaluation purposes is a goal that unites all social sciences. Therefore, this course focuses on the technical skills required to develop, judge, and/or select quality instruments in diverse domains. The course will focus on your personal journey to develop or judge an instrument on something that is important for you.

EDUC 243. Writing Across Languages and Cultures: Research in Writing and Writing Instruction. 3-5 Units.

Theoretical perspectives that have dominated the literature on writing research. Reports, articles, and chapters on writing research, theory, and instruction; current and historical perspectives in writing research and research findings relating to teaching and learning in this area.

Same as: CSRE 243, EDUC 145

EDUC 244. Classroom Management and Leadership. 3 Units.

Student and teacher roles in developing a classroom community. Strategies for classroom management within a theoretical framework. STEP secondary only.

EDUC 244E. Elementary Classroom Leadership and Management. 1 Unit.

How to best manage a classroom. Student and teacher roles in developing a classroom community. Strategies for classroom management within a theoretical framework. STEP elementary only.

EDUC 244F. Elementary Classroom Leadership and Management. 1 Unit.

Skills for developing a positive classroom learning environment. Theoretical issues and opportunities to acquire strategies and make links with practice teaching class. STEP elementary only.

EDUC 245. Understanding Racial and Ethnic Identity Development. 3-5 Units.

This seminar will explore the impact and relative salience of racial/ethnic identity on select issues including: discrimination, social justice, mental health and academic performance. Theoretical perspectives on identity development will be reviewed, along with research on other social identity variables, such as social class, gender and regional identifications. New areas within this field such as the complexity of multiracial identity status and intersectional invisibility will also be discussed. Though the class will be rooted in psychology and psychological models of identity formation, no prior exposure to psychology is assumed and other disciplines-including cultural studies, feminist studies, and literature-will be incorporated into the course materials.

Same as: AFRICAAM 245, CSRE 245

EDUC 246A. Secondary Teaching Seminar. 4 Units.

Preparation and practice in issues and strategies for teaching in classrooms with diverse students. Topics: instruction, curricular planning, classroom interaction processes, portfolio development, teacher professionalism, patterns of school organization, teaching contexts, and government educational policy. Classroom observation and student teaching with accompanying seminars during each quarter of STEP year. 16 units required for completion of the program. Prerequisite: STEP student.

EDUC 246B. Secondary Teaching Seminar. 5 Units.

Preparation and practice in issues and strategies for teaching in classrooms with diverse students. Topics: guided observations, building classroom community, classroom interaction processes, topics in special education portfolio development, teacher professionalism, patterns of school organization, teaching contexts, and government educational policy. Classroom observation and student teaching with accompanying seminars during each quarter of STEP year. 16 units required for completion of the program. Prerequisite: STEP student.

EDUC 246C. Secondary Teaching Seminar. 4 Units.

Preparation and practice in issues and strategies for teaching in classrooms with diverse students. Topics: instruction, curricular planning, classroom interaction processes, portfolio development, teacher professionalism, patterns of school organization, teaching contexts, and government educational policy. Classroom observation and student teaching with accompanying seminars during each quarter of STEP year. 16 units required for completion of the program. Prerequisite: STEP student. (STEP).

EDUC 246D. Secondary Teaching Seminar. 2-7 Units.

Preparation and practice in issues and strategies for teaching in classrooms with diverse students. Topics: instruction, curricular planning, classroom interaction processes, portfolio development, teacher professionalism, patterns of school organization, teaching contexts, and government educational policy. Classroom observation and student teaching with accompanying seminars during each quarter of STEP year. 16 units required for completion of the program. Prerequisite: STEP student.

EDUC 246E. Elementary Teaching Seminar. 3 Units.

Integrating theory and practice in teacher development. Topics include: equity, democracy, and social justice in the context of teaching and learning; teacher reflection, inquiry, and research; parent/teacher relationships; youth development and community engagement; professional growth and development; teacher leadership and school change processes; preparation for the job search, the STEP Elementary Portfolio, and the STEP Elementary Conference. Prerequisite: STEP student.

EDUC 246F. Elementary Teaching Seminar. 4-6 Units.

Integrating theory and practice in teacher development. Topics include: equity, democracy, and social justice in the context of teaching and learning; teacher reflection, inquiry, and research; parent/teacher relationships; youth development and community engagement; professional growth and development; teacher leadership and school change processes; preparation for the job search, the STEP Elementary Portfolio, and the STEP Elementary Conference. Prerequisite: STEP student.

EDUC 246G. Elementary Teaching Seminar. 3 Units.

Integrating theory and practice in teacher development. Topics include: equity, democracy, and social justice in the context of teaching and learning; teacher reflection, inquiry, and research; parent/teacher relationships; youth development and community engagement; professional growth and development; teacher leadership and school change processes; preparation for the job search, the STEP Elementary Portfolio, and the STEP Elementary Conference. Prerequisite: STEP student.

EDUC 246H. Elementary Teaching Seminar. 4 Units.

Integrating theory and practice in teacher development. Topics include: equity, democracy, and social justice in the context of teaching and learning; teacher reflection, inquiry, and research; parent/teacher relationships; youth development and community engagement; professional growth and development; teacher leadership and school change processes; preparation for the job search, the STEP Elementary Portfolio, and the STEP Elementary Conference. Prerequisite: STEP student.

EDUC 247. Moral and Character Education. 3 Units.

Contemporary scholarship and educational practice related to the development of moral beliefs and conduct in young people. The psychology of moral development; major philosophical, sociological, and anthropological approaches. Topics include: natural capacities for moral awareness in the infant; peer and adult influences on moral growth during childhood and adolescence; extraordinary commitment during adulthood; cultural variation in moral judgment; feminist perspectives on morality; the education movement in today's schools; and contending theories concerning the goals of moral education.

EDUC 248. Psychology of Pedagogy. 1-3 Unit.

How can methods and insights from psychology inform education practice, particularly in a higher education context? This course aims to develop your skills as critical consumers and producers of empirical findings on teaching and learning. Course involves a quarter-long project to develop a pedagogical research proposal, supplemented and informed by readings, guided discussions, and group workshops. Same as: PSYCH 277

EDUC 249. Theory and Issues in the Study of Bilingualism. 3-5 Units.

Sociolinguistic perspective. Emphasis is on typologies of bilingualism, the acquisition of bilingual ability, description and measurement, and the nature of societal bilingualism. Prepares students to work with bilingual students and their families and to carry out research in bilingual settings. Same as: EDUC 149

EDUC 250B. Statistical Analysis in Education: Regression. 5 Units.

Primarily for doctoral students; part of doctoral research core; prerequisite for advanced statistical methods courses in School of Education. Basic regression, a widely used data-analytic procedure, including multiple and curvilinear regression, regression diagnostics, analysis of residuals and model selection, logistic regression. Proficiency with statistical computer packages.

EDUC 250C. Qualitative Analysis in Education. 4 Units.

Primarily for doctoral students; part of doctoral research core. Methods for collecting and interpreting qualitative data including case study, ethnography, discourse analysis, observation, and interview.

EDUC 250D. Using Video as Data in the Learning Sciences. 1-4 Unit.

This seminar will focus on key theoretical and methodological advances in the use of digital video-based data in the learning sciences as a fruitful part of a research agenda on teaching, learning, and other educational processes. May be repeat for credit.

EDUC 250E. Qualitative Interviewing. 3 Units.

Addressing the theoretical underpinnings of qualitative interviews as well as the application of theory to practice, this course considers different approaches to interviewing. Interview types covered will range from group interviews to individual interviews, and from unstructured, ethnographically oriented interviews to highly structured interviews. Working with community partners to facilitate application to practice, the students will move from theory to interview design, implementation, and initial stages of analysis, with an emphasis on consistency in approach and utility in graduate-level research.

EDUC 251. Multimodality and Literacy. 3-5 Units.

The course will revolve around the pedagogical implications of recognizing literacy as multimodal, examining the following questions: What is reading, what is writing, and what else might literacy mean beyond reading/writing if we conceptualize literacy as something beyond (but encompassing) written words on the page? How might differing modes of representation matter in the construction of meaning? If literacy is multimodal, and the modes that children and adults continue to evolve, how might/should/must literacy education change, if at all?

EDUC 252. Introduction to Test Theory. 3 Units.

Concepts of reliability and validity; derivation and use of test scales and norms; mathematical models and procedures for test validation, scoring, and interpretation.

EDUC 252L. Introduction to Test Theory - Lab. 2 Units.

This course will cover the material from 252A in an applied setting. Emphasis will be in developing a capacity for applying and interpreting psychometrics techniques to real-world and simulated data.

EDUC 253. Inequality, Society, and Education. 3-5 Units.

The course will focus on developing students' understanding of theory and research on several key issues in the relationship between education and inequality: 1) what are the recent patterns and trends in both economic and educational inequality? 2) what kinds of inequality (from a normative/philosophical perspective) should we worry about? 3) how do we measure educational inequality? 4) how are economic and educational inequality linked? 5) what policies/practices might reduce educational inequality? The course will be a graduate student seminar, with enrollment capped at 20-25.

Same as: SOC 353X

EDUC 255A. Experimental Research Designs in Educational Research. 3-5 Units.

The course will cover the following topics: a) the logic of causal inference and the Fisher/Neyman/Rubin counterfactual causal model (Fisher, 1935; Heckman, 1979; Holland, 1986; Neyman, 1990; Rubin, 1978); b) randomized experiments; c) complex randomized experiments in education (cluster randomized trials, multi-site trials, staggered implementation via randomization, etc.); d) policy experiments with randomization; e) meta-analysis; and f) power in randomized experiments; g) the ethics and politics of randomized experiments.

EDUC 255B. Causal Inference in Quantitative Educational and Social Science Research. 3-5 Units.

This course surveys quantitative methods to make causal inferences in the absence of randomized experiment including the use of natural and quasi-experiments, instrumental variables, regression discontinuity, fixed effects estimators, and difference-in-differences. We emphasize the proper interpretation of these research designs and critical engagement with their key assumptions for applied researchers. Prerequisites: Prior training in multivariate regression (e.g., ECON 102B or the permission of the instructor).

Same as: SOC 257

EDUC 255C. Applied Quasi-Experimental Research in Education. 3-5 Units.

Course will provide hands-on practice in analysis of data from experimental and quasi-experimental research designs, including a) instrumental variables estimators; b) regression discontinuity estimators; c) difference-in-difference estimators; d) matching estimators; e) fixed effects estimators; and f) panel data methods (including individual fixed effects models, lagged covariate adjustment models, growth models, etc.). Prerequisites: satisfactory completion of EDUC 255B, EDUC 257C or SOC 257.

Same as: SOC 258

EDUC 256. Psychological and Educational Resilience Among Children and Youth. 4 Units.

Theoretical, methodological, and empirical issues pertaining to the psychological and educational resilience of children and adolescents. Overview of the resilience framework, including current terminology and conceptual and measurement issues. Adaptive systems that enable some children to achieve successful adaptation despite high levels of adversity exposure. How resilience can be studied across multiple levels of analysis, ranging from cell to society. Individual, family, school, and community risk and protective factors that influence children's development and adaptation. Intervention programs designed to foster resilient adaptation in disadvantaged children's populations.

Same as: HUMBIO 149

EDUC 257. Practicum in English-Spanish School & Community Interpreting. 3-4 Units.

This practicum will assist students in developing a set of skills in English-Spanish interpreting that will prepare them to provide interpretation services in school and community settings. The course will build students' abilities to transfer intended meanings between two or more monolingual individuals of who are physically present in a school or community setting and who must communicate with each other for professional (and personal) purposes.

Same as: CHILATST 183X, EDUC 183

EDUC 258. Literacy Development and Instruction. 3-5 Units.

Literacy acquisition as a developmental and educational process. Problems that may be encountered as children learn to read. How to disentangle home, community, and school instruction from development.

EDUC 259. Application of Hierarchical Linear Models in Behavioral and Social Research. 4 Units.

The fundamental phenomenon of interest in educational research is the growth in knowledge and skills of individual students. Two facts - that children's growth is typically the object of inquiry and that such growth occurs in organizational settings - correspond to two of the most troublesome and persistent methodological problems in the social sciences: the measurement of change and the assessment of multi-level effects (also referred to as the unit of analysis problem). Although these two methodological problems have distinct, long-standing, and non-overlapping literatures, these problems, in fact, share a common cause - the inadequacy of traditional statistical techniques for the modeling of hierarchy.

EDUC 260A. Statistical Methods for Group Comparisons and Causal Inference. 3 Units.

Critical examination of statistical methods in social science and life sciences applications, especially for cause and effect determinations. Topics: mediating and moderating variables, potential outcomes framework, encouragement designs, multilevel models, matching and propensity score methods, analysis of covariance, instrumental variables, compliance, path analysis and graphical models, group comparisons with longitudinal data. See <http://rogosateaching.com/stat209/>. Prerequisite: intermediate-level statistical methods.

Same as: HRP 239, STATS 209

EDUC 260B. Advanced Statistical Methods for Observational Studies. 2-3 Units.

Design principles and statistical methods for observational studies. Topics include: matching methods, sensitivity analysis, instrumental variables, graphical models, marginal structural models. 3 unit registration requires a small project and presentation. Computing is in R. Pre-requisites: HRP 261 and 262 or STAT 209 (HRP 239), or equivalent. See <http://rogosateaching.com/somgen290/>.

Same as: CHPR 290, STATS 266

EDUC 261. Sociocultural Theories of Learning & Development: Vygotsky & Bakhtin. 3 Units.

Grounded in theories of Vygotsky and Bakhtin, this course will review commonly used, but often misunderstood, concepts about how context enters theories of learning and development. Topics will include: distinctions between development and learning; the place of culture in developing higher mental functions; the zone of proximal development, conceptions and misconceptions; contributions of activity theory; importance of heterogeneity and multivocality; and role of language in ideological becoming or idea development. Focus will be on using theory to guide research.

EDUC 262A. Curriculum and Instruction in English. 3 Units.

Approaches to teaching English in the secondary school, including goals for instruction, teaching techniques, and methods of evaluation. (STEP).

EDUC 262B. Curriculum and Instruction in English. 3 Units.

Approaches to teaching English in the secondary school, including goals for instruction, teaching techniques, and methods of evaluation. STEP secondary only.

EDUC 262C. Curriculum and Instruction in English. 3 Units.

Approaches to teaching English in the secondary school, including goals for instruction, teaching techniques, and methods of evaluation. (STEP).

EDUC 262D. Curriculum & Instruction Elective in English. 4 Units.

Methodology of science instruction: teaching for English and language arts; linking the goals of teaching English with interdisciplinary curricula; opportunities to develop teaching materials. For STEP Program students only.

EDUC 263A. Curriculum and Instruction in Mathematics. 3 Units.

The purposes and programs of mathematics in the secondary curriculum; teaching materials, methods. Prerequisite: STEP student or consent of instructor. (STEP) 263A. Sum, 263B. Aut, 263C. Win.

EDUC 263B. Curriculum and Instruction in Mathematics. 3 Units.

The purposes and programs of mathematics in the secondary curriculum; teaching materials, methods. Prerequisite: STEP student or consent of instructor. (STEP) 263A. Sum, 263B. Aut, 263C. Win.

EDUC 263C. Curriculum and Instruction in Mathematics. 3 Units.

The purposes and programs of mathematics in the secondary curriculum; teaching materials, methods. Prerequisite: STEP student or consent of instructor. (STEP) 263A. Sum, 263B. Aut, 263C. Win.

EDUC 263D. Curriculum & Instruction Elective in Math. 4 Units.

Methodology of math instruction: teaching for mathematical thinking and reasoning; linking the goals of teaching math with literacy and interdisciplinary curricula; opportunities to develop teaching materials. For STEP Program students only.

EDUC 263E. Quantitative Reasoning in Mathematics I. 2 Units.

First of a three-course sequence in mathematics for STEP elementary teacher candidates. Content, pedagogy, and context. Mathematics subject matter; the orchestration of teaching and learning of elementary mathematics including curriculum, classroom and lesson design, and cases studies. Sociocultural and linguistic diversity, equity, differentiation of instruction, the impact of state and national standards, and home/community connections.

EDUC 263F. Quantitative Reasoning in Mathematics II. 2 Units.

Second of a three-course sequence in mathematics for STEP elementary teacher candidates. Content, pedagogy, and context. Mathematics subject matter; the orchestration of teaching and learning of elementary mathematics including curriculum, classroom and lesson design, and cases studies. Sociocultural and linguistic diversity, equity, differentiation of instruction, the impact of state and national standards, and home/community connections.

EDUC 263G. Quantitative Reasoning in Mathematics III. 2 Units.

Third of a three-course sequence in mathematics for STEP elementary teacher candidates. Content, pedagogy, and context. Mathematics subject matter; the orchestration of teaching and learning of elementary mathematics including curriculum, classroom and lesson design, and cases studies. Sociocultural and linguistic diversity, equity, differentiation of instruction, the impact of state and national standards, and home/community connections.

EDUC 264A. Curriculum and Instruction in World Languages. 3 Units.

Approaches to teaching foreign languages in the secondary school, including goals for instruction, teaching techniques, and methods of evaluation. Prerequisite: STEP student. (STEP).

EDUC 264B. Curriculum and Instruction in World Languages. 3 Units.

Approaches to teaching foreign languages in the secondary school, including goals for instruction, teaching techniques, and methods of evaluation. STEP secondary only.

EDUC 264C. Curriculum and Instruction in World Languages. 3 Units.

Approaches to teaching foreign languages in the secondary school, including goals for instruction, teaching techniques, and methods of evaluation. Prerequisite: STEP student. (STEP).

EDUC 264E. Methods and Materials in Bilingual Classrooms. 2 Units.

Restricted to STEP elementary teacher candidates in the BCLAD program. Theories, research, and methods related to instruction of Spanish-English bilingual children, grades K-8. Approaches to dual language instruction, and pedagogical and curricular strategies for the instruction of reading, language arts, science, history, social science, and math in Spanish. Assessment issues and practices with bilingual students. In Spanish.

EDUC 265. History of Higher Education in the U.S.. 3-5 Units.

Major periods of evolution, particularly since the mid-19th century. Premise: insights into contemporary higher education can be obtained through its antecedents, particularly regarding issues of governance, mission, access, curriculum, and the changing organization of colleges and universities.

Same as: AMSTUD 165, EDUC 165, HISTORY 158C

EDUC 266. Educational Neuroscience. 3 Units.

An introduction to the growing intersection between education research and emerging research on functional brain development. Students will probe the contributions and limitations of emerging theoretical and empirical contribution of neuroscience approaches to specific academic skills such as reading and mathematics, as well as exposure to general processes crucial for educational success, including motivation, attention, and social cognition. Final projects will explore these themes in the service of interventions designed to improve how these functions.

EDUC 267A. Curriculum and Instruction in Science. 3 Units.

Possible objectives of secondary science teaching and related methods: selection and organization of content and instructional materials; lab and demonstration techniques; evaluation, tests; curricular changes; ties with other subject areas. Prerequisite: STEP student or consent of instructor. (STEP).

EDUC 267B. Curriculum and Instruction in Science. 3 Units.

Possible objectives of secondary science teaching and related methods: selection and organization of content and instructional materials; lab and demonstration techniques; evaluation, tests; curricular changes; ties with other subject areas. Prerequisite: STEP student or consent of instructor. (STEP).

EDUC 267C. Curriculum and Instruction in Science. 3 Units.

Possible objectives of secondary science teaching and related methods: selection and organization of content and instructional materials; lab and demonstration techniques; evaluation, tests; curricular changes; ties with other subject areas. Prerequisite: STEP student or consent of instructor. (STEP).

EDUC 267D. Curriculum & Instruction Elective in Science. 4 Units.

Methodology of science instruction: teaching for scientific reasoning; linking the goals of teaching science with literacy and interdisciplinary curricula; opportunities to develop teaching materials. For STEP Program students only.

EDUC 267E. Development of Scientific Reasoning and Knowledge. 2 Units.

For STEP elementary teacher candidates. Theories and methods of teaching and learning science. How to develop curricula and criteria for critiquing curricula. Students design a science curriculum plan for a real setting. State and national science frameworks and content standards. Alternative teaching approaches; how to select approaches that are compatible with learner experience and lesson objectives. Focus is on the linguistic and cultural diversity of California public school students.

EDUC 267F. Development of Scientific Reasoning and Knowledge II. 2 Units.

Continuation of 267E. Scientific knowledge and pedagogical skills for supporting science instruction. Topics include: how children build scientific understandings and what that understanding might look and sound like in young children; what school science is and how concepts are connected to the doing of it; physical, life, and earth science constructs.

EDUC 267G. Integrating the Garden into the Elementary Curriculum. 1 Unit.

This mini-course uses the garden and kitchen environments to provide teacher candidates with real-world contexts in which to explore some of the key issues that children face in health, nutrition, and sustainability. Teacher candidates will gain an understanding of how to integrate the various themes with content areas and standards and an appreciation for the importance of addressing children's health needs in an era when the country is facing increased obesity and other health problems.

EDUC 268A. Curriculum and Instruction in History and Social Science. 3 Units.

The methodology of history instruction: teaching for historical thinking and reasoning; linking the goals of teaching history with literacy; curriculum trends; and opportunities to develop teaching and resource units. Prerequisite: STEP student.

EDUC 268B. Curriculum and Instruction in History and Social Science. 3 Units.

The methodology of history instruction: teaching for historical thinking and reasoning; linking the goals of teaching history with literacy; curriculum trends; and opportunities to develop teaching and resource units. Prerequisite: STEP student.

EDUC 268C. Curriculum and Instruction in History and Social Science. 3 Units.

The methodology of history instruction: teaching for historical thinking and reasoning; linking the goals of teaching history with literacy; curriculum trends; and opportunities to develop teaching and resource units. Prerequisite: STEP student.

EDUC 268D. Curriculum & Instruction Elective in History. 4 Units.

The methodology of history instruction: teaching for historical thinking and reasoning; linking the goals of teaching history with literacy and interdisciplinary curricula; opportunities to develop teaching materials. For STEP Program students only.

EDUC 268E. Elementary History and Social Science. 3-4 Units.

Teaching and learning history and social science in the elementary grades. What is included in the discipline and why it is important to teach. The development of historical thinking among children. How students learn and understand content in these disciplines.

EDUC 269. The Ethics in Teaching. 1 Unit.

Goal is to prepare for the ethical problems teachers confront in their professional lives. Skills of ethical reasoning, familiarity with ethical concepts, and how to apply these skills and concepts in the analysis of case studies. Topics: ethical responsibility in teaching, freedom of speech and academic freedom, equality and difference, indoctrination, and the teaching of values.

EDUC 270. Latino Families, Languages, and Schools. 3-5 Units.

The challenges facing schools to establish school-family partnerships with newly arrived Latino immigrant parents. How language acts as a barrier to home-school communication and parent participation. Current models of parent-school collaboration and the ideology of parental involvement in schooling.

Same as: EDUC 178

EDUC 271. Education Policy in the United States. 4 Units.

(Same as GSBGEN 347) The course will provide students from different disciplines with an understanding of the broad educational policy context. The course will cover topics including a) school finance systems; b) an overview of policies defining and shaping the sectors and institutional forms of schooling, c) an overview of school governance, d) educational human-resource policy, e) school accountability policies at the federal and state levels; and f) school assignment policies and law, including intra- and inter-district choice policies, desegregation law and policy. This course is intended for PhD students only. Other students may contact the instructor for permission to enroll.

Same as: PhD

EDUC 272. Understanding and Creating Value-Added Measures of Teacher Effectiveness. 3 Units.

This seminar will explore a variety of approaches to measuring teacher effectiveness using student performance on state standardized tests. We will read the recent research literature on value-added estimation, addressing issues such as bias and measurement error. We also will use administrative data from two large districts to create and compare multiple value-added measures. The class assumes a comfort with OLS regression and basic programming in Stata.

EDUC 273. Gender and Higher Education: National and International Perspectives. 4 Units.

This course examines the ways in which higher education structures and policies affect females, males, and students in relation to each other and how changes in those structures and policies improve experiences for females and males similarly or differently. Students are expected to gain an understanding of theories and perspectives from the social sciences relevant to an understanding of the role of higher education in relation to structures of gender differentiation and hierarchy. Topics include undergraduate and graduate education; identity and sexuality; gender and science; gender and faculty; and the development of feminist scholarship and pedagogy. Attention is paid to how these issues are experienced by women and men in the United States, including people of color, and by academics throughout the world, and how these have changed over time.

Same as: EDUC 173, FEMST 173, SOC 173, SOC 273

EDUC 274. School Choice: The Role of Charter Schools. 3 Units.

(Formerly EDUC 153X.) Is school choice, including vouchers, charter schools, contract schools, magnet schools, district options, and virtual schools, a threat or an opportunity for public education? Focus is on the charter school movement nationally and in California as reform strategy. Roles and responsibilities of charter schools emphasizing issues of governance, finance, curriculum, standards, and accountability.

EDUC 275. Leading U.S. Schools. 3-4 Units.

The landscape of schooling in the U.S. is dynamic and replete with ideologies, myths, and beliefs. Organizational theory, leadership theory, and empirical research are lenses through which students will develop a deeper and broader understanding of the similarities and differences among private schools, parochial schools, traditional K-12 schools, charter schools, and alternative schools. Students will connect theory and research to practice by visiting and learning about two or more schools of their choosing.

EDUC 276. Educational Assessment. 3 Units.

Reliability, validity, bias, fairness, and properties of test scores. Uses of tests to monitor, manage, and reform instruction. Testing and competition, meritocracy, achievement gaps, and explanations for group differences.

EDUC 277. Education of Immigrant Students: Psychological Perspectives. 4 Units.

Historical and contemporary approaches to educating immigrant students. Case study approach focuses on urban centers to demonstrate how stressed urban educational agencies serve immigrants and native-born U.S. students when confronted with overcrowded classrooms, controversy over curriculum, current school reform movements, and government policies regarding equal educational opportunity.

EDUC 278. Introduction to Issues in Evaluation. 3-4 Units.

Open to master's and doctoral students with priority to students in the School of Education. Focus is on the basic literature and major theoretical and practical issues in the field of program evaluation. Topics include: defining purpose, obtaining credible evidence, the role of the evaluator, working with stakeholder, values in evaluation, utilization, and professional standards. The course project is to design an evaluation for a complex national or international program selected by the instructor.

EDUC 279. American Jewish History: Learning to be Jewish in America. 2-4 Units.

This course will be a seminar in American Jewish History through the lens of education. It will address both the relationship between Jews and American educational systems, as well as the history of Jewish education in America. Plotting the course along these two axes will provide a productive matrix for a focused examination of the American Jewish experience. History students must take course for at least 3 units. Same as: AMSTUD 279X, HISTORY 288D, JEWISHST 297X, RELIGST 279X

EDUC 280. Learning & Teaching of Science. 3 Units.

This course will provide students with a basic knowledge of the relevant research in cognitive psychology and science education and the ability to apply that knowledge to enhance their ability to learn and teach science, particularly at the undergraduate level. Course will involve readings, discussion, and application of the ideas through creation of learning activities. It is suitable for advanced undergraduates and graduate students with some science background.

Same as: ENGR 295, PHYSICS 295

EDUC 281. Technology for Learners. 3-4 Units.

How can we use technology to improve learning? Many hope that technology will make learning easier, faster, or accessible to more learners. This course explores a variety of approaches to designing tools for learning, the theories behind them, and the research that tests their effectiveness. Strong focus on evaluating and designing new tools for specific learners and subjects. Space is limited. Priority is given to master's students in the LDT Master's Program. Cardinal Course certified by the Haas Center.

EDUC 282. The Politics of Knowledge in the Twentieth Century United States. 3-5 Units.

This course examines the relationship between social scientific knowledge and power in the modern United States. Topics include the emergence of social scientific disciplines, debates over objectivity, and professionalization. The course examines both how universities, philanthropic foundations, and the federal government have shaped knowledge production and how social science has influenced law, social and educational policy, and popular social thought.

EDUC 283. Child Development In and Beyond Schools. 2 Units.

(Formerly EDUC 144). How schools form a context for children's social and cognitive development. Focus is on early and middle childhood. Transactional processes between children and learning opportunities in classroom contexts. Topics include: alternative theoretical perspectives on the nature of child development; early experience and fit with traditional school contexts; assessment practices and implications for developing identities as learners; psychological conceptions of motivational processes and alternative perspectives; the role of peer relationships in schools; and new designs for learning environments. Readings address social science and methodological issues. STEP Elementary only.

EDUC 284A. Designing Equitable Groupwork. 1 Unit.

Teaching in academically and linguistically heterogeneous classrooms requires a repertoire of pedagogical strategies. Focus is on how to provide access to intellectually challenging curriculum and equal-status interaction for students in diverse classrooms. Emphasis is on group work and its cognitive, social, and linguistic benefits for students. How to prepare for group work, equalize participation, and design learning tasks that support conceptual understanding, mastery of content and language growth. How to assess group products and individual contributions. (STEP).

EDUC 284B. Designing Equitable Groupwork. 1 Unit.

Teaching in academically and linguistically heterogeneous classrooms requires a repertoire of pedagogical strategies. Focus is on how to provide access to intellectually challenging curriculum and equal-status interaction for students in diverse classrooms. Emphasis is on group work and its cognitive, social, and linguistic benefits for students. How to prepare for group work, equalize participation, and design learning tasks that support conceptual understanding, mastery of content and language growth. How to assess group products and individual contributions. (STEP).

EDUC 285. Supporting Students with Special Needs. 2-3 Units.

For STEP teacher candidates. Needs of exceptional learners, identification of learning differences and disabilities, and adaptations in the regular inclusion classroom. Legal requirements of special education, testing procedures, development of individualized education plans, and support systems and services. Students follow a special needs learner to understand diagnosis, student needs, and types of services.

EDUC 286B. Second Language Acquisition Research. 4 Units.

Major research findings and theories in second language acquisition. Second language research and theories in formal and informal settings where a second language is learned.

EDUC 287. Graduate Research Workshop on Psychological Interventions. 3 Units.

Psychological research has the potential to create novel interventions that promote the public good. This workshop will expose students to psychologically 'wise' intervention research and to support their efforts to conduct such interventions, especially in the context of education, broadly conceived, as well as other areas. The first part of the class will address classic interventions and important topics in intervention research, including effective delivery mechanisms, sensitive behavioral outcomes, the role of theory and psychological process, and considerations of the role of time and of mechanisms that can sustain treatment effects over time. In the second part of the class, students will present and receive feedback on their own ongoing and/or future intervention research. Prerequisite: Graduate standing in Psychology or Education, or consent of instructor.

Same as: PSYCH 274

EDUC 288. Organizational Analysis. 4 Units.

Principles of organizational behavior and analysis; theories of group and individual behavior; organizational culture; and applications to school organization and design. Case studies.

Same as: SOC 271

EDUC 289. The Centrality of Literacies in Teaching and Learning. 3 Units.

(Formerly EDUC 166.) Focus is on principles in understanding, assessing, and supporting the reading and writing processes, and the acquisition of content area literacies in secondary schools. Literacy demands within particular disciplines and how to use oral language, reading, and writing to teach content area materials more effectively to all students. (STEP).

EDUC 290. Instructional Leadership: Building Capacity for Excellent Teaching. 3-4 Units.

This course focuses on the role of leaders in designing, supporting and sustaining excellent teaching. How do leaders create the organizational conditions to focus attention on the technical core of instruction, curriculum and assessment. Course goals: 1) explore a variety of educational leadership approaches, 2) investigate the theory of action underlying these approaches to leadership and consider the implications for instructional practice and 3) develop understanding of the relationship between the leadership approach and the learning environment.

EDUC 291. Learning Sciences and Technology Design Research Seminar and Colloquium. 1-3 Unit.

Students and faculty present and critique new and original research relevant to the Learning Sciences and Technology Design doctoral program. Goal is to develop a community of scholars who become familiar with each other's work. Practice of the arts of presentation and scholarly dialogue while introducing seminal issues and fundamental works in the field.

EDUC 292. Academic Writing for Clarity and Grace. 2-4 Units.

Students will acquire helpful writing strategies, habits, and critical faculties; increase their sense of writing as revision; and leave them with resources that will support them in their own lifelong pursuit of good writing. Students will work on revising their own papers and editing papers of other students. Class will focus on exercises in a variety of critical writing skills: framing, concision, clarity, emphasis, rhythm, action, actors, argument, data, quotations, and usage. Course enrollment limited to graduate students.

EDUC 293. Church, State, & Schools: Issues in Education & Religion. 4 Units.

This course will examine interactions between religion and education, focusing on both formal and experiential sites in which people and communities explore, articulate, encounter, and perform religious ideologies and identities. The class will focus on different religious traditions and their encounters the institutions and structures of education in American culture, both in the United States and as it manifests in American culture transnationally.

Same as: AMSTUD 293, RELIGST 293X

EDUC 294. History of the Learned Book. 3-5 Units.

The course takes full advantage of the university library's Special Collections to examine the key historic works contributing to the advancement of learning and the organization of knowledge. Beginning with medieval manuscripts and progressing through all areas of human inquiry during the age of print, the course explores the economic and educational history of learned publishing in the West, while examining what these historic artifacts reveal about developments in the structure and authority, production and circulation, technology and aesthetics, of learning and knowledge.

EDUC 295. Learning and Cognition in Activity. 3 Units.

Methods and results of research on learning, understanding, reasoning, problem solving, and remembering, as aspects of participation in social organized activity. Principles of coordination that support cognitive achievements and learning in activity settings in work and school environments.

Same as: PSYCH 261A

EDUC 296. Introduction to Survey Research. 3-4 Units.

Planning tasks, including problem formulation, study design, questionnaire and interview design, pretesting, sampling, interviewer training, and field management. Epistemological and ethical perspectives. Issues of design, refinement, and ethics in research that crosses boundaries of nationality, class, gender, language, and ethnicity.

Same as: EDUC 191

EDUC 297. Teaching and Learning in Higher Education. 1-4 Unit.

(Same as LAW 303) This course is co-taught by Tom Ehrlich, GSE, and Mariatte Denman, Office of the Vice Provost for Teaching & Learning. It provides doctoral and masters students with an opportunity to focus on teaching and learning along with graduate students from many disciplines throughout the university. Students watch and interview master teachers at Stanford, prepare a syllabus module for a workshop or class they might teach, and learn a range of effective pedagogical methods. The course is open not only to masters students and doctoral students from all schools who expect to work in higher education, but also to students interested in K-12 education, and they may develop a teaching module for use in those schools.

Same as: VPPL 297

EDUC 298. Seminar on Teaching Introductory Computer Science. 1 Unit.

Faculty, undergraduates, and graduate students interested in teaching discuss topics raised by teaching computer science at the introductory level. Prerequisite: consent of instructor.

Same as: CS 298

EDUC 299. Equity and Schooling. 3 Units.

(Formerly EDUC 167.) Introduction to the theories and practices of equity and democracy in education. How to think about teaching and schooling in new ways; the individual moral and political reasons for becoming a teacher. (STEP).

EDUC 302. Behavior Design. 3 Units.

Students learn Behavior Design and practice applying the methods to change human behavior in measurable ways. In this particular course, all projects will focus on one theme: Designing the first step.

EDUC 303. Designing Learning Spaces. 3-4 Units.

Project-based. How space shapes personal interactions and affords learning opportunities in formal and informal settings. How to integrate learning principles into the design of spaces and develop a rubric to assess the impact on learning.

EDUC 304. Critical Theory and Pedagogy. 1-5 Unit.

The course samples the work of Critical Theory, proper, critical theory more generally, and critical pedagogy in the schools, as it draws on the educational consequences of a school of thought. The project of critical theory is examined in light of the curricular applications that it has inspired and the scholarly implications of studying education in this seemingly critical theoretical manner. Students will evaluate a particular curricular point of application of these related theoretical developments. Course may be repeated 4 times.

EDUC 305. A Political Economy of the Mind. 3-4 Units.

This course seeks categories and procedures for the appreciation, description, analysis, and reorganization of people in difficult circumstances. Examples from the history of fiction and classic political economy are used to explore the strengths and weaknesses of various approaches. In depth attention to individual lives and daily struggles give fiction and economic theory more appropriately positive views of people without the advantages of schooling than most educational research. Readings include fiction by Defoe, Austen, Dickens, Hurston, and Morrison and economic visions from Smith, Marx, Veblen, Keynes, and Galbraith.

EDUC 306A. Economics of Education in the Global Economy. 5 Units.

Case material considers development problems in the U.S. and abroad. Discussion sections on economic aspects of educational development.

EDUC 306B. Global Education Policy & Organization. 3-5 Units.

Education policy, politics, and development. Topics include: politics, interests, institutions, policy, and civil society; how schools and school systems operate as political systems; how policy making occurs in educational systems; and theories of development.

EDUC 306D. World, Societal, and Educational Change: Comparative Perspectives. 4-5 Units.

Theoretical perspectives and empirical studies on the structural and cultural sources of educational expansion and differentiation, and on the cultural and structural consequences of educational institutionalization. Research topics: education and nation building; education, mobility, and equality; education, international organizations, and world culture.

Same as: EDUC 136, SOC 231

EDUC 306Y. Economic Support Seminar for Education and Economic Development. 1 Unit.

Core economic concepts that address issues in education in developing and developed countries. Supply and demand, elasticity, discount rates, rate of return analysis, utility functions, and production functions. Corequisite: 306A. (Carnoy).

EDUC 307. Foundations and Contemporary Topics in Social-Educational Psychology. 2-4 Units.

At its core, social psychology is concerned with educational problems because it addresses the problem of how to change hearts and minds in lasting ways. This course explores the major ideas, theories, and findings of social psychology, their educational implications, and the insights they shed into how and when people change. There will be a focus on educational issues. Intersections with other disciplines, in particular social development and biology, will be addressed. Historical tensions and traditions, as well as classic studies and theories, will be covered. Graduate students from other disciplines, and advanced undergraduates, are welcome (class size permitting).
Same as: PSYCH 280

EDUC 308. Assessment Development, Adaptation, and Review. 3 Units.

Offers a critical perspective for examining current practices concerning the development, adaptation, and review of assessment instruments in state, national, and international assessment contexts.

EDUC 309. Educational Issues in Contemporary China. 3-4 Units.

Reforms such as the decentralization of school finance, emergence of private schools, expansion of higher education, and reframing of educational policy to focus on issues of quality. Have these reforms exacerbated educational inequality.
Same as: EDUC 109

EDUC 310. Sociology of Education: The Social Organization of Schools. 4 Units.

Seminar. Key sociological theories and empirical studies of the links between education and its role in modern society, focusing on frameworks that deal with sources of educational change, the organizational context of schooling, the impact of schooling on social stratification, and the relationships between the educational system and other social institutions such as families, neighborhoods, and the economy.

Same as: EDUC 110, SOC 132, SOC 332

EDUC 311. Research Workshop in International Education. 1 Unit.

International Education Initiative (IEI) is a cross-campus initiative to promote greater collaboration around research in international education at Stanford. It is designed to help students conduct higher quality research in international education and gain wide exposure to the international education research community. Students will have the chance to engage with invited speakers from outside Stanford, present and get feedback about their own research, and learn new methodological tools.

EDUC 312. Relational Sociology. 4 Units.

Conversations, social relationships and social networks are the core features of social life. In this course we explore how conversations, relationships, and social networks not only have their own unique and independent characteristics, but how they shape one another and come to characterize many of the settings we enter and live in. As such, students will be introduced to theories and research methodologies concerning social interaction, social relationships, and social networks, as well as descriptions of how these research strands interrelate to form a larger relational sociology that can be employed to characterize a variety of social phenomenon. This course is suitable to advanced undergraduates and doctoral students.

Same as: SOC 224B

EDUC 313. The Education of American Jews. 4 Units.

This course will take an interdisciplinary approach to the question of how American Jews negotiate the desire to retain a unique ethnic sensibility without excluding themselves from American culture more broadly. Students will examine the various ways in which people debate, deliberate, and determine what it means to be an "American Jew". This includes an investigation of how American Jewish relationships to formal and informal educational encounters through school, popular culture, religious ritual, and politics.

Same as: JEWISHST 393X, RELIGST 313X

EDUC 314. Funkentelechy: Technologies, Social Justice and Blk Vernacular Culture. 3-5 Units.

From texts to techne, from artifacts to discourses on science and technology, this course is an examination of how Black people in this society have engaged with the mutually constitutive relationships that endure between humans and technologies. We will focus on these engagements in vernacular cultural spaces, from storytelling traditions to music and move to ways academic and aesthetic movements have imagined these relationships. Finally, we will consider the implications for work with technologies in both school and community contexts for work in the pursuit of social and racial justice. Course is open to master's and doctoral students only.

EDUC 315. Reforms in Federal Education Programs: The New ESSA through the Lens of Assessment and Language.. 2-5 Units.

This seminar explores implications of three notable shifts in the new federal education law (ESSA): shifts in student assessment and school accountability practices; deliberate inclusion of English Learners throughout the law but in particular in Title I accountability; and, its consideration of appropriate quality of evidence to support its multiple programs. The course analyzes the law by examining legislative history, existing research of various components of NCLB, and considering research implications in the implementation of ESSA.

EDUC 316. Social Network Methods. 4-5 Units.

Introduction to social network theory, methods, and research applications in sociology. Network concepts of interactionist (balance, cohesion, centrality) and structuralist (structural equivalence, roles, duality) traditions are defined and applied to topics in small groups, social movements, organizations, communities. Students apply these techniques to data on schools and classrooms.

Same as: SOC 369

EDUC 317. Workshop: Networks, Histories, and Theories of Action. 1-2 Unit.

Yearlong workshop where doctoral students are encouraged to collaborate with peers and faculty who share an interest in researching the network dynamics, histories and theories of action that help explain particular social phenomena. Students present their own research and provide helpful feedback on others' work. Presentations may concern dissertation proposals, grants, article submissions, book proposals, datasets, methodologies and other texts. Repeatable for credit.

Same as: SOC 317W

EDUC 318. The Discourses of Teaching Reading. 3-5 Units.

Students examine language, social relationships, and students' textual sense-making to further develop their conceptions of reading comprehension and their pedagogical practice as reading teachers. What it means to comprehend text; how classroom discourse matters in the development of textual understanding; and what understandings, purposes, and relationships should matter in classroom talk about text. Field work in which students facilitate small group text discussions for the duration of the quarter at a location of their choice.

EDUC 319. Research on Teaching. 1-4 Unit.

Introduction and historical perspective to theory, methods, and substantive findings of research on teaching.

EDUC 320. Sociology of Science. 3-4 Units.

The sociology of science concerns the social structures and practices by which human beings interpret, use and create intellectual innovations. In particular we will explore the claim that scientific facts are socially constructed and ask whether such a characterization has limits. Course readings will concern the formation and decline of various thought communities, intellectual social movements, scientific disciplines, and broader research paradigms. A special focus will be placed on interdisciplinarity as we explore whether the collision of fields can result in new scientific advances. This course is suitable to advanced undergraduates and doctoral students.

Same as: EDUC 120, SOC 330

EDUC 321. Analysis of Social Interaction. 3 Units.

Practicum on discourse, interactional, and cultural analysis of videotaped data. Analysis of interactional data, and the basis on which analytic claims can be founded. The transcription of speech and movement in social interaction, and how to identify the patterns which participants use to display and interpret cultural meanings. The theoretical assumptions hidden in transcription systems. Prerequisite: first- or second-year graduate student.

EDUC 322. Community-based Research As Tool for Social Change: Discourses of Equity in Communities & Classrooms. 3-5 Units.

Issues and strategies for studying oral and written discourse as a means for understanding classrooms, students, and teachers, and teaching and learning in educational contexts. The forms and functions of oral and written language in the classroom, emphasizing teacher-student and peer interaction, and student-produced texts. Individual projects utilize discourse analytic techniques.

Same as: AFRICAAM 130, CSRE 130, EDUC 123

EDUC 323A. The Practice of Education Policy Analysis. 3-5 Units.

Key issues in the K-12 education policy. Modern theories about the making of policy and its implementation. Preparation to do policy analysis in education.

EDUC 324. The Ecology of Equality. 1-4 Unit.

A biweekly, one-hour workshop that meets throughout the full academic year. Designed for doctoral students and explores a range of issues pertaining to equity and equality in the United States and globally. Takes an interdisciplinary approach and intended for those who desire a deeper exploration of humanistic, social science and philosophical explanations for existing conditions, crises, and policies in society, as they pertain to various forms of social inequality—with a particular focus on race, ethnicity, class, gender, and sexuality.

EDUC 325A. Proseminar 1. 3 Units.

Required of and limited to first-year Education doctoral students. Core questions in education: what is taught, to whom, and why; how do people learn; how do teachers teach and how do they learn to teach; how are schools organized; how are educational systems organized; and what are the roles of education in society?.

EDUC 325B. Proseminar 2. 3 Units.

Required of and limited to first-year Education doctoral students. Core questions in education: what is taught, to whom, and why; how do people learn; how do teachers teach and how do they learn to teach; how are schools organized; how are educational systems organized; and what are the roles of education in society?.

EDUC 325C. Proseminar 3. 2-4 Units.

Required of and limited to first-year Education doctoral students. Core questions in education: what is taught, to whom, and why; how do people learn; how do teachers teach and how do they learn to teach; how are schools organized; how are educational systems organized; and what are the roles of education in society?.

EDUC 326. Advanced Regression Analysis. 3-4 Units.

Social science researchers often deal with complex data and research questions that traditional statistics models like linear regression cannot adequately address. This course offers the opportunity to understand and apply two widely used types of advanced regression analysis that allow the examination of 1) multilevel data structures (multilevel models) and 2) multivariate research questions (structural equation models).

EDUC 327A. The Conduct of Qualitative Inquiry. 3-4 Units.

Two quarter sequence for doctoral students to engage in research that anticipates, is a pilot study for, or feeds into their dissertations. Prior approval for dissertation study not required. Students engage in common research processes including: developing interview questions; interviewing; coding, analyzing, and interpreting data; theorizing; and writing up results. Participant observation as needed. Preference to students who intend to enroll in 327C.

Same as: SOC 331

EDUC 327C. The Conduct of Qualitative Inquiry. 1-4 Unit.

For doctoral students. Students bring research data for analysis and writing. Preference to those who have completed 327A.

EDUC 328. Topics in Learning and Technology: Core Mechanics for Learning. 3 Units.

Contents of the course change each year. The course can be repeated. In game play, core mechanics refers to the rules of interaction that drive the game forward. This class will consider whether there are core mechanics that can drive learning forward, and if so, how to build them into learning environments.

EDUC 328A. Topics in Learning and Technology: d.compress - Designing Calm. 3 Units.

Contents of the course change each year. The course can be repeated. Stress silently but steadily damages physical and emotional well-being, relationships, productivity, and our ability to learn and remember. This highly experiential and project-oriented class will focus on designing interactive technologies to enable calm states of cognition, emotion, and physiology for better human health, learning, creativity and productivity. Same as: CS 377D

EDUC 329. Seminar on Teacher Professional Development. 1-4 Unit.

Theories, principles, design, and practices of professional development. Topics include: pedagogies of professional development; design principles for transformative professional development; frameworks and processes to support teacher learning; research on professional development processes and outcomes; and policy issues. Optional practicum in subsequent terms in which course participants are able to offer a professional development opportunity to practicing teachers through the Center to Support Excellence in Teaching.

EDUC 330. Teaching English Language Learners: Issues in Policy, Leadership, and Instruction. 3-4 Units.

Current perspectives and research on issues facing educators serving the English language learner population. Issues include federal education legislation, civil rights law, national Common Core Standards, content and language proficiency standards assessment and accountability, school improvement models, school structure, community engagement, addressing issues of long-term English learners, programming for newcomer ELLs, early childhood education, and promoting bilingualism.

EDUC 332. Theory and Practice of Environmental Education. 3 Units.

Foundational understanding of the history, theoretical underpinnings, and practice of environmental education as a tool for addressing today's pressing environmental issues. The purpose, design, and implementation of environmental education in formal and nonformal settings with youth and adult audiences. Field trip and community-based project offer opportunities for experiencing and engaging with environmental education initiatives.

EDUC 333A. Understanding Learning Environments. 3 Units.

Advanced seminar. Theoretical approaches to learning used to analyze learning environments and develop goals for designing resources and activities to support effective learning practices.

EDUC 333B. Imagining the Future of Learning: SparkTruck - Designing Mobile Interventions for Education. 4 Units.

Created at the d.school last year, SparkTruck has traveled over 15,000 miles across the USA, teaching thousands of kids how to build stuff and unleash their creativity. In this class, students will explore the potential of a mobile platform for affecting change in the educational ecosystem. Topics will include introductions to the design process, modern prototyping tools, and the complex education ecosystem. Students will work in teams in this project-based class, and an emphasis will be placed on real-world prototyping through hands-on field work in local schools. Interested and qualified students will have the opportunity to embark on a cross-country road trip in the SparkTruck this summer. Open to all graduate students and well-qualified undergrads of any major. Enrollment is limited. Apply at www.sparktruck.org/apply. Same as: ME 376A

EDUC 334. Strategic Educational Research and Organizational Reform Clinic. 4 Units.

(Same as STRAMGT 360). This is a two-quarter clinical course offered in the Winter and Spring Quarters that brings together upper-level graduate students in education, law, and business from Stanford to collaborate with their peers at other universities (Columbia University, Harvard University, University of Pennsylvania, University of Michigan) and provide strategic research and consulting to public education organizations. Participants engage in a rigorous and rewarding learning experience, including:

- (i) An intensive seminar in the design, leadership and management, and transformation of public school systems, charter management organizations, start-ups, and other K-12 public- and social-sector institutions;
- (ii) Comprehensive skills training in team-based problem solving, strategic policy research, managing multidimensional (operational, policy, legal) projects to specified outcomes in complex environments, client counseling, and effective communication; and
- (iii) A high-priority consulting project for a public education sector client (e.g., school district, state education agency, charter management organization, non-profit) designing and implementing solutions to a complex problem at the core of the organization's mission to improve the educational outcomes and life chances of children. The participant's team work will allow public agencies throughout the nation to receive relevant, timely, and high-quality research and advice on institutional reforms that otherwise may not receive the attention they deserve.

EDUC 334A. Youth and Education Law Project: Clinical Practice. 4 Units.

(Same as LAW 660A). The Youth and Education Law Project offers students the opportunity to participate in a wide variety of educational rights and reform work, including direct representation of youth and families in special education and school discipline matters, community outreach and education, school reform litigation, and/or policy research and advocacy. All students have an opportunity to represent elementary and high school students with disabilities in special education proceedings, to represent students in school discipline proceedings, or to work with community groups in advocating for the provision of better and more equitable educational opportunities to their children. In addition, the clinic may pursue a specific policy research and advocacy project that will result in a written policy brief and policy proposal. Students working on special education matters have the opportunity to handle all aspects of their clients' cases. Students working in this area interview and counsel clients, investigate and develop facts, work with medical and mental health professionals and experts, conduct legal and educational research, create case plans, and represent clients at individual education program (IEP) team meetings, mediation or special education due process hearings. This work offers students a chance to study the relationship between individual special education advocacy and system-wide reform efforts such as impact litigation. Students working on school discipline matters interview and counsel clients, investigate and develop facts, interview witnesses, conduct legal and educational research, create case plan, and represent clients at school discipline hearings such as expulsion hearings. Such hearings provide the opportunity to present oral and written argument, examine witnesses, and present evidence before a hearing officer. If appropriate and necessary, such proceedings also present the opportunity to represent students on appeal before the school district board of trustees or the county board of education. The education clinic includes two or three mandatory training sessions to be held at the beginning of the term, a weekly seminar that focuses on legal skills and issues in law and education policy, regular case review, and a one hour weekly meeting with the clinic instructor. Admission is by consent of instructor. Beginning with the 2009-2010 academic year, each of the Law School's clinical courses is being offered on a full-time basis for 12 credits.

EDUC 334B. Youth and Education Law Project: Clinical Methods. 4 Units.

(Same as LAW 660B). The Youth and Education Law Project offers students the opportunity to participate in a wide variety of educational rights and reform work, including direct representation of youth and families in special education and school discipline matters, community outreach and education, school reform litigation, and/or policy research and advocacy. All students have an opportunity to represent elementary and high school students with disabilities in special education proceedings, to represent students in school discipline proceedings, or to work with community groups in advocating for the provision of better and more equitable educational opportunities to their children. In addition, the clinic may pursue a specific policy research and advocacy project that will result in a written policy brief and policy proposal. Students working on special education matters have the opportunity to handle all aspects of their clients' cases. Students working in this area interview and counsel clients, investigate and develop facts, work with medical and mental health professionals and experts, conduct legal and educational research, create case plans, and represent clients at individual education program (IEP) team meetings, mediation, or special education due process hearings. This work offers students a chance to study the relationship between individual special education advocacy and system-wide reform efforts such as impact litigation. Students working on school discipline matters interview and counsel clients, investigate and develop facts, interview witnesses, conduct legal and educational research, create case plan, and represent clients at school discipline hearings such as expulsion hearings. Such hearings provide the opportunity to present oral and written argument, examine witnesses, and present evidence before a hearing officer. If appropriate and necessary, such proceedings also present the opportunity to represent students on appeal before the school district board of trustees of the county board of education. The education clinic includes two or three mandatory training sessions to be held at the beginning of the term, a weekly seminar that focuses on legal skills and issues in law and education policy, regular case review, and a one hour weekly meeting with the clinic instructor. Admission is by consent of instructor. Beginning with the 2009-2010 academic year, each of the Law School's clinical courses is being offered on a full-time basis for 12 credits.

EDUC 334C. Youth and Education Law Project: Clinical Coursework. 4 Units.

(Same as LAW 660C). The Youth and Education Law Project offers students the opportunity to participate in a wide variety of educational rights and reform work, including direct representation of youth and families in special education and school discipline matters, community outreach and education, school reform litigation, and/or policy research and advocacy. All students have an opportunity to represent elementary and high school students with disabilities in special education proceedings, to represent students in school discipline proceedings, or to work with community groups in advocating for the provision of better and more equitable educational opportunities to their children. In addition, the clinic may pursue a specific policy research and advocacy project that will result in a written policy brief and policy proposal. Students working on special education matters have the opportunity to handle all aspects of their clients' cases. Students working in this area interview and counsel clients, investigate and develop facts, work with medical and mental health professionals and experts, conduct legal and educational research, create case plans, and represent clients at individual education program (IEP) team meetings, mediation, or special education due process hearings. This work offers students a chance to study the relationship between individual special education advocacy and system-wide reform efforts such as impact litigation. Students working on school discipline matters interview and counsel clients, investigate and develop facts, interview witnesses, conduct legal and educational research, create case plan, and represent clients at school discipline hearings such as expulsion hearings. Such hearings provide the opportunity to present oral and written argument, examine witnesses, and present evidence before a hearing officer. If appropriate and necessary, such proceedings also present the opportunity to represent students on appeal before the school district board of trustees or the county board of education. The education clinic includes two or three mandatory training sessions to be held at the beginning of the term, a weekly seminar that focuses on legal skills and issues in law and education policy, regular case review, and a one hour weekly meeting with the clinic instructor. Admission is by consent of instructor. Beginning with the 2009-2010 academic year, each of the Law School's clinical courses is being offered on a full-time basis for 12 credits.

EDUC 335. Designing Research-Based Interventions to Solve Global Health Problems. 3-4 Units.

The excitement around social innovation and entrepreneurship has spawned numerous startups focused on tackling world problems, particularly in the fields of education and health. The best social ventures are launched with careful consideration paid to research, design, and efficacy. This course offers students insights into understanding how to effectively develop, evaluate, and scale social ventures. Using TeachAIDS (an award-winning nonprofit educational technology social venture used in 78 countries) as a primary case study, students will be given an in-depth look into how the entity was founded and scaled globally. Guest speakers will include world-class experts and entrepreneurs in Philanthropy, Medicine, Communications, Education, and Technology. Open to both undergraduate and graduate students. Same as: AFRICAST 135, AFRICAST 235, EDUC 135, HRP 235, HUMBIO 26, MED 235

EDUC 336. Language, Identity, and Classroom Learning. 1-3 Unit.

As contemporary research focuses on how people act and recognize each other, analyzing interaction while acknowledging identity allows for a dynamic examination of cultural interaction. Broad cultural categorization can be overly expansive in identifying the characteristics of large groups of individuals.

EDUC 336A. Law and Public Policy: Issues in Implementation. 3 Units.

(Same as LAW 636.) This seminar will focus on issues related to achieving successful implementation of the goals of legislation. It is widely recognized that the goals of legislation often are not realized and that the failure frequently rests in breakdowns in the implementation process by the agencies and organizations charged with implementing the legislation. In response to problems in implementation, the institutional context of public policy implementation is changing. One category of innovations, known by names such as "management-based regulation" and "evidence-based" social service delivery, gives broad discretion to street-level service providers but subjects them to intensive monitoring and disciplined performance comparison. Another category applies market concepts to regulation or social services, for example, by creating tradable rights (e.g. pollution allowances) or vouchers (for schools, housing, or healthcare). These, and other, new approaches are affecting both the contours of public law doctrine and the nature of lawyering in the public sector. Lawyers in the public sector are increasingly drawing on skills of institutional design and monitoring of the kind associated with private sector transactional practice. This seminar will examine some of the emerging general themes of innovative policy implementation and look at a range of case studies. Topics will include the conditions under which financial and other rewards and sanctions are useful in bringing about desired behaviors, the pluses and minuses of the creation of markets as alternatives to government run programs, and efforts at improving implementation by improving management activities. Examples will be taken from both regulation and social services, and are likely to include environmental protection, education, child protective services, healthcare, food and workplace safety, nuclear power safety, and regulation of financial institutions. We will invite presentations by academics and practitioners.

EDUC 337. Race, Ethnicity, and Linguistic Diversity in Classrooms: Sociocultural Theory and Practices. 3-5 Units.

Focus is on classrooms with students from diverse racial, ethnic and linguistic backgrounds. Studies, writing, and media representation of urban and diverse school settings; implications for transforming teaching and learning. Issues related to developing teachers with attitudes, dispositions, and skills necessary to teach diverse students. Same as: AFRICAAM 106, CSRE 103B, EDUC 103B

EDUC 338. Innovations in Education. 3-4 Units.

Each year students in this course explore a new design challenge related to teaching. This year we will focus on creating school models. We welcome graduate students from a wide range of disciplines. Admission by application. Please see more information at <http://dschool.stanford.edu>.

EDUC 339. Advanced Topics in Quantitative Policy Analysis. 1-2 Unit.

For doctoral students. How to develop a researchable question and research design, identify data sources, construct conceptual frameworks, and interpret empirical results. Presentation by student participants and scholars in the field. May be repeated for credit.

EDUC 340. Psychology and American Indian Mental Health. 3-5 Units.

Western medicine's definition of health as the absence of sickness, disease, or pathology; Native American cultures' definition of health as the beauty of physical, spiritual, emotional, and social things, and sickness as something out of balance. Topics include: historical trauma; spirituality and healing; cultural identity; values and acculturation; and individual, school, and community-based interventions. Prerequisite: experience working with American Indian communities. Same as: NATIVEAM 240

EDUC 341. Counterstory and Narrative Inquiry in Literature and Education. 3 Units.

Counterstory is a method developed in critical legal studies that emerges out of the broad "narrative turn" in the humanities and social science. This course explores the value of this turn, especially for marginalized communities, and the use of counterstory as analysis, critique, and self-expression. Using an interdisciplinary approach, we examine counterstory as it has developed in critical theory, critical pedagogy, and critical race theory literatures, and explore it as a framework for liberation, cultural work, and spiritual exploration.

Same as: EDUC 141

EDUC 342. Child Development and New Technologies. 3 Units.

Focus is on the experiences computing technologies afford children and how these experiences might influence development. Sociocultural theories of development as a conceptual framework for understanding how computing technologies interact with the social ecology of the child and how children actively use technology to meet their own goals. Emphasis is on influences of interactive technology on cognitive development, identity, and social development equity.

EDUC 343. Navigating the Academic Profession. 1-2 Unit.

For DARE doctoral fellows only. The roles and responsibilities of faculty members in American colleges and universities in the 21st century. How to become productive faculty members within the higher education enterprise.

EDUC 345. Adolescent Development and Schooling. 3-5 Units.

How the context of school and its relationship to other major context developments (family, peer group, and neighborhood) influence the social, emotional, and cognitive development of secondary school-aged youths. Metatheoretical approaches (mechanistic, organismic, developmental contextualist metamodels) and methods of conducting research on schooling and development (laboratory, survey, ethnographic, intervention). Topics: school transitions during adolescence; the role of school functioning in broader patterns of competence or distress; and how the organization of academic tasks, classrooms, and school environments as a whole can influence adolescent development. Focus is on middle and high school years. (PSE).

EDUC 346. Research Seminar in Higher Education. 4 Units.

Major issues, current structural features of the system, the historical context that shaped it, and theoretical frameworks. The purposes of higher education in light of interest groups including students, faculty, administrators, and external constituents. Issues such as diversity, stratification, decentralization, and changes that cut across these groups.

EDUC 347. The Economics of Higher Education. 3-4 Units.

(Same as GSBGEN 348) Topics: the worth of college and graduate degrees, and the utilization of highly educated graduates; faculty labor markets, careers, and workload; costs and pricing; discounting, merit aid, and access to higher education; sponsored research; academic medical centers; and technology and productivity. Emphasis is on theoretical frameworks, policy matters, and the concept of higher education as a public good. Stratification by gender, race, and social class.

EDUC 348. Policy and Practice in Science Education. 3-4 Units.

Values and beliefs that dominate contemporary thinking about the role and practice of science education, what the distinctive features of science are, and the arguments for its value as part of compulsory education. Research on the conceptual and affective outcomes of formal science education, how the changing nature of contemporary society challenges current practice, and the rationale for an alternative pedagogy, curriculum and assessment.

EDUC 349. Comparative Higher Education. 3-4 Units.

This course examines the expansion, impact, and organization of higher education across the world. This course engages students with sociological theory and comparative research on global and national sources of influence on higher education developments, e.g. admissions criteria, curricular content, governance structure.. At the end of the course students should be able to compare and contrast developments across countries.

Same as: SOC 297

EDUC 350. Workshop on New Research. 1 Unit.

This course will integrate attendance and participation at the research lectures given by visitors with separate, faculty-led workshops that discuss the presented study, its methodologies, and the research and policy contexts in which it is situated. This workshop will also provide an opportunity for professional development relevant to academic publishing and effective presentation.

EDUC 351A. Statistical Methods for Longitudinal Research. 2-3 Units.

Research designs and statistical procedures for time-ordered (repeated-measures) data. The analysis of longitudinal panel data is central to empirical research on learning, development, aging, and the effects of interventions. Topics include: measurement of change, growth curve models, analysis of durations including survival analysis, experimental and non-experimental group comparisons, reciprocal effects, stability. See <http://rogosateaching.com/stat222/>. Prerequisite: intermediate statistical methods.

Same as: STATS 222

EDUC 351B. Statistical Issues in Testing and Assessment. 2-3 Units.

The new book by Howard Wainer, "Uneducated Guesses: Using Evidence to Uncover Misguided Education Policies" is the basis for this seminar. Also included will be supporting research literature and data analysis activities for topics such as college admissions, methods for missing data, assessment of achievement gaps, and the use of value-added analysis. See <http://www-stat.stanford.edu/~rag/ed351B/>.

EDUC 351C. Workshop in Technical Quality of Educational Assessments and Accountability. 3 Units.

Topics include: determinations of accuracy for individual scores and group summaries; design and reporting of educational assessments; achievement instruments in state-level accountability systems; and policy implications of statistical properties. See <http://www.stanford.edu/~rag/>.

EDUC 352. Education Research Partnerships. 3-5 Units.

This course focuses on developing and sustaining effective education research partnerships. Partnerships are essential in creating new research projects, conducting field-based inquiry, and in implementing lessons from research projects. The course emphasizes the power of successful partnerships in improving education while exploring potential barriers to the formation and productivity of partnerships. During this course there will be explicit opportunities for students to develop the knowledge and capacities necessary for effective collaborative partnership research.

EDUC 353A. Problems in Measurement: Item Response Theory. 3 Units.

Study of the mathematical models used in psychological measurement with an emphasis on item response theory (IRT). We will examine various problems, including estimation of item parameters and person abilities, polytomous response models, and other issues. A key focus of this course will be on developing applied skills with the relevant models. Prerequisites included EDUC 252 (or consent of the instructor).

EDUC 353C. Problems in Measurement: Generalizability Theory. 3 Units.

Application to analysis of educational achievement data, including performance assessments. Fundamental concepts, computer programs, and actual applications.

EDUC 354. School-Based Decision Making. 4 Units.

Leadership and organizational issues. Leadership as it plays out in the pragmatic demands and tensions of site-level decision processes. Interdependence and complexity of several factors critical to school achievement and equity outcomes: governance, culture, instruction, resource alignment, inquiry, community engagement. School decision-making as a capacity-building process.

EDUC 355. Higher Education and Society. 3 Units.

For undergraduates and graduate students interested in what colleges and universities do, and what society expects of them. The relationship between higher education and society in the U.S. from a sociological perspective. The nature of reform and conflict in colleges and universities, and tensions in the design of higher education systems and organizations.

EDUC 356. Street History: Learning the Past in School and Out. 3-5 Units.

Interdisciplinary. Since Herodotus, history and memory have competed to shape minds: history cultivates doubt and demands interpretation; memory seeks certainty and detests that which thwarts its aims. History and memory collide in modern society, often violently. How do young people become historical amidst these forces; how do school, family, nation, and mass media contribute to the process?.

Same as: HISTORY 337C

EDUC 357. Science and Environmental Education in Informal Contexts. 3-4 Units.

There are ever-expanding opportunities to learn science in contexts outside the formal classroom, in settings such as zoos, museums, and science centers. How are issues around science and the environment presented in these contexts, how do people behave and learn in these contexts, and what messages do they take away? This course will cover the learning theories and empirical research that has been conducted in these settings. Case studies of nearby science centers will add an experiential dimension.

EDUC 358. Learning, Sharing, Publishing, and Intellectual Property. 1-4 Unit.

The educational, historical, legal, economic, technical, and ethical issues entailed in the digital-era openness and sharing of intellectual properties associated with learning (including books, websites, games, journals, etc.). The skills and knowledge for finding, developing, and evaluating resources at all educational levels, based on a grasp of the opportunities and challenges of increasing access to learning in this way. As part its global focus on open learning, the course will be run in conjunction with the OpenKnowledge MOOC "Changing the Global Course of Learning" (<https://class.stanford.edu/courses/Education/OpenKnowledge/Fall2014/about>), offering students the option of both experiencing and studying a MOOC on this theme, which is being co-taught in Mexico, Ghana, Canada, and the U.S. (Stanford and Fordham) in English and Spanish.

EDUC 359B. Research on Science Teaching and Learning. 2-3 Units.

An exploration and review of the main programs of research that have been conducted in the field of science education, their findings and implications.

EDUC 359C. Science Literacy. 2-3 Units.

The changing debate over conceptions of the nature of science and the calls to broaden it. Themes, directions, limitations, and epistemological foundations of the body of research on the nature of science.

EDUC 359F. Research in Mathematics Education: Conducting Inquiry. 2-4 Units.

This seminar will serve as both a workshop for developing participants' own professional trajectories as mathematics education scholars and a forum for discussion on key issues related to conducting research and making an impact in the field of mathematics education. Participants will be invited to share their own research and to engage in discussions about possible impact. This seminar is restricted to mathematics education students.

EDUC 360. Child Development in Contexts of Risk and Adversity. 3-4 Units.

In this course students will learn about theoretical, methodological, and empirical issues pertaining to developmental psychopathology and resilience of children and adolescents. The course focuses on (1) current conceptual and empirical issues; (2) cognitive, affective, and motivational processes that underlie some of the most salient childhood mental health symptoms and disorders; (3) family, school, and cultural factors that contribute to developmental psychopathology and resilience; and (4) cutting-edge analytic methods that are currently employed in studies of developmental psychopathology and resilience.

EDUC 361. Workshop: Networks and Organizations. 1-3 Unit.

For students doing advanced research. Group comments and criticism on dissertation projects at any phase of completion, including data problems, empirical and theoretical challenges, presentation refinement, and job market presentations. Collaboration, debate, and shaping research ideas. Prerequisite: courses in organizational theory or social network analysis.

Same as: SOC 361W

EDUC 362. The Science Curriculum: Values and Ideology in a Contested Terrain. 2-4 Units.

The issue of what should be taught in schools is a site of contestation where issues of beliefs, values and ideologies emerge. This course will use the school science curriculum and the history of its development to explore the common positions adopted and argued for in approaching curriculum development. Course will help students develop a knowledge of curriculum reform in school science and a deeper understanding of the arguments that have shaped its present form and their historical antecedents.

EDUC 363. Stress Reactivity and Biological Sensitivity to Context. 3-4 Units.

This class is designed to introduce students to two biological system: the autonomic nervous system (ANS) and the hypothalamic-pituitary-adrenal (HPA) axis' that help children respond to and cope with daily challenges, stressors, and adversities. We will examine: (1) how the ANS and HPA systems respond to daily stressors, as well as experiences of poverty, maltreatment, and neglect; (2) how different indices of stress reactivity independently and jointly relate to various domains of competence and psychopathology; and (3) how stress reactivity moderates contextual influences on children's adaptation.

EDUC 364. Cognition and Learning. 3-4 Units.

Cognitive psychology is the study of human thought including topics including the nature of expertise, creativity, and memory. Emphasis is on learning. The role of cognitive psychology in helping people learn, and determining the most desirable type of learning and whether people have learned. Students design and conduct their own learning study.

EDUC 365. Social, Emotional, and Personality Development. 3 Units.

Limited to doctoral students in DAPS and those with a background in child and adolescent development. Developmental processes that account for psychological adaptation in social relationships, schools, and other interpersonal settings. Theoretical models of social, personality, and emotional development. Topics such as self-concept, empathy, motivation, aggression, and personality formation.

EDUC 366. Learning in Formal and Informal Environments. 3 Units.

How learning opportunities are organized in schools and non-school settings including museums, after-school clubs, community art centers, theater groups, aquariums, sports teams, and new media contexts. Sociocultural theories of development as a conceptual framework. Readings from empirical journals, web publications, and books. Collaborative written or multimedia research project in which students observe and document a non-school learning environment.

EDUC 367. Cultural Psychology. 3-5 Units.

(Formerly 292.) The relationship between culture and psychological processes; how culture becomes an integral part of cognitive, social, and moral development. Both historical and contemporary treatments of cultural psychology, including deficit models, crosscultural psychology, ecological niches, culturally specific versus universal development, sociocultural frameworks, and minority child development. The role of race and power in research on cultural psychology.

EDUC 368. Cognitive Development in Childhood and Adolescence. 3 Units.

This course aims to broaden and deepen students' understanding of cognitive development from the prenatal period through adolescence. It will examine various theoretical, methodological, and empirical issues pertaining to different domains of cognitive development, such as neurobiological plasticity, infant cognition, theory of mind, memory, language, and executive functions. Throughout the course, as we survey research findings, we will discuss (1) methods that researchers have employed in their study of cognitive development; (2) limitations of current research and directions for future research; and (3) translation of research findings for practitioners and policymakers.

EDUC 370. Parenting and Family Relationships in Childhood. 3-4 Units.

This course will focus on the relevance of parenting and family relationships for children's development. We will examine studies of: (1) how parental and child behaviors contribute to sensitivity, responsiveness, scaffolding, autonomy, and control within the dyad; (2) parents' role in socializing children's emotions and their ethnic/racial identity; and (3) parents' involvement in early education. We will discuss cultural and economic factors affecting our conceptualization, measurement, and interpretations of parents' behaviors and their interactions with their children.

EDUC 371. Social Psychology and Social Change. 2-3 Units.

The course is intended as an exploration of the major ideas, theories, and findings of social psychology and their applied status. Special attention will be given to historical issues, classic experiments, and seminal theories, and their implications for topics relevant to education. Contemporary research will also be discussed. Advanced undergraduates and graduate students from other disciplines are welcome, but priority for enrollment will be given to graduate students. In order to foster a vibrant, discussion-based class, enrollment will be capped at 20 students. Interested students should enroll in the class through simple enroll or access, and complete this survey (<https://tinyurl.com/SPSC17>) to be considered for admission to the course. Please contact the course TA, Michael Schwalbe (schwalbe@stanford.edu), if you have any further questions.

Same as: PSYCH 265

EDUC 373. Genetics and Society. 3 Units.

This course will focus on social science engagement with developments in genetic research, focusing on two key issues. First, social scientists are trying to figure out how genetic data can be used to help them better understand phenomena they have been long endeavoring to understand. Second, social scientists try to improve understanding of how social environments moderate, amplify, or attenuate genetic influences on outcomes.

Same as: HUMBIO 158S, SOC 232

EDUC 374. Philanthropy and Civil Society. 1-3 Unit.

Cross-listed with Law (LAW 781), Political Science (POLISCI 334) and Sociology (SOC 374). Associated with the Center for Philanthropy and Civil Society (PACS). Year-long workshop for doctoral students and advanced undergraduates writing senior theses on the nature of civil society or philanthropy. Focus is on pursuit of progressive research and writing contributing to the current scholarly knowledge of the nonprofit sector and philanthropy. Accomplished in a large part through peer review. Readings include recent scholarship in aforementioned fields.

May be repeated for credit for a maximum of 9 units.

Same as: POLISCI 334, SOC 374

EDUC 375A. Seminar on Organizational Theory. 5 Units.

The social science literature on organizations assessed through consideration of the major theoretical traditions and lines of research predominant in the field.

Same as: MS&E 389, SOC 363A

EDUC 375B. Seminar on Organizations: Institutional Analysis. 3-5 Units.

Seminar. Key lines of inquiry on organizational change, emphasizing network, institutional, and evolutionary arguments.

Same as: SOC 363B

EDUC 376. Higher Education Leadership Colloquium. 2-3 Units.

This course presents a series of speakers from Stanford and other higher education institutions who work at the middle to higher levels of administration. Speakers and topics are guided by student interest, but include a range from student affairs to finance. Sessions are intended to be interactive.

EDUC 377. Comparing Institutional Forms: Public, Private, and Nonprofit. 4 Units.

For students interested in the nonprofit sector, those in the joint Business and Education program, and for Public Policy MA students. The focus is on the missions, functions, and capabilities of nonprofit, public, and private organizations, and the managerial challenges inherent in the different sectors. Focus is on sectors with significant competition among institutional forms, including health care, social services, the arts, and education. Sources include scholarly articles, cases, and historical materials.

Same as: GSBGEN 346, PUBLPOL 317, SOC 377

EDUC 377B. Strategic Management of Nonprofit Organizations and Social Ventures. 4 Units.

(Same as STRAMGT 368). This course seeks to provide a survey of the strategic, governance, and management issues facing a wide range of nonprofit organizations and their executive and board leaders, in the era of venture philanthropy and social entrepreneurship. The students will also be introduced to core managerial issues uniquely defined by this sector such as development/fundraising, investment management, performance management and nonprofit finance. The course also provides an overview of the sector, including its history and economics. Cases involve a range of nonprofits, from smaller, social entrepreneurial to larger, more traditional organizations, including education, social service, environment, health care, religion, NGO's and performing arts. In exploring these issues, this course reinforces the frameworks and concepts of strategic management introduced in the core first year courses. In addition to case discussions, the course employs role plays, study group exercises and many outsider speakers.

EDUC 377C. Philanthropy: Strategy, Innovation and Social Change. 3 Units.

Appropriate for any student driven to effect positive social change from either the for-profit or nonprofit sector, Philanthropy will challenge students to expand their own strategic thinking about philanthropic aspiration and action. In recent decades, philanthropy has become an industry in itself - amounting to over \$358 billion in the year 2014. Additionally, the last decade has seen unprecedented innovation in both philanthropy and social value creation. This course explores the key operational and strategic distinctions between traditional philanthropic entities, such as community foundations, private foundations and corporate foundations; and innovative models, including funding intermediaries, open-source platforms, technology-driven philanthropies, impact investing and venture philanthropy. Course work will include readings and case discussions that encourage students to analyze both domestic and global philanthropic strategies as they relate to foundation mission, grantmaking, evaluation, financial management, infrastructure, knowledge management, policy change and board governance. Guest speakers will consist of high profile philanthropists, foundation presidents, social entrepreneurs and Silicon Valley business leaders creating new philanthropic models. The course will also provide students with real-world grantmaking experience in completing nonprofit organizational assessments and making grants to organizations totaling \$20,000.

EDUC 377D. Strategic Leadership of Nonprofits. 4 Units.

Formulating, evaluating, and implementing mission and strategy. Case studies from nonprofits in social services, health care, education, and arts and culture. The interaction of strategy and mission, industry structure and evolution, strategic change, growth and replication, corporate strategy, governance, commercialization, alliances, capacity building, and leadership.

Same as: STRAMGT 378

EDUC 377E. Improving and Measuring Social Impact. 3 Units.

(Also GSBGEN 322). This course focuses on strategy and actionable measurement in government, non-profit organizations, market-based social enterprises, philanthropy, and impact investing. *¿Actionable¿* means that measurement is used by managers, investors, and other stakeholders in improving outcomes. The course explores the intersection of several ideas that seem to be in some tension with each other. (1) *¿In preparing for battle I have always found that plans are useless, but planning is indispensable.¿* (Dwight D. Eisenhower), (2) *You can¿t manage what you can¿t measure,* (3) *Measurement is expensive and its results are often ignored,* (4) *¿Not everything that counts can be counted and not everything that can be counted counts¿* (apocryphally attributed to Einstein), (5) *¿The more any quantitative social indicator is used for decision making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor.¿* (Campbell¿s Law). Specifically, the course will include: strategic planning, logic models, theories of change, monitoring, and evaluation; measuring the social impact of governments, non-governmental organizations, and market-based social enterprises, and asking how philanthropists and impact investors can assess their own impact; impact investing, performance contracting, and social impact bonds; and techniques for improving the behavior and accountability of individuals and organizations. These issues will be addressed mainly through business school case studies, which place the students in the position of CEOs, managers, and investors called upon to make major decisions. **WARNING:** The course has a fair amount of reading - not more than is common in undergraduate and graduate courses, but more than is typical for MBA courses in the GSB.

EDUC 377F. Disruptions in Education. 3 Units.

(Same as GSBGEN 345). This course will explore the contemporary higher education industry, focusing especially on the places where disruptions of all kinds present significant opportunities and challenges for investors, entrepreneurs, and the businesses that serve this huge global market, as well as for faculty, students, and higher education administrators. Using a variety of readings and case studies to better understand recent disruptions and the unbundling occurring across the post-secondary landscape, from outside and inside the academy, both for-profit and non-profit, the course will examine technology in teaching and learning; the future of the degree and alternatives to the traditional credential; accreditation; competency based education; debt and education financing models; investing in the education space; and tertiary products and platforms that serve the student services market. Guests will include higher education leaders and practitioners, as well as investors and entrepreneurs.

EDUC 377G. Problem Solving for Social Change. 3 Units.

(Also GSBGEN 367). GSB graduates will play important roles in solving many of today's and tomorrow's major societal problems - such as improving educational and health outcomes, conserving energy, and reducing global poverty - which call for actions by nonprofit, business, and hybrid organizations as well as governments. This course teaches skills and bodies of knowledge relevant to these roles through problems and case studies drawn from nonprofit organizations, for-profit social enterprises, and governments, as well as novel financing mechanisms like impact investments and social impact bonds. Topics include designing, implementing, scaling, and evaluating social strategies; systems thinking; decision making under risk; psychological biases that adversely affect people's decisions; methods for influencing individuals' and organization's behavior, ranging from incentives and penalties to "nudges;" and human-centered design. Students who have encountered some of these topics in other courses are likely to gain new perspectives and encounter new challenges in applying them to solving social problems.

EDUC 377H. Diverse Leadership as an Imperative for Impact - Lessons from Education. 3 Units.

(Same as GSBGEN 377). Our society implicitly prizes a particular approach to leadership - but today's cross-sectoral, impact-oriented leader cannot afford to be restricted to a single approach. If we aspire to address challenges across social, economic, and political arenas, with highly charged moral implications and multiple stakeholders, we have an imperative to use all available tools by discovering, celebrating, and advancing diversity in leadership. Education provides the perfect canvas on which to explore this imperative. In this course, we will: (1) study a range of effective leadership approaches in the context of education; (2) develop broad, transportable skills and frameworks required to lead in any complex setting - business, public sector, nonprofit sector; (3) delve into leadership tradeoffs and tensions; (4) explore and understand our own values and tacit and explicit decision-making criteria; and (5) recognize barriers to diversity and tactics to address them. Guiding questions will include: How does the context shape the solution set? What does inspired and inspiring leadership look like? How do race/gender/other identities enter into the equation? How do I develop my own brand of leadership? We will examine contemporary leaders and controversies from education, draw upon timeless historical thinkers, enjoy the wisdom of guest speakers, and work intensively in small groups to highlight challenges, opportunities, and tradeoffs. By exploring a range of approaches and situations, we will strive for deeper understanding of ourselves and of the context to become a more capable, empathetic and effective leaders.

EDUC 380. Supervised Internship. 1-15 Unit.

EDUC 381. Multicultural Issues in Higher Education. 4 Units.

The primary social, educational, and political issues that have surfaced in American higher education due to the rapid demographic changes occurring since the early 80s. Research efforts and the policy debates include multicultural communities, the campus racial climate, and student development; affirmative action in college admissions; multiculturalism and the curriculum; and multiculturalism and scholarship.

Same as: CSRE 181, EDUC 181

EDUC 382. Student Development and the Study of College Impact. 4 Units.

The philosophies, theories, and methods that undergird most research in higher education. How college affects students. Student development theories, models of college impact, and issues surrounding data collection, national databases, and secondary data analysis.

EDUC 385. LGBTQ Issues in U.S. K-12 Education. 3 Units.

This course examines the history and contemporary landscape of lesbian, gay, bisexual, transgender, and queer (LGBTQ) issues in U.S. K-12 education. Students explore the legal, political, pedagogical, and empirical questions that have been central to this field over the last three decades. Topics include both the gains and limitations of the "safe schools" movement, controversies about transgender student rights, intersectional approaches to LGBTQ issues in schools, risk and resilience among LGBTQ adolescents, and implications for elementary school practice.

EDUC 386. Leadership and Administration in Higher Education. 2 Units.

Definitions of leadership and leadership roles within colleges and universities. Leadership models and organizational concepts. Case study analysis of the problems and challenges facing today's higher education administrators.

EDUC 387. Workshop: Comparative Studies of Educational and Political Systems. 1-5 Unit.

Analysis of quantitative and longitudinal data on national educational systems and political structures. May be repeated for credit. Prerequisite: consent of instructor.

Same as: SOC 311A

EDUC 388A. Language Policies and Practices. 2 Units.

For STEP teacher candidates seeking to meet requirements for the English Learner Authorization on their preliminary credential. Historical, political, and legal foundations of education programs for English learners. Theories of second language learning, and research on the effectiveness of bilingual education. Theory-based methods to facilitate and measure English learners' growth in language and literacy acquisition, and create environments which promote English language development and content area learning through specially designed academic instruction in English. (STEP).

EDUC 388F. Introduction to Academic Language. 1 Unit.

This course will provide opportunities for pre-service teachers to begin to develop an understanding of language uses, forms, and mechanics through application of a functional approach to academic language. By exploring language structures (phonology, morphology, syntax, semantics) as well as language-in-use (pragmatics and discourse), teacher candidates will be able to better recognize linguistic demands and challenges of students in the classroom.

EDUC 389A. Race, Ethnicity, and Language: Racial, Ethnic, and Linguistic Formations. 3-4 Units.

Language, as a cultural resource for shaping our identities, is central to the concepts of race and ethnicity. This seminar explores the linguistic construction of race and ethnicity across a wide variety of contexts and communities. We begin with an examination of the concepts of race and ethnicity and what it means to be "doing race," both as scholarship and as part of our everyday lives. Throughout the course, we will take a comparative perspective and highlight how different racial/ethnic formations (Asian, Black, Latino, Native American, White, etc.) participate in similar, yet different, ways of drawing racial and ethnic distinctions.

The seminar will draw heavily on scholarship in (linguistic) anthropology, sociolinguistics and education. We will explore how we talk and don't talk about race, how we both position ourselves and are positioned by others, how the way we talk can have real consequences on the trajectory of our lives, and how, despite this, we all participate in maintaining racial and ethnic hierarchies and inequality more generally, particularly in schools.

Same as: ANTHRO 320A, CSRE 389A, LINGUIST 253

EDUC 389B. Race, Ethnicity, and Language: Writing Race, Ethnicity, and Language in Ethnography. 3-4 Units.

This methods seminar focuses on developing ethnographic strategies for representing race, ethnicity, and language in writing without reproducing the stereotypes surrounding these categories and practices. In addition to reading various ethnographies, students conduct their own ethnographic research to test out the authors' contrasting approaches to data collection, analysis, and representation. The goal is for students to develop a rich ethnographic toolkit that will allow them to effectively represent the (re)production and (trans)formation of racial, ethnic, and linguistic phenomena.

Same as: ANTHRO 398B, LINGUIST 254

EDUC 389C. Race, Ethnicity, and Language: Pedagogical Possibilities. 3-4 Units.

This seminar explores the intersections of language and race/racism/racialization in the public schooling experiences of students of color. We will briefly trace the historical emergence of the related fields of sociolinguistics and linguistic anthropology, explore how each of these scholarly traditions approaches the study of language, and identify key points of overlap and tension between the two fields before considering recent examples of inter-disciplinary scholarship on language and race in urban schools. Issues to be addressed include language variation and change, language and identity, bilingualism and multilingualism, language ideologies, and classroom discourse. We will pay particular attention to the implications of relevant literature for teaching and learning in urban classrooms.

Same as: CSRE 385

EDUC 390. Learning Analytics and Computational Modeling in Social Science. 3-4 Units.

Computational modeling and data-mining are dramatically changing the physical sciences, and more recently also the social and behavioral sciences. Traditional analysis techniques are insufficient to investigate complex dynamic social phenomena as social networks, online gaming, diffusion of innovation, opinion dynamics, classroom behavior, and other complex adaptive systems. In this course, we will learn about how modeling, network theory, and basic data-mining can support research in cognitive, and social sciences, in particular around issues of learning, cognitive development, and educational policy.

Same as: CS 424M

EDUC 391. Engineering Education and Online Learning. 3 Units.

A project based introduction to web-based learning design. In this course we will explore the evidence and theory behind principles of learning design and game design thinking. In addition to gaining a broad understanding of the emerging field of the science and engineering of learning, students will experiment with a variety of educational technologies, pedagogical techniques, game design principles, and assessment methods. Over the course of the quarter, interdisciplinary teams will create a prototype or a functioning piece of educational technology.

Same as: ENGR 391

EDUC 393. Proseminar: Education, Business, Politics. 3 Units.

Overview of the field of education for joint degree (M.B.A./M.A.) students.

EDUC 395. Scholarly Writing in Education and the Social Sciences. 3-5 Units.

Focus is on producing articles for scholarly journals in education and the social sciences. Ethics and craft of scholarly publishing. Writing opinion articles for lay audiences on issues of educational and social import.

EDUC 396. The Design of Technologies for Casual Learning. 3 Units.

Studio-based, participatory, and user-centered development of casual learning technologies is explored, using the Apple iPhone as a prototype platform. The term "casual" is borrowed from casual gaming to denote that the learning technologies are meant for learners to use in "extreme informal" learning circumstances (while "on the go", "anytime and any place"). The class builds on learning about and synthesizing knowledge, theory and development activity in four areas including learning theories, mobile technologies, games and participatory design processes.

Same as: EDUC 196

EDUC 397. Identity, Culture, and the Adolescent Learner. 1-3 Unit.

This course examines the myriad factors that influence adolescent identity development, particularly as these may have an effect on students' learning, interaction, and engagement in school. Drawing on readings in psychology, ethnography, and education research, the course places special emphasis on how adolescent identities are shaped by societal forces associated with race, gender, sexual orientation, ethnicity, class, ability, language, and other factors.

EDUC 398. Core Mechanics for Learning. 3 Units.

In game play, core mechanics refers to the rules of interaction that drive the game forward. This class will consider whether there are core mechanics that can drive learning forward, and if so, how to build them into learning environments. The course mixes basic theory, research methods, and application of learning principles.

EDUC 399A. Designing Surveys. 1-2 Unit.

This workshop/course is designed for students who are designing a survey for use in a research project. The workshop content draws on relevant cognitive processing theories and research (on comprehension, retrieval, judgment, and reporting). In addition to some readings and a few lectures, this workshop is designed to be highly interactive and practical. By the end of the course students will have designed and pilot tested their survey instrument. Course may be repeated for credit.

EDUC 401A. Mini Courses in Methodology: Statistical Packages for the Social Sciences. 1 Unit.

Statistical analysis using SPSS, including generating descriptive statistics, drawing graphs, calculating correlation coefficients, conducting t-tests, analysis of variance, and linear regression. Building up datasets, preparing datasets for analysis, conducting statistical analysis, and interpreting results.

Same as: SPSS

EDUC 401B. Mini Courses in Methodology: Stata. 1 Unit.

The goal of this course is to familiarize students with the Stata statistical software package for use in quantitative research. By the end of the course, students should be able to import and export data, clean and manage data, conduct standard statistical tests (e.g., correlation, t-test, regression), and produce a graph.

EDUC 401C. Data Analysis Examples Using R. 1 Unit.

We will do basic and intermediate level data analysis examples, like those that students will have seen in their courses, in R. Examples include: descriptive statistics and plots, analysis of variance, correlation and regression, categorical variables, multilevel data. See <http://rogosateaching.com/ed401/>.

EDUC 401D. Multilevel Modeling Using R. 1 Unit.

Multilevel data analysis examples using R. Topics include: two-level nested data, growth curve modeling, generalized linear models for counts and categorical data, nonlinear models, three-level analyses. For more information, see course website: <http://rogosateaching.com/stat196/>. Same as: STATS 196A

EDUC 402. Formative Assessment of Literacy Learning and Performance. 2 Units.

With the emergence of national standards and assessments, the role of classroom assessments has received diminished attention. Literacy acquisition - learning to read and write as facets of academic language - is critical through the grades and across content areas. This course will cover (1) the recent history of classroom assessment, (2) a conception of assessment as practical inquiry, (3) a review of performance-based assessment methods, and (4) practical implementation of the preceding ideas.

EDUC 403. Education's Digital Future. 1 Unit.

Digital technologies are rapidly evolving and reorganizing the way we play, learn, and work. Significant questions have emerged about how digital and networked information technologies might be both narrowing and widening gaps in access to learning opportunities. It is becoming clear that technology alone will not catalyze the forms of equity that are so essential for preparing young people and their families for a rapidly changing future. Instead we need to deeply rethink and intentionally redesign the social organizations and tools that provide learning opportunities (schools, workplaces, community organizations, libraries) and study these innovations at a regional as well as national level. In this course and public seminar, designed to foster new forms of collaboration and innovation, we will engage these questions through a series of invited conversations with a broad range of stakeholders including researchers, educators, and industry representatives. May be repeat for credit.

EDUC 404. Topics in Brazilian Education: Public Policy and Innovation for the 21st Century. 1-2 Unit.

The objective of this seminar is to provide students from different backgrounds an opportunity to learn about current issues and debates on Brazilian education. The seminar will cover topics on the history of Brazilian education; an overview of current school reforms at the federal level; educational assessments; education and economic growth; educational equity; teacher labor market; technology and education; early childhood; and higher education to Brazil.

EDUC 405. Teaching the Humanities. 3 Units.

This course, designed for graduate students in the humanities and education, explores approaches to teaching the humanities at both the secondary and collegiate levels, with a focus on the teaching of text, and how the humanities can help students develop the ability to read and think critically. The course explores purposes and pedagogical approaches for teaching humanities through a variety of texts and perspectives. The course is designed as an opportunity for doctoral students in the Humanities both to enrich their own teaching, and to broaden their understanding of professional teaching opportunities, including community college and secondary school teaching.

EDUC 406. Perspectives on Teacher Learning and Lesson Study. 2-4 Units.

Seminar. Based on peer collaboration, lesson study helps to create professional communities among teachers and support their learning. Research literature, teacher thinking and beliefs, teacher professional development, and conceptual frameworks.

EDUC 407. Lytics Seminar. 1-4 Unit.

This course is a survey of research methods with applications in online learning. The methods covered are very interdisciplinary, including an introduction to machine learning, text/discourse analysis, causal modeling, and psychometrics. Broader question in research methodology are also covered, including how to formulate a good research question, when to use qualitative or quantitative methods, and the relative merits of theory-driven confirmatory vs. exploratory research. The goal of this course is to support researchers in the online learning space and other fields in their research endeavors.

EDUC 408. Social Interaction Analysis. 1-4 Unit.

This seminar will focus on foundations and methodic approaches to the study of social interaction.

EDUC 409. Managing to Outcomes in Education and Other Sectors. 2 Units.

Whether as students, taxpayers, or philanthropists, we share an interest that schools, government agencies, and nonprofit organizations effectively achieve their intended outcomes. This course asks how stakeholders and managers can assess these institutions' performance and commitment to continuous improvement. This seemingly technocratic question is often the center of political controversy, as it is today in criticisms of the student assessments required by No Child Left Behind and of "value-added" assessments of teacher performance. Never mindful that performance management is a graveyard of good intentions, we will study the practical aspects of institutional change - including leadership, accountability, learning, and culture - that often account for the difference between success and failure. We start with the presumption that you can't manage what you can't measure, but managers can usually measure only proxies rather than ultimate outcomes. In addition to the inevitable slippage between the proxies and ultimate outcomes, there is a tension between using assessments for learning and improvement, on the one hand, and for accountability, incentives, and penalties, on the other. Moreover, people have incentives to "game" any performance evaluation system. We will examine the challenges of managing to outcomes in various contexts, focusing particularly on students' and teachers' performance, but also including the performance of selected government agencies (e.g., police and welfare departments), nonprofit organizations, and foundations. We will focus on the interconnections among strategic planning, performance budgeting, and performance management. We will also look at experiments with new funding vehicles that depend on measuring outcomes, such as social impact bonds, conditional cash transfers, and pay for performance schemes in healthcare and other sectors.

EDUC 411. Early Childhood Education. 3-4 Units.

This course addresses a broad set of topics that have implications for developmentally appropriate and effective early childhood education. It begins with children's social, emotional and cognitive development and issues related to poverty, culture and language. We will also examine research evidence on effective instruction for young children, evaluations of preschool interventions, and several current policy debates.

EDUC 416. Issues and Alternative Approaches in the Testing of English Language Learners. 2-3 Units.

This course is intended for future researchers, practitioners, and decision makers. It examines major challenges in the testing of English language learners (ELLs) from the perspective of validity and fairness. The course provides a critical review of current practices in large-scale assessment concerning ELLs in terms of three kinds of limitations: population misspecification, measurement error, and overgeneralization. The course also promotes creative thinking in the development of alternative views and practices in ELL testing.

EDUC 417. Research and Policy on Postsecondary Access. 3 Units.

The transition from high school to college. K-16 course focusing on high school preparation, college choice, remediation, pathways to college, and first-year adjustment. The role of educational policy in postsecondary access. Service Learning Course (certified by Haas Center).

Same as: EDUC 117

EDUC 419. Academic Achievement of Language Minority Students. 3-5 Units.

Emphasis is on the current state of knowledge in the research literature and comparisons to students' experiences and observations in bilingual education, English as a second language, reading instruction, cultural issues in education, and research methods.

EDUC 421. Powerful Ideas for Learning Sciences and Technology Design. 3 Units.

This course is intended as a graduate level seminar that provides in-depth readings and discussions, Professor Roy Pea's professional reflections, and student essay-writing on topics examined in Dr. Pea's select publications and associated influential writings.

EDUC 424. Introduction to Research in Curriculum and Teacher Education. 2-5 Units.

Required for first-year CTE doctoral students. How to conceptualize, design, and interpret research. How to read, interpret, and critique research; formulate meaningful research questions; evaluate and conduct a literature review; and conceptualize a study. Readings include studies from different research paradigms. Required literature review in an area students expect to explore for their qualifying paper.

EDUC 425. Advanced Topics in Research on Self and Stigma. 1-3 Unit.

This course focuses on the relevance of self, identity, and stigmatization to understanding and remedying social problems. A key focus will be on how interactions between the self-system and social systems (e.g. schools, workplaces, institutions) drive outcomes over time, including educational and economic inequality. More broadly, class discussion and readings will address a social psychological analysis of intervention and change.

EDUC 429S. History of American Indian Education. 5 Units.

How the federal government placed education at the center of its Indian policy in second half of 19th century, subjecting Native Americans to programs designed to erase native cultures and American Indian responses to those programs. Topics include traditional Indian education, role of religious groups, Meriam Report, Navajo-Hopi Rehabilitation Act, Johnson-O'Malley Act, and public schools.

Same as: EDUC 119S, NATIVEAM 119S

EDUC 432. The 5th Element: Hip Hop Knowledge, Pedagogy, and Social Justice. 1-5 Unit.

This course-series brings together leading scholars with critically-acclaimed artists, local teachers, youth, and community organizations to consider the complex relationships between culture, knowledge, pedagogy and social justice. Participants will examine the cultural meaning of knowledge as "the 5th element" of Hip Hop Culture (in addition to MCing, DJing, graffiti, and dance) and how educators and cultural workers have leveraged this knowledge for social justice. Overall, participants will gain a strong theoretical knowledge of culturally relevant and culturally sustaining pedagogies and learn to apply this knowledge by engaging with guest artists, teachers, youth, and community youth arts organizations.

Same as: AFRICAAM 32, AMSTUD 32, CSRE 32A, EDUC 32, TAPS 32

EDUC 437. Curricular Practical Training. 1-3 Unit.

"Curricular Practical Training" independent study sections specifically created for international students in F-1 Visa Status who wish to receive credit and to be paid for internships.

EDUC 445. Entrepreneurial Approaches to Education Reform. 3 Units.
(Same as STRAMGT 335) In this course, students will investigate opportunities and challenges of entrepreneurial ventures trying to make a positive impact in public education. The course requires a basic level of understanding of the U.S. K-12 public school system. The first session will analyze the structure of the public education as an industry, with a special emphasis on understanding the achievement gap. Subsequent sessions will explore challenges in increasing efficacy, ensuring financial sustainability, and scaling for entrepreneurs who have sought to change student outcomes, solve pain points, and innovate. The course will feature a variety of ventures (including schools, education technology, training, and supplemental services) and organizational models (for-profit, not-for-profit, and benefit corporation). This course is suitable for students aspiring to be entrepreneurs, leaders in entrepreneurial organizations, leaders in educational organizations, Board members, donors or investors. (Note: this is not a "how-to" course on starting an entrepreneurial venture.).

EDUC 447. Leading Change in Public Education. 2 Units.
(Same as STRAMGT 537) American public education is in crisis. What will it take to get it back on track? As in all large-scale enterprises in need of transformative change, leadership matters greatly. This course focuses on what it takes from a strategic and extremely practical perspective to lead change in public education at the systems level. We will meet some of the most exciting educational leaders in public education today and dissect their leadership styles, strategies, innovations and solutions. We will look for lessons from traditional U.S. districts, successful charter management organizations, and international perspectives to determine what it takes to be an effective leader in education reform. Students will debate the strategies and efficacy of how different leaders approached systems-level change, and will form their own working hypotheses of what is needed to help transform the American education system. The course will end with a look at education fellowship programs and other ways for Stanford graduates to take on meaningful leadership roles in K-12 education reform. Dan Katzir worked for Bain & Company, Teach for America, and Sylvan Learning Systems before joining The Broad Foundation as its founding managing director. He is an experienced case study teacher and the editor of *The Redesign of Urban School Systems* (Harvard University Press, 2013). This course was designed to be taken in tandem with STRAMGT 535: Entrepreneurial Approaches to Education Reform and the courses will be highly complementary in approach.

EDUC 453. Doctoral Dissertation. 1-15 Unit.
For doctoral students only. (all areas).

EDUC 460. Language, Culture, Cognition, and Assessment. 3 Units.
Examines the intersection of language, culture, and cognition, and the implications of this intersection in educational assessment. Knowledge from different disciplines is used to reason about assessment from the conceptual, methodological, and social perspectives.

EDUC 465. Development and Psychological Sciences (DAPS) Faculty Student Seminar. 1 Unit.
Faculty and students in the DAPS graduate training program will convene to discuss how the disciplines of developmental and psychological sciences impact education, ground these issues in the work of current faculty and advanced student research, discuss professional development issues unique to this area, and share student perspectives on the field and their progress in the program. May be repeat for credit.

EDUC 466. Doctoral Seminar in Curriculum Research. 2-4 Units.
Required of all doctoral students in CTE, normally during their second year in the program. Students present their ideas regarding a dissertation or other research project, and prepare a short research proposal that often satisfies their second-year review.

EDUC 467. QP Presentation Seminar and Symposium. 1-3 Unit.
For 3rd and 4th year PhD students in CTE. Students will learn to transform their 2nd year qualifying papers into polished oral presentations suitable for professional academic conferences. Course will cover presentation skills, including appropriate use of visuals; time management; and strategic attention to key aspects of study background, motivation, methods, findings, conclusions, and implications. At the end of the course students will participate in a series of public symposia to present the results of their QP study. For additional units students will have the option to write proposals to present their studies at professional conferences.

EDUC 470. Practicum. 1-15 Unit.
For advanced graduate students. (all areas).

EDUC 480. Directed Reading. 1-15 Unit.
For advanced graduate students. (all areas).

EDUC 490. Directed Research. 1-15 Unit.
For advanced graduate students. (all areas).

EDUC 493. Workshop in Design and Analysis of Comparative Studies. 1-3 Unit.
A workshop for second-year and later students with data analysis or research design activities including dissertation planning or analysis. Readings and exercises developed around participating student research. Topics have included: multilevel data analysis, within-subjects designs, and implementation of matching methods for comparing non-equivalent groups. Various computing customs accommodated. See <http://web.stanford.edu/~rag/ed493/>. Prerequisite: intermediate statistical methods course work.

EDUC 801. TGR Project. 0 Units.
For advanced graduate students. Instructor consent required. (all areas).

EDUC 802. TGR Dissertation. 0 Units.
For advanced graduate students. Instructor consent required. (all areas).