

# School of Education

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Courses given in the School of Education have the subject code EDUC. For a complete list of subject codes, see Appendix B.

The School of Education prepares scholars, teachers, teacher educators, counseling psychologists, policy analysts, evaluators, researchers, administrators, and other educational specialists. Four graduate degrees with specialization in education are granted by the University: Master of Arts, Master of Arts in Teaching (Subject), Doctor of Education, and Doctor of Philosophy. While no undergraduate majors are offered, the school does offer a number of courses for undergraduates, an undergraduate honors program, and a variety of tutoring programs.

The School of Education is organized into three Program Area Committees: Curriculum Studies and Teacher Education (C&TE); Psychological Studies in Education (PSE); and Social Sciences, Policy, and Educational Practice (SSPEP).

In addition, several cross-area programs are sponsored by faculty from more than one area. These programs include the doctoral Symbolic Systems Program, the Learning Sciences and Technology Design Program (LSTD), and three master's level programs: the Stanford Teacher Education Program (STEP); the Prospective Principals Program (PPP); and the Learning, Design, and Technology Program (LDT).

These Program Area Committees function as administrative units that act on admissions, plan course offerings, assign advisers, and determine

program requirements. Various subspecialties or 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 publication *School of Education Guide to Graduate Studies* and at <http://ed.stanford.edu/suse>.

The School of Education offers an eight-week summer session for admitted students only. The school 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. Exceptions are the Prospective Principals and Honors Co-op Programs.

## UNDERGRADUATE PROGRAMS

The School of Education focuses on graduate education and research training and does not offer an undergraduate major. However, undergraduate education is of concern to the School, and courses and programs are available to those interested in the field of education. The following courses are appropriate for undergraduates:

- 56. Building a Successful Academic Career: Becoming a Learning Community Participant
- 99X. The Undergraduate Community Internship Practicum
- 101X. Undergraduate Teaching Practicum
- 108X. History of Science
- 111X. The Young Adult Novel: A Literature for and about Adolescents
- 120. Introduction to Cognitive Science
- 130. Introduction to Counseling
- 137Q. Conceptualizing Human Motivation: East and West
- 138Q. Educational Testing in American Society
- 151X. Introduction to Qualitative Research Methods
- 155. Development of Measuring Instruments
- 156A. Understanding Racial and Ethnic Identity
- 165X. History of Higher Education in the United States
- 179. Urban Youth and their Institutions: Research and Practice
- 193A. Peer Counseling: Bridge Community
- 197. Education and the Status of Women: Comparative Perspective
- 201. History of Education in the United States
- 201A. History of African American Education Through 1940
- 201B. Education for Liberation
- 201C. Shifting Responsibility and Contested Authority for Education
- 204. Introduction to Philosophy of Education
- 208B. Curriculum Construction
- 210. Sociology of Education: The Social Organization of Schools
- 212X. Urban Education
- 214X. Popper, Kuhn, and Lakatos
- 220B. Introduction to the Politics of Education
- 221A. Policy Analysis in Education
- 295. Learning and Cognition in Activity
- 298. Online Learning Communities
- 299X. Visualizations in Learning
- 304. The Philosophical and Educational Thought of John Dewey
- 312. Microsociology: Interaction Processes in Education
- 342X. Child Development and New Technologies
- 365X. Learning to Read
- 366X. Trends and Issues in Reading
- 370X. Theories of Cognitive Development
- 374A/B. Research Workshop: Commercialization of Knowledge
- 415A/B. Child Development and Learning Research Colloquium

## HONORS PROGRAM

An honors program is available to undergraduates to supplement their regular majors outside the school. This program permits interested and able undergraduates at Stanford to build on the training received in their

major field of study by pursuing additional courses and a research or practicum project in a related area of education.

Students apply for entry during the junior year. Applications are available in the academic services office in Cubberley. The current director of the program is Professor John Baugh. At least one course must be taken from each of the following areas:

1. Educational policy and history in the U.S.: courses include American Education and Public Policy; History of Education in the United States; Children, Civil Rights, and Public Policy in the U.S.; Introduction to the Study of International Comparative Education; History of Higher Education in the U.S.
2. Contemporary problem areas: courses include Urban Youth and their Institutions: Research and Practice; Theory and Issues in the Study of Bilingualism; Education and the Status of Women: Comparative Perspectives; Contemporary Social Issues in Child and Adolescent Development.
3. Foundational disciplines: courses include Social Sciences and Educational Analysis; Problems in Sociology of Education; Problems of Intelligence, Information, and Learning; Introduction to Philosophy of Education.

A directed reading course as well as directed research courses with a faculty member in Education are also required. Students in the program should enroll in 199A,B,C, Undergraduate Honors Seminar, during their senior year.

Near the end of Spring Quarter, successful candidates for honors orally present brief reports of their work and findings at a mini-conference. All honors students in Education are expected to attend this conference.

## COTERMINAL BACHELOR'S AND MASTER'S PROGRAM

The School of Education admits a small number of students from undergraduate departments within the University into a coterminal bachelor's and M.A. program. Two of the three program area committees offer the coterminal degree, as does the Stanford Teacher Education Program (STEP). For information about the STEP coterminal option, see the details under STEP below. Students in this 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 the School of Education is required. Undergraduates may apply when they complete 105 units, but no later than the end of the 11th quarter of undergraduate work. Students study for both the bachelor's and master's degrees simultaneously. The number of units required for the M.A. degree depends on the program requirements within the School of Education; the minimum is 45 units.

Applicants may obtain coterminal degree application materials from the School of Education's Academic Services Office. Coterminal applicants may also consult with Graduate Admissions regarding eligibility.

## GRADUATE PROGRAMS

Several advanced degree programs are offered by the School of Education and are described below. Requirements vary somewhat across programs. Both University and School of Education requirements must be met for each degree. The University requirements are detailed in the "Graduate Degrees" 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 School of Education must be qualified and admitted to graduate standing by one of the school's area committees.

Complete information about admissions procedures and requirements is available by writing Stanford University Graduate Admissions, Old Union, Stanford, CA 94305-3005 or at <http://ed.stanford.edu/suse>. The admissions packet includes the publication *School of Education Guide to Graduate Studies*, which outlines degrees, programs, admission and graduation requirements, and research interests of the faculty. All 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.

## MASTER OF ARTS

The M.A. degree is conferred by the University upon recommendation of the faculty of the School of Education and the University Committee on Graduate Studies. The minimum unit requirement is 45 quarter units earned at Stanford as a graduate student. Students must maintain a grade point average (GPA) of 'B' or better in courses applicable to the degree, and a minimum of 27 units must be taken in the School of Education. Master's students should obtain detailed program requirements from the Master's Coordinator, located in Academic Services in the School of Education. No thesis is required to earn a master's degree; however all programs require a final project, paper, or monograph. Additional detailed information regarding program content, entrance, and degree requirements is available at <http://ed.stanford.edu/suse> and in the *School of Education Guide to Graduate Studies*. Upon admission, each student is assigned a faculty adviser from the appropriate area committee to begin early planning of a coherent program.

Master of Arts degrees are offered for the following specializations (the sponsoring area committee and concentration is listed in parentheses):

Art Education (C&TE)

Curriculum and Teacher Education (C&TE). \* Students may specialize in English, Literacy, Mathematics, Science, or Social Studies Education.

Dance Education (C&TE)

International Comparative Education (SSPEP-ICE)

International Educational Administration and Policy Analysis (SSPEP-ICE)

Dual Degree Program with Graduate School of Business (SSPEP)

Learning, Design and Technology (Cross-Area)

Policy Analysis and Evaluation (SSPEP-APA)

Prospective Principals Program (SSPEP-APA)

Social Sciences in Education (SSPEP-SSE). Students may specialize in Anthropology, Economics, Educational Linguistics, History, Philosophy or Sociology of Education.

\* This program in CTE is not a credentialing program; for the latter, see STEP below.

In addition, an M.A. degree with a teaching credential is offered in the Stanford Teacher Education Program (Cross-Area—STEP).

## STANFORD TEACHER EDUCATION PROGRAM (STEP)

STEP offers a Master of Arts program to prepare humanities and sciences college graduates for careers as secondary teachers of English, languages (French, German, Japanese, Spanish), mathematics, science (biology, chemistry, physics), and social studies. To be successful in classrooms with diverse students, STEP helps participants become more aware of their values, more flexible in their teaching and learning styles, and more knowledgeable in their subject matter.

The 12-month STEP year begins in June with a Summer Quarter of intensive academic preparation and experience in a local summer school. During the academic year, students take courses in professional education and academic subjects; they also teach part-time in middle or high schools for the entire public school year. The master's degree and Single Subject (secondary) Teaching Credential require 45 quarter units, taken during four quarters of continuous residency.

A Coterminal Teaching Program is also available to Stanford undergraduates. Students can apply for the STEP Coterminal Teaching Program at any time, but formal acceptance will take place no earlier than the first quarter of the junior year. Students will complete their disciplinary degree while beginning education study that concludes in a master's degree following the STEP student teaching year.

Applicants are required to pass the California Basic Educational Skills Test (CBEST) and must demonstrate subject matter competence in one of two ways: (1) by passing the Praxis II and SSAT subject assessment tests in their field, 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 <http://ed.stanford.edu/suse> and in the *School of Education Guide to Graduate Studies*.

## PROSPECTIVE PRINCIPALS PROGRAM (PPP) (not available 2002-04)

The Prospective Principals Program at Stanford offers the M.A. degree with the Preliminary Administrative Services Credential (Tier 1). It enables prospective principals to become leaders, to manage ideas and resources, and to achieve worthwhile educational results for a diverse student population. This is accomplished through three consecutive summers of full-time study and is therefore available to persons working in a school system during the academic year. Teaching experience is a prerequisite for admission to this program. The master's degree requires 45 quarter units. In order to qualify for the credential, three additional quarter units for a total of 48 quarter units, including internship units, are necessary. Additional information regarding admission requirements, course work, and credential requirements is available in the *School of Education Guide to Graduate Studies* or at <http://ed.stanford.edu/suse>.

## MASTER OF ARTS IN TEACHING (SUBJECT)

The degree of Master of Arts in Teaching (M.A.T.) is reserved for experienced teachers or individuals who have completed a program of teacher preparation; it is offered in conjunction with a variety of academic departments in the School of Humanities and Sciences.

## DOCTORAL DEGREES

The School of Education offers two types of doctoral degrees. The Doctor of Philosophy (Ph.D.) degree is offered by all program area committees. The Doctor of Education (Ed.D.) degree is offered only in the concentrations of Policy Analysis and Higher Education Administration within the area of SSPEP. Both degrees are conferred by the University upon recommendation by the faculty of the School of Education and the University Committee on Graduate Studies. The timetable for the stages of progress is the same for both degrees. The unit requirement for both degrees is 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 taken within the past seven years. Students must maintain a grade point average (GPA) of 'B' or better in courses applicable to the degree.

Students should note carefully that admission to graduate standing by the University to work toward a doctoral degree does not in itself 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.

The two doctoral degrees offered in the School of Education differ in emphasis, purpose, and the intended careers of those who pursue them. They are equivalent with respect to the amount of time required and the rigor and quality of work demanded. In the Ph.D. degree program, there is greater emphasis on theory and research; the emphasis in the Ed.D. program is on informed and critical applications of existing knowledge to educational practice.

The Ph.D. degree is designed for students who are preparing for (1) research work in public school systems, branches of government, or specialized institutions; (2) teaching roles in education in colleges or universities, and research connected with such teaching; or (3) other careers in educational scholarship and research.

The Ed.D. degree is a professional educational degree intended to meet the needs of (1) those who wish a thorough and comprehensive professional understanding of and competence in dealing with educational problems met by administrators, supervisors, and curriculum specialists; and (2) those who wish a scholarly preparation for teaching education in colleges or universities.

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 distributed minor that combines relevant advanced work taken in several disciplines outside the school. A minor is not required for the Ed.D.

Upon admission, an initial adviser assigned from the admitting area committee 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 the various administrative and academic requirements for each area committee and the School of Education, along with general time frame expectations, are given at <http://ed.stanford.edu/suse> and in the *School of Education Guide to Graduate Studies*. Complete guidelines may be obtained from the specific area committees.

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

- Administration and Policy Analysis (SSPEP-APA)
- Anthropology of Education (SSPEP-SSE)
- Art Education (C&TE)
- Child and Adolescent Development (PSE)
- Counseling Psychology (PSE) (not offered 2002-03)
- Economics of Education (SSPEP-SSE)
- Educational Linguistics (SSPEP-SSE)
- Educational Psychology (PSE)
- English Education/Literacy Education (C&TE)
- General Curriculum Studies (C&TE)
- Higher Education (SSPEP-APA)
- History of Education (SSPEP-SSE)
- International Comparative Education (SSPEP-ICE)
- Learning Sciences and Technology Design (Cross-Area: students should choose a specialization within CTE, PSE, or SSPEP as their primary program.)
- Mathematics Education (C&TE)
- Philosophy of Education (SSPEP-SSE)
- Science Education (C&TE)
- Interdisciplinary Studies (SSPEP-SSE)
- Social Studies Education (C&TE)
- Sociology of Education (SSPEP-SSE)
- Symbolic Systems in Education (Cross-Area: students should choose a specialization within CTE, PSE, or SSPEP as their primary program.)
- Teacher Education (C&TE)

## Ph.D. MINOR FOR STUDENTS OUTSIDE 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 clear field of concentration. Students choosing to minor in education should meet with the relevant area chair to determine a suitable course of study early in their program.

## COURSES

### OTHER DIVISIONS OF THE UNIVERSITY

Teachers, administrators, researchers, and specialists are expected to have substantial knowledge of a variety of academic fields outside the areas encompassed by professional education. Graduate students in the School of Education are, therefore, urged to consider the courses offered in other divisions of the University in planning their programs.

The numbering of courses in the School of Education identifies approximately the course level and the audience to which a given course is offered:

*Below 100 level*—For undergraduates

*100-level*—Primarily for undergraduates (graduates may enroll)

*200- and 300-level*—For M.A. and first- and second-year doctoral students, and qualified undergraduates

*400-level*—Research seminars or similar courses primarily for third-year doctoral students and beyond

Course descriptions are in numerical order, indexed by program areas.

An 'X' suffix denotes a new experimental course. With faculty approval, after being taught twice, it can be offered as a regular course in the School of Education.

An 'S' suffix denotes a special course, given only once and usually taught by visiting faculty.

## LEARNING SKILLS

The following courses are offered by the Undergraduate Advising Center (UAC). The UAC provides and coordinates services to help student and adviser work together toward the establishment and accomplishment



ment of the student's academic and personal goals. For detailed description of services and advising resources, see <http://www.stanford.edu/dept/undergrad/uac/main/index.html>.

The UAC is on the first floor of Sweet Hall, and is open Monday through Friday 9:00 a.m. to 12:00 noon, and 1:00 to 5:00 p.m., telephone (650) 723-2426.

**EDUC 52. Practices in Critical Thinking**—Critical thinking is one of the most important skill sets we need to be successful in college and in the workplace across subject areas. It encompasses knowing how to find assumptions, recognize ambiguity, evaluate arguments, and judge the credibility of sources of expert opinion. To think critically in one's daily life and studies requires being comfortable with questions instead of answers, complexity instead of simplicity, uncertainty instead of certainty. These abilities are developed through practical exercises based on contemporary issues and through practice with texts from a variety of disciplines. Emphasis is on the value of developing a questioning mind and the importance of differentiating between academic and intellectual motivation.

*3 units (Staff) not given 2002-03*

**EDUC 53. Working Smarter**—When lifelong reading or classroom work is driven by questions, concentration is better, recall is more complete, motivation improves. Understanding the basic categories of questions and their interrelationships enables us to be more precise, better organized, and more critical. In-class exercises provide incrementally complex question ladders and increase skills in delivering questions and answers.

*2 units, Win, Sum (Glickman)*

**EDUC 56. Building a Successful Academic Career: Becoming a Learning Community Participant**

*1-3 units, Aut, Win (Glickman, Williams)*

**EDUC 57. Learning Styles**

*2 units, Aut, Spr (Glickman)*

**EDUC 95S. Issues in Leadership**—Priority given to undergraduates and master's degree students. Basic theories and concepts in leadership and group process. Topics: leadership and personal values building, shared vision, group problem solving, leadership styles, giving and receiving feedback, decision making, and power and influence. Interactive and experiential, and requires weekly reading and journal writing. Enrollment limited to 16. (SSPEP)

*3-4 units, Win (Porteus) not given 2002-03*

**EDUC 99X. The Undergrad Community Internship Practicum**

*1-3 units, Aut (Stout)*

**EDUC 101X. Undergrad Teaching Practicum**

*3-5 units, Win, Spr (Rolland)*

**EDUC 102. Culture, Class, and Educational Opportunity**—Upward Bound and EPASSA counselors work with students from educationally disadvantaged backgrounds. Topics: language education, culture and family, class management, school finance, and community-school relations. Mandatory school visits and classroom observations. Enrollment limited to 15. (SSPEP)

*4 units, Spr (Padilla)*

**EDUC 106. Interactive Media in Education**—Introduction to the use of interactive media in formal education. Workshop views/uses commercial interactive media for education and analyzes/criticizes them. Ideas are used to interpret/understand the experience of learning with interactive media. (CTE)

*3-5 units, Sum (Walker)*

**EDUC 107. The Politics of International Cooperation in Education**—For undergraduates and master's students; see 306B. (SSPEP/ICE, APA)

*4 units, Spr (Staff)*

**EDUC 108X. The History of Science**—For coterminal undergraduates intending to become secondary science teachers. Goal is to provide a view of the history of the sciences through the study of specific cases selected primarily from chemistry, geology, and biology.

*2 units, Spr (Lytchott)*

**EDUC 109X. Politics of Language Education in California Schools**—(Graduate students register for 209X.) Controversies surrounding language and educational policies pertaining to African Americans and English language learners are explored in the wake of legislation that was formulated to restrain curricula for language minority students throughout California. Interdisciplinary studies of language in schools and society are compared to legislation and educational policies within their historical and political contexts.

*3-4 units, not given 2002-03*

**EDUC 110. Sociology of Education: The Social Organization of Schools**—(Same as SOC 132/232, graduate students register for 210.) Sociological approaches to school organization and its effects. Introduction to topics and case studies that elaborate on the embeddedness of classrooms and schools in social environments, spanning school processes such as stratification, authority, moral and technical specialization, curricular differentiation, classroom instruction, voluntary associations, social crowds, and peer influence. (SSPEP)

*4 units, Spr (McFarland)*

**EDUC 111X. The Young Adult Novel: A Literature for and about Adolescents**—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.

*5 units, Aut (Grossman)*

**EDUC 120. Introduction to Cognitive Science**—(Enroll in LINGUIST 144, PHIL 190, SYMBSYS 100.)

*4 units, Spr (Beaver, Greeno, Wasow)*

**EDUC 130. Introduction to Counseling**—The theories and techniques of counseling, emphasizing the clients' individual and cultural differences, and construction of one's own theory of the counseling process and outcome. Two psychotherapeutic theories, cognitive-behavioral and existential-humanistic, are supplemented with a third theory of each student's choice. Experiential, problem-based focus on how to develop self-awareness and conceptual understandings of the counseling process in culturally diverse contexts. (PSE)

*3 units, Win (Staff)*

**EDUC 136. World, Societal, and Educational Change: Comparative Perspective**—See 306D.

*4-5 units, Aut (Wotipka)*

**EDUC 137Q. Conceptualizing Human Motivation: East and West**—Stanford Introductory Seminar. Preference to sophomores. What motivates behavior? This question is linked to one's view of human nature and of the relationship between individuals and their social worlds. The multiple perspectives on human motivation, including Western psychological traditions and the contemplative spiritual psychologies of the East. Historical and cross-cultural approaches to understanding how different traditions treat motivation. Readings from personality, clinical, and developmental psychology, and from Eastern psycho-spiritual traditions such as Buddhism and yoga. How world views of human nature and development are related to theories of human motivation. Prerequisite: introductory psychology.

*3 units, Spr (Roeser)*

**EDUC 138Q. Educational Testing in American Society**—Stanford Introductory Seminar. Preference to sophomores. Tests are used for college admissions, program evaluation, and educational reform. In the classroom, grades are used to communicate about achievement, and

sometimes to reward effort, improvement, or good behavior. Explanations for group and individual differences in test performance have been controversial this century, right up to current debates over affirmative action. The purposes and the logic of various testing programs, including classroom testing, admissions testing, and state and national testing programs. The meanings of reliability, validity, bias, and fairness in testing, developing the notion of validity argument as a conceptual tool for analyzing testing applications. Paper on an educational testing application.  
3 units, Win (Haertel)

**EDUC 149. Theory and Issues in the Study of Bilingualism**—(Same as SPANLIT 207.) For undergraduates; see 249.  
3-4 units, Aut (Valdés)

**EDUC 150X. Introduction to Data Analysis and Interpretation**—Primarily for master's students with little or no experience. Provides rudimentary data analysis skills with a focus 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, simple analysis of variance, simple and multiple regression, and contingency analysis.  
4 units, Aut (Porteus)

**EDUC 151X. Introduction to Qualitative Research Methods**—Primarily for master's students. Introduces students to issues, leading ideas, and methods in qualitatively-oriented educational research. Offered with two different instructors in Autumn; check with the relevant instructor for more details of the syllabus.  
3-4 units, Aut (Fetterman, Pope)

**EDUC 155. Development of Measuring Instruments**—For students planning to develop written or performance tests or questionnaires for research and evaluation, and for teachers wishing to improve classroom examinations. Planning tests, writing items, item tryout and criticism, qualities desired in tests, and interview techniques. Lectures, case studies, and practical exercises. (PSE)  
3 units, Aut (Haertel)

**EDUC 156A. Understanding Racial and Ethnic Identity**—African American, Native American, Mexican American, and Asian American racial and ethnic identity development is explored to better understand the influence of social/political and psychological forces in shaping the experience of people of color in the U.S. Issues: the relative salience of race in relationship to other social identity variables, including gender, class, occupational, generational, and regional identifications. Bi- and multiracial identity status, and types of white racial consciousness.  
3-5 units, Win (LaFromboise)

**EDUC 160. Introduction to Statistical Methods in Education**—(Master's students register for 150X.) Introduction to quantitative methods in educational research for doctoral students with little or no prior statistics. Organization of data, descriptive statistics, elementary methods of inference, hypothesis testing, and confidence intervals. Computer package used. Students cannot also receive credit for PSYCH 60, or for STATS 60 or 160. (All areas)  
4 units, Aut (Hakuta)

**EDUC 161. Statistical Analysis in Educational Research**—Primarily for doctoral students. Basic statistical methods for experimental and non-experimental educational research. Topics: analysis of variance methods up to factorial designs; regression methods up to multiple regression; basic methods for analysis of categorical data. Integrated with the use of statistical computer packages. See <http://www.stanford.edu/class/ed161/>. Prerequisite: 160 or consent of instructor. (All areas)  
3 units (Rogosa) not given 2002-03

**EDUC 164X. Methods for Teaching ESL**—Introduction to theories and methods for instruction in English as a second language. Broad overview of approaches and methods used in language teaching focusing

specifically on practices that can support the development of those language proficiencies needed by non-English-background students in order to succeed in American schools. (CTE-STEP)  
1-3 units (Valdés) not given 2002-03

**EDUC 165X. History of Higher Education in the U. S.**—(Same as 265X.) Historical perspectives on the development of higher education. Major periods of evolution, particularly since the mid-19th century. The premise is that valuable insights into contemporary higher education can be obtained through examining its antecedents, particularly regarding issues of governance, mission, access, curriculum, and the changing organization of colleges and universities. (SSPEP-APA)  
3 units, Spr (Williamson)

**EDUC 166X. The Centrality of Literacies in Teaching and Learning**—Focus is on the understanding and application of key principles in understanding, assessing, and supporting the reading and writing processes, and the acquisition of content area literacies in secondary schools. Critical 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)  
3 units, Sum (Ball)

**EDUC 167X. Educating for Equity and Democracy**—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)  
3 units, Sum (McDermott)

**EDUC 175. African American English in Educational Context**—(Same as 275.)  
3 units, not given 2002-03

**EDUC 177X. Education of Immigrant Students: Psychological Perspectives**—(Same as 277X.) 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. (SSPEP)  
4 units, Win (Padilla)

**EDUC 178X. Latino Families, Languages, and Schools**  
3-5 units, not given 2002-03

**EDUC 179. Urban Youth and Their Institutions: Research and Practice**—(Same as 279.) The determinants and consequences of urban life for youth, emphasizing disciplinary and methodological approaches to the study of policies and practices, and the growing gap between the perspectives of state and local organizations and those of youth and their communities. The diversity of urban youth experiences with respect to ethnicity, gender, and immigration histories. Case studies illustrate civic-level and grassroots institutions, their structures, networks, and philosophies; historical and contemporary examination of diverse realities of urban youth for policy makers, educators, and researchers. Enrollment limited. Prerequisite: consent of instructor. (SSPEP/APA)  
4-5 units, Aut (McLaughlin)

**EDUC 179B. Best Practice and Policy in Youth Development**—(Same as 279B.) Focus is on youth development policies and practices: what makes them effective, and how they operate in broader institutional contexts. Research-based information; conceptual underpinnings; best learnings from experience; and the perspective of expert youth workers, policy makers, and youth about what works.  
2-4 units, Spr (McLaughlin)

**EDUC 180. Directed Reading in Education**—For undergraduates and master's degree students. (All areas)  
1-15 units, any quarter (Staff)

**EDUC 188B. Bilingual Education**—(Same as 388B.) Research issues of policy and practice, particularly in the U.S., in programs for language minority students. Topics include the history of policy and legislation in bilingual education, theories of second language learning and first language maintenance, research on the effectiveness of bilingual education, and comparative experiences in other societal settings. (SSPEP)  
3 units, Win (*Hakuta*)

**EDUC 189. Introduction to Linguistics for Educational Researchers**—See 289.  
4 units, Aut (*Baugh*)

**EDUC 190. Directed Research in Education**—For undergraduates and master's degree students. (All areas)  
1-15 units, any quarter (*Staff*)

**EDUC 192A. Peer Tutor Training**—Readings/discussions of videotapes, and individual and group projects. Topics: problem solving, study skills, effective listening and feedback, cross-cultural sensitivity, and teaching with questions. Short internship required for new tutors.  
1 unit, Aut, Spr (*McCants*)

**EDUC 192B. Peer Tutoring in Writing**—Writing tutors become familiar with the written work of fellow students and learn how to comment on it helpfully. Tutoring skills are developed through listening to experienced tutors; reflecting on our own writing processes; considering sample writing projects; role-playing tutoring situations; and discussing reading, assignments, and projects.  
2 units, not given 2002-03

**EDUC 192C. Peer Tutoring Practicum**  
1-4 units, not given 2002-03

**EDUC 193A. Peer Counseling: Bridge Community**—Instruction in peer counseling. Topics: verbal and non-verbal skills, the use of open and closed questions, paraphrasing, working with feelings, summarization, and integration. Lectures, individual training, group exercises, role play practice with optional video feedback. Sections on the relevance to crisis counseling and student life. Guest speakers from University and community agencies. Students develop and apply skills in a variety of settings in the University.  
2 units, Aut (*Hoskins*), Win (*Daher*), Spr (*Edwards*)

**EDUC 193B. Peer Counseling: Chicano Community**—Instruction in basic counseling. Topics: verbal and non-verbal attending and communication skills, the use of open and closed questions, working with feelings, summarization, and integration. Counseling issues that may be salient when working with Chicanos, including the significance and process of Spanish-English code switching in communication, the role of ethnic identity in self-understanding, the relationship of culture to personal development, and the experience of Chicano students in university settings. Lectures, individual training, group exercises, discussion, role play, and videotape practice.  
2 units, Aut (*Martinez*)

**EDUC 193C. Peer Counseling: The African American Community**—Instruction in peer counseling with Blacks. Topics: the concept of culture, Black cultural attributes and their effect on Blacks' reactions to accepting counseling, verbal and non-verbal attending, the use of open and closed questions, working with feelings, summarization, and integration. Reading assignments, lectures, guest speakers, group discussion, role play, and videotaped practice. Students develop and apply skills in the Black community on campus or in other settings that the student may choose.  
2 units, Aut (*Edwards*)

**EDUC 193F. Peer Counseling: Asian American Community**—Topics: the Asian family structure, concepts of identity, ethnicity, culture, and racism in terms of their impact on individual development and the counseling process. Emphasis is on the development of an appreciation

and empathic understanding of Asians in America. Lectures, readings, discussion, and group exercises.  
2 units, Spr (*Brown*)

**EDUC 193N. Peer Counseling: Native American Community**—Instruction in basic counseling techniques. Topics: verbal and non-verbal communication, strategic use of questions, methods of dealing with strong feelings, and conflict resolution. Emphasis is on how basic elements of counseling apply to Native Americans, including client, counselor, and situational variables in counseling, the significance of 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 Native Americans, and the experience of Native American Indian students in university settings. Individual skill development, group exercises, and role practice.  
2 units, Win (*Simms, Martinez*)

**EDUC 193P. Peer Counseling Practicum**—For those who continue to study counseling methods while counseling students.  
1-5 units, Aut, Win, Spr (*Staff*)

**EDUC 194. Leadership in Academic Advising**—Focus is on the skills needed to be an active leader in the academic advising process through the role of head advising associate (HAA). Course is taught simultaneously with the HAA selection process through the Undergraduate Advising Center. Student development theory as it applies to the advising process for freshman and sophomore students. Workshops, focus groups, guest speakers, role playing, and case studies to develop listening and counseling skills, critical questions, and group facilitation. Prerequisite: application for the position of HAA. Successful completion required to be an HAA.  
2 units, Aut (*McCants*)

**EDUC 195X. Cognitive Fundamentals of Learning**—Overview of concepts, findings, and methods from cognitive research relevant to learning and instruction. Topics vary by year depending on class composition but typically sample from perceptual learning, problem solving and reasoning, creativity, imagery, language and mathematics, remembering, conceptual development, representation, expertise, transfer, technology, culture, and communication. Multiple theoretical perspectives grounded in specific questions and data. Emphasis is on experimental techniques and research elegance. Students design, conduct, and write up an original empirical study.  
3 units, not given 2002-03

**EDUC 196X. Feminist Theories of Work and Families**—(Same as FEMST 102L.) Economic, sociological, and legal perspectives; mainstream and feminist theories are contrasted. Emphasis is on the present day U.S. with issues in other countries and/or other historical periods. Topics: labor force participation, occupational segregation, labor market discrimination, emotional labor, unpaid work, caring labor, child care, combining work and family, single-parent families, poverty, marriage, and divorce.  
4-5 units, Spr (*Strober*)

**EDUC 197. Education and the Status of Women: Comparative Perspective**—Theories and perspectives from the social sciences relevant to understanding the role of education in changing, modifying, or reproducing structures of gender differentiation and hierarchy. Cross-national research on the status of women and its uses to evaluate knowledge claims from varying perspectives. (SSPEP) GER:4c  
4-5 units, Win (*Ramirez*)

**EDUC 199A,B,C. Undergraduate Honors Seminar**—Required for all juniors and seniors in the honors program in the School of Education. Supports students' actual involvement and apprenticeships in educational research. Participants are expected to share ongoing work on their honors thesis. Prerequisite: consent of instructor.  
1 unit, Aut, Win, Spr (*Baugh*)



**EDUC 200. The Work of Art and the Creation of Mind**—Collaboration among the Art, Dance, Drama, and Music programs, and the School of Education examines the relationship between the work of art and the creation of mind, i.e., the work of art as a task of making something and as a form that has been made. The ways a conception of art develops and refines the mind. Observation of artists at work. The relationship between forms of art and forms of thought. What does either the perception or creation of art in any of its forms do to how we think and know? (CTE)  
4 units, Win (*Eisner; Ross*)

**EDUC 201. History of Education in the United States**—Analysis of turning points in education in relation to religion, political socialization, race relations, gender, immigration, and urbanization. Limited enrollment. (SSPEP)  
3 units, Aut (*Williamson*)

**EDUC 201A. History of African American Education Through 1940**—Survey of the pivotal points in African American educational history, including literacy attempts during slavery, the establishment of historically Black colleges and universities, the debate between liberal and vocational education, Black student rebellions on campuses during the 20s, and the establishment of Black studies and cultural centers. (SSPEP)  
3 units, Win (*Williamson*)

**EDUC 201B. Education for Liberation**—How various groups have employed education to advance group self-determination and autonomy at different points in history. (SSPEP)  
3 units, Spr (*Williamson*)

**EDUC 201C. Shifting Responsibility and Contested Authority for Education**—(Same as ETHICSOC 101.) The shifting balance of responsibility for social, moral, vocational, and intellectual education from private to public institutions. Emphasis is on five educational contexts during the Gilded Age, the Progressive Era, and the New Deal: the family, schools, and correctional, religious, and social welfare institutions.  
4-5 units, Spr (*Seyer*)

**EDUC 202. Introduction to Comparative and International Education**—Introduction to the field of comparative and international education. Contemporary theoretical debates about educational change and development, and the international dimension of several contemporary issues in education. Emphasis is on the development of students' abilities to make cross-national and historical comparisons of educational phenomena. (SSPEP/ICE)  
4-5 units, Aut (*Staff*)

**EDUC 202I. Education Policy Workshop in International and Comparative Education**—Project-based workshop for students in International and Comparative Education, providing a practical introduction to key issues in educational policy making, educational planning, implementation, and the role of foreign expertise/consultants in developing country contexts. (SSPEP/ICE)  
3-4 units, Win (*Staff*)

**EDUC 203X. Education and Inequality in American Culture**—Overview of the cultural production of inequalities in school performance by class, race, ethnicity, gender, and individual style. Students exploring the same themes in small group discussions enroll in 220Y for additional 2 units.  
2 units (*McDermott*) not given 2002-03

**EDUC 203Y. Education and Inequality in American Culture**—Small group discussions of competition and unequal access in notable American texts. Corequisite: 203X.  
2 units (*McDermott*) not given 2002-03

**EDUC 204. Introduction to Philosophy of Education**—Introduces current approaches and techniques in the philosophy of education; material has been selected for its general relevance to students of

education. Feminist and radical theories of education. Introductory philosophical material is presented in the context of educational issues. (SSPEP)  
3 units, Spr (*Callan*)

**EDUC 206A. Applied Research Methods in International and Comparative Education I: Introduction**—Required for all M.A. students in ICE and IEAPA; others by consent of instructor. Orientation to the M.A. program and research project, exploration of resources for study and research. (SSPEP/ICE)  
1 unit, Aut (*Wotipka*)

**EDUC 206B. Applied Research Methods in International and Comparative Education II: Master's Monograph Proposal**—Required for all M.A. students in ICE and IEAPA; others by consent of instructor. Development of research skills through discussion of theoretical and methodological issues in comparative and international education. Preparation of a research proposal for the M.A. monograph. (SSPEP/ICE)  
3-5 units, Win (*Wotipka*)

**EDUC 206C. Applied Research Methods in International and Comparative Education III: Masters Monograph Workshop**—The conclusion of the four-quarter M.A. program in ICE and IEAPA, required of all M.A. students. In-depth reviews of students' research in preparation for the completion of their master's monograph. (SSPEP/ICE)  
3-5 units, Sum (*Wotipka*)

**EDUC 207A,B,C. Master's Seminar in Curriculum and Teacher Education**—Limited to master's students in C&TE. Designed to support students as they develop and conduct a master's project. Students discuss ideas for their project, learn about possibilities for master's projects, develop a plan for a project, carry it out, and write up the results with the assistance of the instructors and peers. Must be taken satisfactory/no credit.  
3-5 units, Aut, Win, Spr (*Staff*)

**EDUC 207D. Curriculum Studies and Teacher Education Master's Project**—Limited to master's students in C&TE. Designed to support students as they develop and conduct a master's project, and complete project ideas and plans undertaken in the master's seminar.  
1-9 units, Spr (*Staff*)

**EDUC 208B. Curriculum Construction**—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. (CTE)  
3-4 units, Win (*Pope*)

**EDUC 208C. Introduction to Curriculum**—Restricted to students enrolled in the Prospective Principals Program. Curriculum studies for those concerned primarily with school administration. Topics: curriculum theory, relation of theory and practice, schools and classrooms as contexts for curriculum, curricular policy mandates, leadership in school curricular issues, curriculum development, curriculum implementation.  
3 units, Sum (*Staff*)

**EDUC 209X. Politics of Language Education in California Schools**—(Same as 109X.)  
3-4 units, not given 2002-03

**EDUC 210. Sociology of Education: The Social Organization of Schools**—(Meets with 310; same as SOC 132/232.) Sociological approaches to school organization and its effects. Introduction to topics and case studies that elaborate on the embeddedness of classrooms and schools in social environments, spanning school processes such as stratification, authority, moral and technical specialization, curricular differentiation, classroom instruction, voluntary associations, social crowds, and peer influence. (SSPEP)  
4 units, Spr (*McFarland*)

**EDUC 211. Master's Seminar in Social Sciences in Education**—Limited to master's students in SSE. Directed, hands-on forum for SSE students to examine the process of developing and shaping a research program, integrating it with academic and field experiences, and building relationships beyond the program. Students conceptualize their projects and focus on researchable topics: effective revising and editing, job searches, and working with your adviser. What next? or a celebration of achievements so far. (SSPEP)

*1-3 units, Aut, Win, Spr (Seyer)*

**EDUC 212X. Urban Education**—Combination of historical and anthropological perspectives traces the major developments, contexts, tensions, challenges, and policy issues of urban education. Open to graduate and undergraduate students.

*4 units, Win (Seyer)*

**EDUC 213. Aesthetic Foundations of Education**—What role might the arts play in education? Do the arts contribute to the development of cognitive skills? Do they help humans understand the world in which they live? Are aesthetic considerations central in the way we think about the aims of education? Do they enhance teaching and school organization? (CTE)

*4 units, not given 2002-03*

**EDUC 214. Popper, Kuhn, and Lakatos**—(Same as PHIL 156.) Popper, Kuhn, and Lakatos are 20th-century philosophers of science who raise fundamental issues dealing with the nature of scientific progress: the rationality of change of scientific belief, science versus non-science, role of induction in science, truth or verisimilitude as regulative ideals. Their impact in the social sciences and applied areas such as educational research. (SSPEP)

*3 units, Spr (Phillips)*

**EDUC 219. Artistic Development of the Child**—How can children's and adolescents' development in the arts be described? What role does the symbolic transformation of experience play in the creation of those images we regard as art? What can teachers do to promote the development of artistic thinking? These and other questions are examined through the study of theory and research conducted within the social sciences. (CTE)

*4 units, Aut (Eisner)*

**EDUC 220A,B,C,D,Y. The Social Sciences and Educational Analysis**—Required of students in APA and open to all. Economics, political science, sociology, and history, and their applications to education in the U.S.

**EDUC 220A. Introduction to the Economics of Education**—Overview of 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. (SSPEP/APA)

*4 units, Win (Loeb)*

**EDUC 220B. Introduction to the Politics of Education**—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 are emphasized. Prerequisite: Political Science or Public Policy major, or student in SSPEP. (SSPEP/APA)

*3-4 units, Spr (Kirst)*

**EDUC 220C. Education and Society**—(Same as SOC 130/230.) 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.

*3-5 units, Aut (Ramirez)*

**EDUC 220D. History of School Reform: Origins, Policies, and Outcomes**—The major reform periods of last century. Students choose particular reforms to investigate either individually or as a small group project. Enrollment limited to 20. Prerequisites: graduate student or undergraduate education honors candidate; consent of instructor. (SSPEP/APA)

*3 units, not given 2002-03*

**EDUC 220Y. Introduction to the Economics of Education: Economics Section**—Introduction to microeconomics for those taking 220A who have not had microeconomics before or who need a refresher. Corequisite: 220A. (SSPEP/APA)

*1-2 units, Win (Loeb)*

**EDUC 221A. Policy Analysis in Education**—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 are examined through case materials and supplementary readings. Objective: identify and understand the factors that affect the ways in which analysts and policymakers learn about education in the policy system and the ways in which they can influence it. Limited enrollment. Prerequisite: consent of instructor. (SSPEP/APA)

*3-5 units, Win (Darling-Hammond, McLaughlin)*

**EDUC 221B. Seminar in Policy Analysis**—Provides doctoral students an opportunity to analyze the macro- and micro-dimensions of policy issues in education. Students use their own research interests to explore the analytical, empirical, and methodological aspects of these two different perspectives on policy and action.

*3 units, Win (McLaughlin, Darling-Hammond)*

**EDUC 222. Resource Allocation in Education**—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. (SSPEP/APA)

*4-5 units, Spr (Carnoy)*

**EDUC 223. Good Schools: Research, Policy, and Practice**—Recent studies of schools that exceed expectations in producing desired results. Research methodologies, findings of studies, and efforts to implement results. Components of good schools analyzed: effective teaching, principal leadership, organizational processes, parent involvement, cultures in schools, the role of the superintendent. Required project studies a school and determines goodness. (SSPEP/APA, CTE)

*3-4 units, Aut (Cuban)*

**EDUC 224. Information Technology in the Classroom**—The use of information technology (computers, interactive video, telecommunications) in classroom teaching. Basic computer operations and terminology; challenges of planning and teaching with technology; judging the merits of products for educational uses; survey of the types of uses made of technology in schools; and economic, social, and ethical issues, emphasizing equity. (CTE)

*3 units, not given 2002-03*

**EDUC 229A,B,C,D. Learning Design and Technology**—Four-quarter core of the LDT master's program. Topics: learning, cognition, and development; design principles for technological learning environments; technological literacy and skills; research methods and evaluation; curriculum and content; and organization structure and operation. Students navigate one or more design sequences in learning environments rooted in a practical problem. Topics in learning, design, and technology are examined from a theoretical and a practical application perspective. Readings and hands-on development are a team-collaborative effort. (All areas)

*3 units, A: Sum (Walker), B: Aut (Hoadley), C: Win (Kamil), D: Spr (Schwartz)*



**EDUC 230. Ethnographic and Empowerment Evaluation**—The role of ethnography in addressing contemporary and socially significant issues. The value of ethnographic evaluation in educational settings. Successful strategies to communicate qualitative findings with powerful policymaking bodies to improve our world, including testifying on the Hill and sharing findings through the media. The role of ethnographic and empowerment evaluation in contributing to organizational transformation. (SSPEP)

*5 units, Spr (Fetterman)*

**EDUC 231X. Developing and Supporting Teaching**—How do teachers learn to teach and what kinds of mentoring and coaching support helps them to develop their practice? Teaching requires the ability to make hundreds of choices and decisions daily. A strong knowledge base and skills of reflective inquiry increase the odds that all students are served in each teacher's classroom. How is the development of successful teaching supported? What does effective mentoring look like? What are some of the dilemmas and difficulties faced by mentors? The research on adult learning and learning to teach, developing skills such as giving productive feedback and co-planning. Methods: teaching videos, role plays, reading and discussion of theory, research, and practice concerning mentoring.

*3 units, not given 2002-03*

**EDUC 232A. The Study of Teaching**—How do we define and study teaching? What do teachers need to know, believe, and be able to do? How does teaching vary by subject matter, students, grade level? What is the relationship between teaching and learning? How do teachers learn? The research that has tackled these questions provides students with the chance to think about these and other questions of their own. (CTE)

*4 units, Win (Grossman)*

**EDUC 232B. Introduction to Curriculum**—Second of CTE core. What should American schools teach? How should school programs be organized? How can schools determine whether the goals they have formulated have been achieved? What kind of school organization helps teachers improve their teaching practices? Students secure a historical and contemporary perspective on the curriculum of American schools. The interactions among curriculum, the organizational structure of schools, the conception of the teacher's role, and the ways in which teaching and student learning are assessed. Text, video analysis of teaching, and small group discussions examine competing ideas regarding the content and aims of school programs. (CTE)

*4 units, Aut (Eisner)*

**EDUC 232C. Introduction to Learning**—Core course in CTE and PSE. The theoretical perspectives and results of research on learning, emphasizing principles that can inform the design and study of learning environments, including teaching and curriculum activities and resources. Issues: the ways of assessing learning, learning by individuals and groups who differ in gender or in cultural and social backgrounds, the generality of learning outcomes, relations between the growth of conceptual understanding and cognitive skill, learning considered as becoming a more effective participant in social practices, and a brief history of the development of currently influential conceptualizations of learning. (CTE, PSE)

*4 units, Spr (Ball, Greeno, Hakuta)*

**EDUC 233A. Theories and Interventions from a Multicultural Perspective**—Review of foundational and new concepts of counseling theory and intervention from a multicultural perspective. The impact of culture on problem presentation, relationship formation, and intervention development and evaluation in individual and group counseling, and in helping encounters in school and community settings.

*3 units (Staff) not given 2002-03*

**EDUC 234. Educational and Career Assessment**—(Same as PSYCH 237.) Methods of integrating career and personal counseling with clients and counselors from differing cultural backgrounds. Practice with select-

ed assessment instruments. Case studies of bicultural role conflict. Informal supervised experience. (PSE)

*3 units (Krumboltz) not given 2002-03*

**EDUC 235. Educational Policy Graduate Seminar**—Enrollment limited to policy analysis and evaluation master's students. Three-quarter sequence to explore and discuss policy issues, develop educational technology skills, and prepare for employment. (SSPEP/APA)

*1 unit, Aut, Win, Spr (Fetterman)*

**EDUC 236X. Education Technology Policy**—Issues in education technology policy in the U.S. and 17 other advanced and developing nations for K-12 and post-secondary education. Governmental policies at all levels and policies of local public and private institutions. Policy development and implementation focusing on the incentives for the private sector to become involved in education and in the consequences of the policies for low income populations. (SSPEP)

*3 units (Staff) not given 2002-03*

**EDUC 238A. Orientation to Counseling Psychology**—For first-year counseling psychology students. Overview of the counseling psychology profession, including counseling theories, techniques, and assessment. Topics: relationship enhancement, problem conceptualization, goal setting, intervention techniques, and monitoring outcomes. Review of training tapes, role playing, and supervision of initial counseling experiences. Prerequisite: consent of instructor. (PSE)

*3 units, not given 2002-03*

**EDUC 238B. School and Community-Based Counseling Psychology: Supervised Applications**—For first-year counseling psychology students. Integration of counseling practice with research findings. Continuing review of training tapes, role playing, and supervision of counseling experiences. Prerequisite: consent of instructor. (PSE)

*3 units, not given 2002-03*

**EDUC 238C. School and Community Based Counseling Psychology: Supervised Applications**—For first-year counseling psychology students. Advanced study of counseling theories, techniques, and assessment methods. Emphasis is on the integration of counseling practice within a research framework. Continuing review of training tapes, role playing, and supervision of counseling experiences. Prerequisite: consent of instructor. (PSE)

*3 units, not given 2002-03*

**EDUC 239. Contemporary Social Issues in Child and Adolescent Development**—Focus is on critical social and developmental issues that affect children and adolescents. Topics: divorce and single parenting, child care, poverty, sexuality, and mass media, emphasizing the impact of these conditions on normal development, education, and school-related social and cognitive performance. (PSE)

*4 units, Spr (Padilla)*

**EDUC 240. Adolescent Development and Learning**—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 between the characteristics of students, the curriculum, and the wider social context of the classroom, the school, and the society. Prerequisite: STEP student or consent of instructor. (STEP)

*3 units, Aut (Darling-Hammond, Padilla, Roeser)*

**EDUC 243. Research in Writing and Writing Instruction**—(Same as ENGLISH 397R.) The theoretical perspectives that have dominated the literature on writing research over the years. Examination of reports, articles, and chapters on writing research, writing theory, and writing instruction; current and historical perspectives in writing research and research findings relating to teaching and learning in this area.

*4 units, Win (Ball, Lunsford)*

**EDUC 244X. Classroom Management**—Beginning and experienced teachers are concerned with how to best manage their classroom. Student and teacher's roles in developing a classroom community. Different strategies for classroom management discussed, practiced, and placed within a theoretical framework.

*1 unit, Aut (Haysman)*

**EDUC 245X. Seminar in Teacher Education**—For doctoral students interested in preparing to become teacher educators. Directed reading, discussion, and analysis of teacher education program models; new approaches to supporting teacher learning in pre-service and in-service contexts; and changes in policies relevant to teacher education. The theoretical frames include adult learning theory, organizational supports for professional learning, and issues of institutional change. (CTE)

*2-3 units, not given 2002-03*

**EDUC 246A,B,C,D. Secondary Teaching Practicum**—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. (STEP)

*2 units, A: Sum (Lotan), B: Aut (Lotan), C: Win (Lotan),*

*D: Spr (Lotan)*

**EDUC 247. Moral Education**—Issues in moral theory and education, including consideration of the Kohlberg-Gilligan debate, character education, and contemporary issues on values and religious education. (SSPEP)

*3 units, not given 2002-03*

**EDUC 249. Theory and Issues in the Study of Bilingualism**—(Same as 149, SPANLIT 207.) For graduate students. Key issues in the study of bilingualism from a sociolinguistic perspective. Emphasis is on typologies of bilingualism, the acquisition of bilingual ability, the description and measurement of bilingualism, and the nature of societal bilingualism. Prepares students to work with bilingual students and their families and to carry out research in bilingual settings. (SSPEP)

*3-4 units, Aut (Valdés)*

**EDUC 250A. Statistical Analysis in Educational Research**—Primarily for doctoral students. Regression and categorical models are widely used data-analytic procedures. Topics: basic regression including multiple and curvilinear regression, regression diagnostics, analysis of residuals and model selection, logistic regression, analysis of categorical data. Proficiency with statistical computer packages. Prerequisite: 160 or equivalent. (All areas)

*4 units, Win (Haertel)*

**EDUC 250B. Statistical Analysis in Educational Research: Analysis of Variance**—Sequence, primarily for doctoral students. Analysis of variance models are among the most widely used data analytic procedures, especially in experimental, quasi-experimental, and criterion-group designs. Topics: single-factor ANOVA, the factorial between and within subjects and mixed design ANOVA (fixed, random, and mixed models), analysis of covariance, multiple comparison procedures. Prerequisite: 160X or equivalent. (All areas)

*4 units, Spr (Shavelson)*

**EDUC 250C. Statistical Analysis in Educational Research: Multivariate Analysis**—(Same as HRP 250.) Primarily for doctoral students in education, social and behavioral sciences. Advanced regression methods. Multivariate analysis of variance, discriminant analysis, factor analysis, correlation analysis. Data compression: principle components analysis, clustering, multi-dimensional scaling, latent structure models, structural equation models. Intensive use of computer packages. Prerequisites: 250B, 257, STATS 200, or equivalent. (All areas)

*4 units, Aut (Olkin)*

**EDUC 252. Introduction to Test Theory**—Concepts of reliability and validity; derivation and use of test scales and norms; mathematical models and procedures for test validation, scoring, and interpretation. Prerequisite: Statistics 190 or equivalent. (PSE)

*3-4 units (Haertel) not given 2002-03*

**EDUC 253X. The Principalsip: Theory and Practice**—For those interested in leadership roles in K-12 education, or for those interested in the theory and practice of school administration. Seminar immerses students in a broad study focused on conceptions of the role of the school principal.

*3-4 units, not given 2002-03*

**EDUC 255. Human Abilities**—(Same as PSYCH 133.) Introductory survey of psychological theory and research on human cognitive abilities; their nature, development, and measurement, and their importance in society. Relation of education and intellectual abilities. Cognitive analysis of verbal reasoning and spatial abilities. Individual differences in relation to motivation, personality, gender, and ethnic differences. Prerequisite: PSYCH 1 or equivalent. (PSE) GER:3b

*3 units, Win (Shavelson)*

**EDUC 256X. Psychological and Educational Resilience Among Children and Youth**—Psychological and educational theories of resilience as they relate to children and youth. Emphasis is on family, school, and community assets as they relate to protective factors that create conditions of resilience. How protective factors can be used to create healthy communities that enhance the life qualities of at-risk children and youth.

*3-4 units, Aut (LaFromboise, Padilla)*

**EDUC 257A,B. Statistical Methods for Behavioral and Social Sciences**—For students with experience and training in empirical research. Analysis of data from experimental studies through factorial designs, randomized blocks, repeated measures; regression methods through multiple regression, model building, analysis of covariance; categorical data analysis through log-linear models, logistic regression. Integrated with the use of statistical computing packages. Prerequisite: analysis of variance and regression at the level of STATS 161.

*3 units, Win, Spr (Rogosa)*

**EDUC 260X. Popular Advanced Statistical Methods**—Overview and implementation of some advanced statistical methods currently popular in educational research. Methods for accommodating the nested structure of much educational data (e.g., students within classrooms within schools) which arise as units of analysis problems, ecological regression, or hierarchical linear models. Methods for complex measurement models in regression settings known as structural equation models, causal models, covariance structures. See <http://www.stanford.edu/class/ed260>.

*3 units, not given 2002-03*

**EDUC 261X. Critical Reading in the Content Areas**—Topics: introduction to models of reading, functions of literacy, components of reading instruction, content vs. recreational reading, literacy vs. expository materials, and reading to learn vs. learning to read; text types; testing and assessment; vocabulary and reading instruction; comprehension and background knowledge; study skills and aids; metacognition; strategies; writing and reading instruction; technological applications; affective concerns and motivations. (SSPEP)

*3 units, not given 2002-03*

**EDUC 262A,B,C. Curriculum and Instruction in English**—Approaches to teaching English in the secondary school, including goals for instruction, teaching techniques, and methods of evaluation. (STEP)

*3 units, A: Sum, B: Aut, C: Win (Grossman)*

**EDUC 263A,B,C. Curriculum and Instruction in Mathematics**—The purposes and programs of mathematics in the secondary curriculum; teaching materials, methods. Prerequisite: STEP student or consent of instructor. (STEP)

*3 units, A: Sum, B: Aut, C: Win (Boaler)*

**EDUC 264A,B,C. Curriculum and Instruction in Foreign Language**—Approaches to teaching foreign languages in the secondary school, including goals for instruction, teaching techniques, and methods of evaluation. Prerequisite: STEP student. (STEP)

3 units, A: Sum, B: Aut, C: Win (Azevedo)

**EDUC 267A. Curriculum and Instruction in Science**—Examination of the 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)

3 units, A: Sum, B: Aut, C: Win (Schultz)

**EDUC 268A,B,C. Curriculum and Instruction in Social Studies**—Emphasis is on the methodology of social studies instruction: review of curriculum trends, survey of teaching materials, opportunities to develop teaching and resource units. Prerequisite: STEP student.

3 units, A: Sum, B: Aut, C: Win (Marcus)

**EDUC 269. Principles of Learning for Teaching**—Student learning and the epistemology of school subjects as they relate to the planning and implementation of teaching, the analysis of curriculum, and the evaluation of performance and understanding. Readings and activities are coordinated with the student teaching activities of participants. Prerequisite: STEP student or consent of instructor.

3 units, Win (Nasir, Darling-Hammond)

**EDUC 271S. School-Based Strategies for Reform**—Seminar. Redesign and reform strategies that schools are using to improve their performance. Reflections, and the preparation of a report for local school leaders analyzing selected school improvement resources and strategies.

3 units, not given 2002-03

**EDUC 273X. Gender and Higher Education**—(Same as EDUC 273X.) Focusing on the U.S., analyzes the effects of interactions between gender and the structures of higher education and examines a variety of policies seeking changes in those structures. Topics: undergraduate and graduate education, faculty field of specialization, rewards and career patterns; sexual harassment; and the development of feminist scholarship and pedagogy.

5 units, Spr (Strober)

**EDUC 274X. Managing Curricular Change in Undergraduate Education**—Undergraduate curriculum and curricular management in relation to innovation and reform. Nature of and rationale for changes in the curriculum at Stanford over the past decade from the perspective of administrators and faculty members. Case studies of recent Stanford initiatives. The role of the administrative manager in undergraduate education at a research university. Why is curricular change necessary? How is change motivated and implemented? How does leadership by administrators and faculty affect outcomes? Under what circumstances do reform and innovation succeed or fail? Students analyze a curricular change at another institution as a counterpoint to their examination of Stanford.

2 units, Aut (Woods)

**EDUC 275. African American English in Educational Context**—(Same as 175.)

3 units, not given 2002-03

**EDUC 277X. Education of Immigrant Students: Psychological Perspectives**—For graduate students; see 177X. (SSPEP)

4 units, Win (Padilla)

**EDUC 278. Introduction to Issues in Evaluation**—Open to master's and doctoral students with priority to students from education. Focus is on the basic literature and major theoretical and practical issues in evaluation. Introduction to basic concepts and intellectual debates in the field: knowledge construction, purpose of evaluation, values in evaluation, knowledge utilization, professional standards of evaluation practice. Enrollment limited to 18. (SSPEP)

3 units, Win (Porteus)

**EDUC 279. Urban Youth and Their Institutions: Research and Practice**—For graduate students; see 179. (SSPEP/APA)

4-5 units, Aut (McLaughlin)

**EDUC 279B. Best Practice and Policy in Youth Development**—(For graduate students; see 179B.)

2-4 units, Spr (McLaughlin)

**EDUC 281X. Using Literacies to Support Struggling Students**—Issues related to meeting the needs of struggling readers and writers and special needs students in their classrooms. Emphasis is on students who appear to be struggling learners in middle and high school classrooms who have not been previously or officially identified to receive special educational resources.

3 units, Spr (Ball)

**EDUC 283. Attitudes Toward Languages and Language Study**—With language viewed as an intergroup phenomenon, examines attitudes people hold toward their own and different languages, the bias toward and against speakers of different languages, how personal and societal attitudes affect the study and learning of a foreign or second language. A socio-psychological perspective is used as a central framework to guide the study of attitudes toward language. (SSPEP)

2-4 units, not given 2002-03

**EDUC 284. Teaching in Heterogeneous Classrooms**—Teaching in academically and linguistically heterogeneous classrooms requires a rich repertoire of pedagogical strategies. Focus is on the ways 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. Students learn to prepare for group work, equalize participation, design learning tasks that support conceptual understanding, mastery of content and language growth, and assess group products and individual contributions. (STEP)

3 units, Win (Lotan)

**EDUC 286B. Second Language Acquisition Research**—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. (SSPEP)

4 units, Win (Padilla)

**EDUC 287. Culture and Learning**—(Same as CASA 158X.) Learning in institutional settings in the U.S. and around the globe. Learning in families, in schools, on the job, and on the streets. Emphasis is on the cultural organization of success and failure in American schools. Tentative consideration of opportunities for making less inequality. (SSPEP, STEP)

3-4 units, Spr (McDermott)

**EDUC 289. Introduction to Linguistics for Educational Researchers**—(Same as 189.) For graduate students with interests in educational research, especially those who plan to concentrate on language or linguistics. Basic linguistic concepts, complementary surveys of educationally oriented studies that explore quantitative linguistic analyses, qualitative ethnolinguistic analyses, discourse analyses, conversation analyses, and studies of bilingualism. Emphasis is on the linguistic analyses of language minority populations and related educational policies.

4 units, Aut (Baugh)

**EDUC 290. Leadership: Research, Policy, and Practice**—Conceptions of leadership that include the classroom, school, district office, and state capitol. The role of complexity; organizational leaders outside of schools past and present, and how that complexity permitted leadership to arise. Case studies. (SSPEP/APA)

3-4 units, not given 2002-03

**EDUC 291. Learning Sciences and Technology Design Proseminar**

1-3 units, Win (Staff)

**EDUC 292. Cultural Psychology**—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, cross-cultural 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.

2 units, Win (*Nasir*)

**EDUC 294X. Theories of Human Development**—Introduces basic and advanced concepts and the theoretical viewpoints of developmental science. Goals: facilitating students' analytical skills in terms of examining and critically evaluating empirical developmental research, raising students' awareness and understanding of the multidisciplinary applications of developmental science, and exploring the impact that developmental research can have on educational reform, interventions, and other social policy issues

3 units, Win (*Perez-Granados*)

**EDUC 295. Learning and Cognition in Activity**—(Same as PSYCH 261.) Introduction to the results and methods of research on learning, understanding, reasoning, problem solving, and remembering, considered as aspects of participation in social organized activity. Focus is on the principles of coordination that support cognitive achievements and learning in activity settings in work and school environments.

3 units, Win (*Nasir, Greeno*)

**EDUC 298. On-line Learning Communities**—Online learning communities across and within K-12 schools, among teachers, in professional collaborations in the sciences, and across informal communities of interest in society. Historical foundations, theoretical perspectives, underlying learning theories, case studies, and key enabling technologies.

3 units, Win (*Pea*)

**EDUC 299X. Visualizations in Learning**—For learning theorists, designers of instructional and interactive learning environments, and those concerned more broadly with augmenting human capabilities with information technologies. Theory and research literature encompassing visualizations such as 2-D images and 3-D models, diagrams, geogridded visualizations in science and social science, temporal visualizations such as animations and video, concept maps, tree maps, and matrices. Subject areas span sciences, mathematics, medicine, architecture, and history.

3 units, Spr (*Pea*)

**EDUC 301. Historiography of American Education**—(Same as HISTORY 301.) Analysis of the literature of American education history for students who wish to do further work in the field. Weekly discussions, plus an opportunity to pursue specialized topics in small group tutorial sessions. Limited enrollment. Prerequisite: consent of instructor. (SSPEP)

3-4 units, not given 2002-03

**EDUC 302X. The Role of Knowledge and Learning in Teaching**—Focus is on current literature relevant to the structure of subject matter of instruction in schools, and to the cognitive processes involved as students try to learn material. The implications of the literature on the role of the teacher. (CTE)

3 units, Sum (*Staff*)

**EDUC 303. Qualitative Inquiry in Education**—The ways in which artistically and humanistically based approaches to the study of teaching, classroom life, and schooling can improve the understanding of education. Introduces qualitative methods of inquiry that emphasize literary and other interpretive forms, and new approaches to inquiry in education. A study using methods. (CTE)

4 units, Sum (*Eisner*)

**EDUC 304. The Philosophical and Educational Thought of John Dewey**—Analysis of important works of John Dewey. Readings vary each year. Emphasis may be on his social and moral writings. (SSPEP)

4 units, Aut (*Phillips*)

**EDUC 306A. Education and Economic Development**—Introductory analysis of the role of education in economic growth and development. Case material considers development problems in the U.S. and abroad. Discussion sections on the economic aspects of educational development. (SSPEP/ICE)

5 units, not given 2002-03

**EDUC 306B. The Politics of International Cooperation in Education**—(Same as 107.) Analysis of policies and practices in international cooperation, assistance, and exchange. Emphasis is on the role of international organizations (World Bank, UNESCO, OECD) and the politics of multilateral and bilateral assistance programs. (SSPEP/ICE, APA)

4 units, Spr (*Staff*)

**EDUC 306C. Political Economy of the Mind**—Theories of political economy related to the learning mind, particularly as in fiction. Readings from Defoe, Smith, Balzac, Dickens, Marx, Veblen, Wharton, Joyce, Galbraith, and Morrison. (SSPEP/ICE)

4 units, Spr (*McDermott*)

**EDUC 306D. World, Societal, and Educational Change: Comparative Perspective**—(Same as 136, SOC 131/SOC 231.) Analysis of the relations between educational and societal developments from a comparative perspective. Readings on various 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.

4-5 units, Aut (*Wotipka*)

**EDUC 308. The Analysis of Teaching**—Teaching is often considered an art or craft rather than a science. Is this true? Do teachers function as performers? Videotapes of teachers in action serve as a resource for the analysis of teaching. Concepts and methods from the field of criticism provide tools to analyze teaching. Literature in criticism, aesthetics, and qualitative evaluation secures the conceptual tools for the analysis of teaching. (CTE)

3-4 units, not given 2002-03

**EDUC 311X. First Year Doctoral Seminar: Introduction to Research**—Introduction to the broad range of methods used in current educational research, focusing on the logical and epistemological, design, and ethical issues. (All areas)

1-2 units, Aut, Win, Spr (*Stipek, Callan*)

**EDUC 312. Microsociology: Interaction Processes in Education**—(Same as SOC 224.) The educational applications of sociological/social psychological theory and research to interaction processes within schools and classrooms. Readings in foundational and contemporary works of interactionism spanning a variety of empirical settings beyond classrooms, e.g., primate societies, children's games, and work settings. Topics: social processes of influence, role differentiation, identity formation, social mechanisms, and intra/inter-group dynamics of peer relations. Methods for observation and analysis. (SSPEP)

4 units, not given 2002-03

**EDUC 313X. Mathematics, Equity, and Situated Learning**—The ways in which mathematics intersects with people's lives, the reasons why it is practiced only by the elite few and the potential of situated perspectives for the attainment of equitable practices. Drawing on theories of learning, curriculum, equity, and schooling, students research these and related issues.

3 units, Spr (*Boaler*)

**EDUC 314. Workshop in Economics of Education**—Research by students and faculty engaged in problems in the economics of education. Students must have advanced graduate training in economics theory and methodology and be engaged in research on the topic. (SSPEP)

1-2 units, Aut, Win, Spr (*Loeb*)

**EDUC 315X. Vouchers and Choice in Education**—The theory and empirical data on issues of educational choice and vouchers in the U.S., Europe, and other countries. Recommended: background in economics. (SSPEP)

*3 units, not given 2002-03*

**EDUC 316X. Network Analysis of Formal and Informal Organizations**—The educational applications of social network analysis. 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 provided by instructor on schools and classrooms. (SSPEP)

*5 units, Spr (McFarland)*

**EDUC 317X. Workshop on Community and Youth Development**—(Same as EDUC 317X, SOC 317A.) The Youth Development Seminar presents an opportunity to discuss, read, and collaborate on youth development research issues by provide participants with access to the National Longitudinal Study of Adolescent Health Data (requires permission), tutorials on statistical methods to facilitate analysis of the dataset, and articles that help researchers develop tools of inquiry. Participants are encouraged to present their own work for constructive feedback.

*1-2 units, Aut (McFarland)*

**EDUC 320X. Social Justice in Education**—Uses recent work in political theory to address questions about social justice in educational policy and practice: equality in education, language rights, race and multiculturalism, educational choice.

*3 units, not given 2002-03*

**EDUC 321B. Analysis of Social Interaction**—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. (SSPEP/ICE)

*4 units, Aut (McDermott)*

**EDUC 322X. Discourse Analysis in Educational Research**—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. Prerequisite: graduate status or consent of instructor. (SSPEP)

*5 units, Spr (Ball)*

**EDUC 323A. Education Policy Analysis**—The formulation and improvement of federal and state education and children policies. Key current policy issues and trends in politics. Topics: the Federal role in education and child care. (SSPEP/APA)

*3 units, Aut (Kirst)*

**EDUC 324X. Emerging Business Opportunities in Education and Training**—(Same as GSBGEN 345G.) For students in the joint degree program with business and education, and others. A combination of changing market mechanisms and emerging technologies is fueling new opportunities for for-profit education and training organizations. The interaction of firms with the public sector presents special challenges for these organizations. The special roles of public administrators, educators, investors, and technology providers in defining opportunities, challenges, and constraints for education and training firms. Approaches to strategy formation, product development, and operations. Visiting managers and other experts. (SSPEP/APA)

*2-4 units, Win (Kirst, Wood)*

**EDUC 327A,B. The Conduct of Qualitative Inquiry**—Integrated two quarters for doctoral students ready to engage in serious pursuit of research that anticipates, is a pilot study for, or in some significant way feeds into their dissertations. It is not necessary that students have written and received approval for their dissertation study. The experience mirrors most of what any research project entails, and is about the actual conduct of research. All students engage in common research processes from January to June including developing interview questions; interviewing; coding/analyzing, interpreting data; theorizing; and writing up results. Participant observation as needed. Students should consider this a sequence, with the division into quarters as arbitrary. Preference to students who intend to enroll for both quarters.

*4 units, Win, Spr (Goldman)*

**EDUC 331A,B. Administration and Policy Analysis Research Seminar**—Limited to first-year APA doctoral students. Introduces the rudiments of problem statements, conceptual frameworks, research design, and critical reviews of literature. (SSPEP/APA)

*3 units, A: Win, B: Spr (Staff)*

**EDUC 332X. The Community College as an Agent for Educational Equity**—The community college movement in the U.S. Emphasis is on the California community college system, the largest higher education system in the world with 107 accredited colleges and 1.5 million students. These colleges enroll 44 percent of all the undergraduates in the U.S. and 46 percent of all first-time freshmen. Compare and contrast community colleges in Illinois, Arizona, Texas, Florida, New York, and Hawaii. (APA)

*2 units (Staff)*

**EDUC 333A. Learning, Design and Technology: Analyzing Functions and Needs in Learning Environments**—Advanced seminar. Introduction to the theoretical approaches to learning used to analyze learning environments and develop goals for designing resources and activities to support more effective learning practices.

*2-3 units, Sum (Greeno)*

**EDUC 333B. Learning Design and Technology: Organizations**—Advanced seminar. How organizational resources, structures, constraints, and possibilities are taken into account in research-based designs for learning in schools and work places. Presentations and discussions by researchers from the Institute for Research on Learning offer an overview of current research and development efforts for improving learning in schools and workplaces.

*3 units, Win (Goldman)*

**EDUC 334X. Technology and Assessment**

*3 units, not given 2002-03*

**EDUC 335X. Language Policy and Planning: National and International Perspectives**—For graduate students, and undergraduates with consent of instructor. International study of the social, political, and educational tensions that shape language policy. Emphasis is on language education that affects immigrants, guest workers, and indigenous linguistic minority populations; policies that determine foreign language instruction, and U.S. language policies in a comparative approach. (SSPEP)

*3 units (Staff) not given 2002-03*

**EDUC 338A. Practicum in School and Community-Based Counseling Psychology**—Supervised counseling field experience in local schools or community-based programs for youth. Prerequisite: consent of instructors. (PSE)

*1-6 units, A: Aut, B: Win, C: Spr (LaFromboise, Krumboltz)*

**EDUC 340X. American Indian Mental Health and Education**—(Same as EDUC 340X.) Western medicine tends to define health by first defining sickness, disease, or pathology, and then defining health as the absence of these diseases. Native American cultures understood health to mean the balance or beauty of all things physical, spiritual, emotional, and social. Sickness was something out of balance, the absence of

harmony. Representative topics in American Indian psychology and health acquaint students with issues that characterize the field, its methods, goals, and findings. Prerequisite: experience working with American Indian communities. (PSE)

3 units, Win (*LaFromboise*)

**EDUC 341X. Educational Applications of Sociolinguistics**—For students interested in the broad applications of linguistic research in educational contexts. Formal integration of sociolinguistics and applied linguistic research is examined in relation to a range of international case studies among students and teachers in socially stratified speech communities worldwide. Theoretical concepts from linguistics are introduced as they relate to practical educational problems in socially stratified speech communities. Recommended: background in linguistic science for students who seek an introduction to applied linguistic research. (SSPEP)

3 units, not given 2002-03

**EDUC 342X. Child Development and New Technologies**—Focus is on the experiences computing technologies afford children and how these experiences 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. Readings from empirical journals, web publications, and books. Organized around themes of the influences of interactive technology on cognitive development, and of interactive technology on identity and social development, and equity issues.

1-3 units, Win (*Barron*)

**EDUC 343X. Achievement Motivation in School-Aged Children**—Surveys developments in the study of achievement motivation in children and adolescents over the past 50 years. The historical and theoretical approaches to understanding the quality, intensity, and direction of children's achievement-related behavior. Clinical life-span theories, cognitive theories, and social-cognitive theories of achievement motivation. Differences among mechanistic, organismic, and developmental-contextualist metamodels of motivation, qualitative vs. quantitative conceptualizations of motivation, and the differential emphasis placed upon organismic needs, cognition, volition, and emotion in theories concerned with understanding achievement behavior. (PSE)

3 units, Win (*Roeser*)

**EDUC 344X. Child Development and Schooling**—How the practices and activities of schooling influence the social, emotional, and cognitive development of children. Metatheoretical approaches (mechanistic, organismic, developmental contextualist metamodels) and methods of conducting research on schooling and development (experimental, survey, ethnographic, intervention). Topics: how different teaching practices influence cognitive growth in academic domains; how the organizational structures of schools (grade related transitions, class organizations) fit or fail to fit developmental needs; how friendship groups create contexts for learning and can lead to different trajectories of development; and how grading and other evaluative practices influence motivational orientations. Focus is on elementary school years. See also 345X. (PSE)

3 units, Spr (*Barron*)

**EDUC 345X. Adolescent Development and Schooling**—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. See also 344X. (PSE)

3 units, not given 2002-03

**EDUC 346. Higher Education**—Required for higher education students. Overview of higher education in the U.S. and an introduction to the major issues that have emerged in research about higher education, e.g., diversity, stratification, decentralization, and change. The current structural features of the system and the historical context that shaped it, informed by a range of theoretical frameworks. The purposes of higher education in light of different interest groups: students, faculty, administrators, and external constituents. (SSPEP/APA)

4 units, Aut (*Antonio*)

**EDUC 347. Economics of Higher Education**—Key economic issues in American higher education in the contemporary period. 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 and policy matters, exploring the concept of higher education as a public good. Stratification by gender, race and social class.

4 units, not given 2002-03

**EDUC 349X. Accountability and Assessment in Higher Education**

3 units, not given 2002-03

**EDUC 350A. Psychological Studies in Education**—Required of first-year doctoral students in Psychological Studies; others by consent of instructor. Introduction to the doctoral program in Psychological Studies in Education and to faculty and student research. (PSE)

2 units, Aut (*Schwartz, Haertel, Barron*)

**EDUC 350B,C,D. Research Practicum in Psychological Studies in Education**—Individual research projects in a group context provide extensive opportunities for training and feedback. (PSE)

2-3 units, Win, Spr (*Schwartz, Haertel, Barron*); 1 unit, Sum (*Greeno*)

**EDUC 351. Design and Analysis of Longitudinal Research**—The analysis of longitudinal data is central to empirical research on learning and development. Topics: growth models, measurement of change, repeated measures design, quasi-experiments, structural regression models, reciprocal effects, analysis of durations including survival analysis. See <http://www.stanford.edu/class/ed351/>. Prerequisite: statistical training at the level of 257. (PSE)

3 units, Spr (*Haertel, Rogosa*)

**EDUC 353A. Problems in Measurement: Item Response Theory**—Survey of the alternative mathematical models used in test construction, analysis, and equating. Emphasis is on applications of item response theory (latent trait theory) to measurement problems, including estimation of item parameters and person abilities, test construction and scoring, tailored testing, mastery testing, vertical and horizontal test equating, and detection of item bias. Prerequisites: 252 and 257, or PSYCH 248 and 252, or equivalent. (PSE)

3 units (*Haertel*) not given 2002-03

**EDUC 353C. Problems in Measurement: Generalizability Theory**—Theory and application of generalizability theory to the analysis of educational achievement data, including performance assessments. Fundamental concepts, computer programs, and actual applications. (PSE)

3 units, Spr (*Haertel, Shavelson*)

**EDUC 353D. Problems in Measurement: Standard Setting**—Cut scores on achievement tests define categories like pass and fail, or advanced, proficient, basic, and below basic. The measurement field is divided concerning the validity of some methods used for establishing such cut scores. The substantive and statistical issues in the theory and practice of standard setting: widely used methods, case studies, and critiques. Prerequisites: 160 or Statistics 160, or equivalent; 252 or equivalent.

3 units, not given 2002-03



**EDUC 354X. School-Based Decision Making**—Leadership and organizational issues in the movement toward school-based decision making. Emphasis is on building capacity for individual schools to make decisions, establishment of an inquiry process at the school level, use and availability of information, implementation and evaluation of decisions, parental involvement, and support of school-based decisions by districts. (SSEP/APA)

*3 units, Sum (Staff)*

**EDUC 358X. Informal Science Education**—Overview of the field of informal science education. Focus is on research on teaching and learning in informal learning environments, e.g., museums and environmental education centers. The evaluation of programs for teachers and students in such museums and centers, and the history of these institutions and their changing purposes.

*3 units, Spr (Atkin)*

**EDUC 359A. Research in Science and Mathematics Education: Assessment and Evaluation**—Research in science education, with references to mathematics education and other school subjects as appropriate. Historical and international perspectives. Emphasis is on trends and issues in contemporary American research and policy. Seminars offer an opportunity to develop and discuss dissertation plans, but are not limited to those students. (CTE)

*2-3 units, Spr (Schultz, Shavelson)*

**EDUC 359C. Research in Science and Mathematics Education: Curriculum**—Participants gain familiarity with research in science education, with references to mathematics education and other school subjects as appropriate. Historical and international perspectives; emphasis is on trends and issues in contemporary American research and policy. Seminars offer an opportunity to develop and discuss dissertation plans, but are not limited to those students. (CTE)

*2-3 units (Staff) not given 2002-03*

**EDUC 360. Action Research in Education**—Introduction to the theory and practice of action research. Basic concepts and methods. The historical and ideological influences on this form of inquiry by teachers. Participants analyze action research reports and engage in a small-scale action-research project. (CTE)

*3 units, Spr (Atkin)*

**EDUC 361. Economics of Gender in Education and Employment**—(Same as EDUC 361.) Policy issues concerning higher education, employment, earnings, discrimination, occupational segregation, housework, childcare, affirmative action, comparable worth, and feminist economics. (SSPEP)

*3 units, Win (Strober)*

**EDUC 364X. Reading in a Second Language**—Examination of the theories and research related to learning to read in a second language in child and adult learning contexts. The similarities and differences between first- and second-language theories and research on learning to read. Applications of research findings to pedagogy. (SSPEP)

*3 units, not given 2002-03*

**EDUC 365X. Learning to Read**—Focus is on learning to read in primary grades. Techniques and methods commonly used in learning environments where reading is taught such as in classrooms and individual tutoring. Materials include recent syntheses of the research on learning to read as well as practical experiences in translating research into practice.

*3 units, Aut (Kamil)*

**EDUC 366X. Trends and Issues in Reading**—Framework for literacy and literacy instruction. Research, theory, and implications for practice in classroom organization, compensatory instruction, comprehension instruction, reading and writing assessment, second language reading, whole language emergent literacy, adult literacy, and technology. (SSPEP)

*3 units, Spr (Kamil)*

**EDUC 367X. Reading Research Synthesis, Policy, and Practice**—The national syntheses of reading research beginning with The Great Debate (1967) and concluding with the National Reading Panel (2000). These reports are often the basis of recommendations for parents, administrators, and teachers, and have been the foundation of policy for curricular reform. Examination of these reports, interpretations, and commentaries, comparing the conclusions and recommendations with those derived from the original research upon which they were based.

*3 units, not given 2002-03*

**EDUC 370X. Theories of Cognitive Development**—The contributions of Jean Piaget and Lev Vygotsky to the study of the developing mind of the child. The theories, concepts, perspectives, empirical work, and lives of both men. Topics: Piaget's genetic epistemology, constructivism, sensorimotor through formal operational thought; Vygotsky's cultural-historical approach, egocentric speech, and the relation between learning and development. Provides students with a familiarity with some of the major theorists of cognitive development of the 20th century.

*3 units, Aut (Nasir)*

**EDUC 371X. Cognitive Development in Childhood and Adolescence**—Human beings go through many changes in the ways they perceive, think about, and respond to their daily experiences as they develop from newborn children to young adults. Theoretical and empirical perspectives that describe the mechanisms and processes researchers use to explain the developmental changes that occur within the individual, which affects how human beings think about and experience their world.

*3 units, not given 2002-03*

**EDUC 372X. Social Processes in Learning and Development**—Doctoral seminar on how children's learning and development are influenced by social interactions with parents, peers, teachers, and the larger cultural context. Emphasis is on research that illuminates the social/cognitive processes thought to influence the development of individual thinking: observation and imitation of models, co-construction of meaning and achievement of intersubjectivity, providing and receiving explanations, and socio-cognitive conflict. How the larger social culture influences the behavior of individuals in interaction and how forms of school culture influence children's individual thinking and thinking in collaboration with others. (PSE)

*3 units, Spr (Barron)*

**EDUC 374A. Research Workshop: Commercialization of Knowledge**—Research workshop on key factors that shape processes of transferring basic knowledge into commercial development. Topics: the sociology and economics of science, intellectual property and patenting issues, university-industry relations, cross-national differences in knowledge transfer and science/technology policy, and entrepreneurial activity in universities. Students are expected to either have or to develop research projects on these topics. Undergraduate prerequisite: consent of instructor.

*1-3 units, Aut (Powell)*

**EDUC 374B. Research Workshop: Commercialization of Knowledge**

*2-3 units, Win (Powell)*

**EDUC 375A,B. Seminar on Organizational Theory**—(Same as SOC 363A,B.) For doctoral-level students or equivalents. Provides a thorough grounding in the social science literature on organizations. Readings are organized historically, and introduce the major theoretical traditions and debates in organization theory.

*5 units, A: Aut, B: Win (Powell)*

**EDUC 377X. Comparing Institutional Forms: Public, Private, and Nonprofit**—Seminar examines the different missions and capabilities of non-profit, public, and private organizations. Competition and convergence in sectors where there is substantial overlap among different institutional forms (health care, social services, the arts, and education). Undergraduate prerequisite: consent of instructor.

*2-4 units, Win (Powell)*

**EDUC 378. Topics in Organizational Adaptation**—Research seminar focusing on theoretical ideas about decision making and learning in organizations. (SSPEP)

*2-5 units, not given 2002-03*

**EDUC 380. Internship in Educational Administration**

*1-15 units, any quarter (Staff)*

**EDUC 381X. Multicultural Issues in Higher Education**—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.

*4-5 units, Spr (Antonio)*

**EDUC 382X. Student Development and the Study of College Impact**—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.

*4 units, Win (Antonio)*

**EDUC 383X. Higher Education Research Practicum**—Seminar. Elective for first-year or second year doctoral students in higher education. Students obtain familiarity with researchers' paradigms in the study of higher education.

*2 units, not given 2002-03*

**EDUC 384. Advanced Topics in Higher Education**—Preference to higher education graduate students. Topics: curricular change, knowledge production, professional socialization, management of organizational change, faculty work, governance, state wide coordination, and system design. Prerequisites: 346, consent of instructor. (SSPEP/APA)

*3 units, not given 2002-03*

**EDUC 385. The American College Student: Implications for Research and Practice**—Open to juniors and seniors with consent of instructor. The nature, culture, and development of the American college student. The American college student from a contemporary perspective, focusing on the question of: who goes to college, what kinds of experiences do students have in college, and how are students affected by their experiences in college?

*4 units, not given 2002-03*

**EDUC 386X. Leadership and Administration in Higher Education**—For students who wish to gain a greater insight regarding the management of colleges and universities, and the issues faced by those who hold major leadership roles within these institutions. Definitions of leadership and leadership roles within colleges and universities. Leadership models and organizational concepts useful in understanding institutions of higher education through case study analysis of the problems and challenges facing today's higher education administrators.

*4 units, Spr (Staff)*

**EDUC 387A,B,C. Comparative Systems**—(Same as SOC 311A.) Analysis of quantitative and longitudinal data on national educational systems and political structures. Prerequisite: consent of instructor. (SSPEP/ICE)

*2-5 units, Aut, Win, Spr (Ramirez, Meyer)*

**EDUC 388A. Language Policies and Practices**—Research issues of policy and practice, particularly in the U.S., in programs for language minority students. Topics: the history of policy and legislation in bilingual education, theories of second language learning and first language maintenance, research on the effectiveness of bilingual education, and comparative experiences in other societal settings. 388A prepares STEP students for CLAD certification. (STEP)

*3-4 units, Spr (Hakuta)*

**EDUC 388B. Bilingual Education**—(Same as 188B.) (SSPEP)

*3 units, Win (Hakuta)*

**EDUC 401A. Mini Courses in Methodology; Statistical for Social Sciences**—For doctoral students. Particular issues during designated quarters. Enrollment limited. Prerequisite: consent of instructor.

*1 unit, Aut (Staff)*

**EDUC 402. Research Workshop on Gender Issues**—Presentations of research on gender issues by doctoral students, faculty, and visitors. Prerequisite: consent of instructor; doctoral student.

*1 unit, Aut (Strober)*

**EDUC 404A,B,C. Interdisciplinary Pedagogy I: Race, Identity, and Social Issues**

*1-5 units, A: Aut, B: Win, C: Spr (Staff)*

**EDUC 408. Research Workshop in International and Comparative Education**—Limited to advanced doctoral students in ICE and SSPEP. Research workshop for the review of key issues in the methodology and epistemology of social research in education, research proposals, and findings by students and faculty. Prerequisites: 306A,B,C,D or equivalents. (SSPEP/ICE)

*2-5 units, not given 2002-03*

**EDUC 410. Topics in Symbolic Systems in Education**—For students in all areas. Topics in the interdisciplinary study of intelligence, information, meaning, and learning, emphasizing research relevant to educational practice. Research perspectives from anthropology, artificial intelligence, linguistics, philosophy, and psychology. (PSE)

*1 unit, not given 2002-03*

**EDUC 412X. Setting Priorities, Standards and Policies in Education Research**—Review of current research and classic papers on the psycholinguistics and sociolinguistics of bilingualism. (PSE)

*3 units, not given 2002-03*

**EDUC 415A,B. Child Development and Learning Research Colloquium**—Students, faculty, and occasional visitors present their state-of-the-art research in a weekly talk series that emphasizes issues of learning and child development.

*1-3 units, Aut, Win (Schwartz)*

**EDUC 418. Foundations of Field Research in Higher Education**—For higher education/APA graduate students. Advanced seminar examines rationales for doing interpretive social science research in higher education settings. Prerequisites: 346, consent of instructor.

*3-5 units, not given 2002-03*

**EDUC 420C. Philosophy of Education**—Particular issues during designated quarters. Enrollment limited; sign up with instructor prior to beginning of quarter. (SSPEP)

*3 units, Spr (Robertson)*

**EDUC 422A,B,C. Practicum for School Principals**—The major tasks and related activities of principals. Uses a training approach that is problem- rather than discipline-based and provides for a substantial degree of self-directed learning by students under the guidance of professors and practicing principals. (SSPEP/APA)

*6 units, A,B: not given 2002-03; C: Sum (Staff)*

**EDUC 423A. Introduction to Research Design: Educational Administration and Policy Analysis**—Preference to APA doctoral students working on their sixth-quarter qualifying paper. Focus is on developing problem statements, research questions, and conceptual frameworks. Preliminary discussion of designing research in the social sciences. Prerequisites: 331A,B, consent of instructors. (SSPEP/APA)

*3-5 units, Win (Strober)*

**EDUC 425X. Federal Educational Policy**—Limited to doctoral students. Focus is on policy trends, dilemmas, and issues in federal educa-

tion policy over the past 40 years. Issues of federal purpose and role, centralization and decentralization, equality and quality, civil rights, evaluation and research, and the implementation of federal programs. Early childhood, K-12 and post-secondary education. Requires a significant and potentially publishable analysis of a federal policy or practice. (SSPEP/APA)

*3 units, not given 2002-03*

**EDUC 430A. Advanced Seminar in Childhood and Adolescent Development**—Limited to advanced doctoral students in PSE and others with a strong background in developmental psychology, and offered in conjunction with the doctoral training seminar at the Center on Adolescence. The developmental processes that account for adaptation or non-adaptation in interpersonal models of social and personality development. Research on topics that are drawing attention in the field. Emphasis is on contemporary frameworks for understanding social and personality development. Prerequisite: consent of instructor.

*3 units, not given 2002-03*

**EDUC 431. School and Community-Based Counseling Psychology**—Doctoral seminar. Professional topics in counseling psychology: prevention, consultation and collaboration, supervision, legal and ethical foundations, and school and family systems. May be repeated for credit. Prerequisites: doctoral candidates in school and community-based counseling psychology, consent of instructor. (PSE)

*1-3 units, Aut, Win, Spr (LaFromboise, Krumboltz)*

**EDUC 435X. Applied Linguistics**—For graduate students in the schools of Education and Humanities and Sciences who are engaged in research pertaining to applied linguistic topics in original research. Topics: language policies and planning, language and gender, writing and critical thinking, foreign language education, and social applications of linguistic science. (SSPEP)

*1-4 units, Spr (Baugh)*

**EDUC 437X. Knowledge in Social Evolution: Understanding the Nature of Learning in the Information Age**

*3 units, not given 2002-03*

**EDUC 444X. Research In Progress: Curriculum and Teacher Education**—Required of master's and first-year doctoral students in CTE. Introduction to current research in the Curriculum and Teacher Education area. Weekly presentations of research planned, under way, or ready to be reported on curriculum and teacher education by SUSE faculty, SUSE master's or doctoral candidates, and faculty from elsewhere in the University or Bay Area. Conceptual and methodological issues. (CTE)

*1 unit, not given 2002-03*

**EDUC 453. Doctoral Dissertation**—For doctoral students only. (All areas)

*1-15 units, any quarter (Staff)*

**EDUC 460. Advanced Seminar in Evaluation Design**—3 quarters; for M.A. Policy Analysis and Evaluation students in the evaluation track. Evaluation issues including the significance of multidisciplinary teamwork, design issues, negotiation, interpersonal skills, and ethics. (SSPEP/APA)

*1 unit, Aut, Win, Spr (Fetterman)*

**EDUC 461X. Schooling and Mental Health Issues**—Between 12-30% of all school-aged children experience moderate to severe emotional/behavioral difficulties. Many never receive services either within or outside of school to redress these difficulties, and untreated emotional/behavioral problems often undermine the affected children's ability to learn, and their teachers' ability to effectively teach. The theoretical/empirical, practical, and methodological goals.

*3-4 units, not given 2002-03*

**EDUC 465X. Seminar in Teacher Education: Issues of Pedagogy**—For doctoral students interested in preparing to work in the area of teacher education. Issues of pedagogy in the professional preparation of preser-

vice teachers. Different pedagogical approaches, including the use of modeling and simulations and the use of hypermedia materials. Theoretical considerations of how teachers learn to teach.

*3 units, not given 2002-03*

**EDUC 466. Doctoral Seminar in Curriculum**—Required of all doctoral students in CTE. The research and scholarship related to the CTE program at Stanford, acquainting students with the field, student research activities, and the kinds of problems they believe important in the field. All CTE faculty, other Stanford faculty, and outside speakers participate. Major problems in the field and the ways these are addressed by current investigators. (CTE)

*2-4 units, Win (Eisner)*

**EDUC 470. Practicum**—For advanced graduate students. (All areas)

*1-15 units, Any quarter (Staff)*

**EDUC 470E. Practicum in Evaluation**—Students participate in or conduct an evaluation. Topics of current interest in the area of educational evaluation. Prerequisite: student member of the Evaluation Consortium.

*1-5 units, any quarter (Staff)*

**EDUC 471X. CRC Research Practicum**—For students working on CRC research projects only.

*1-3 units, Spr (McLaughlin)*

**EDUC 480. Directed Reading**—For advanced graduate students. (All areas)

*1-15 units, any quarter (Staff)*

**EDUC 490. Directed Research**—For advanced graduate students. (All areas)

*1-15 units, any quarter (Staff)*

**EDUC 493B. Topics in Quantitative Methods**—(Enroll in STATS 211.)

*3 units, Win (Olkin)*

## OVERSEAS STUDIES

Courses approved for the Education major and taught overseas can be found in the "Overseas Studies" section of this bulletin, or in the Overseas Studies office, 126 Sweet Hall.

## OXFORD

**EDUC 255Y. Human Abilities**—(Same as PSYCH 133Y.) (PSE) GER:3b

*3 units, Aut (Shavelson)*

**This file has been excerpted from the *Stanford Bulletin*, 2002-03, pages 86-102. Every effort has been made to insure accuracy; late changes (after print publication of the bulletin) may have been made here. Contact the editor of the *Stanford Bulletin* via email at arod@stanford.edu with changes, corrections, updates, etc.**