

# Undergraduate Degrees and Programs

## DEGREE PROGRAMS

### BACHELOR OF ARTS (B.A.), BACHELOR OF SCIENCE (B.S.)

Stanford University confers the degree of Bachelor of Arts (B.A.) or the degree of Bachelor of Science (B.S.) on those candidates who have been recommended by the Committee on Undergraduate Standards and Policy (C-USP), who have applied in advance for conferral of the degree, and who have fulfilled the following requirements:

1. A minimum of 180 units of allowable University work. (As described below, units above the allowable limits for activity courses and for courses taken on a satisfactory/no credit and credit/no credit basis cannot be counted towards the 180-unit minimum.)
2. The Writing, General Education, and Language Requirements (see below).
3. Curricular requirements of at least one major department or program and the recommendation of the department(s). (Descriptions of curricular and special degree requirements are included in each department's section of this bulletin.)
4. (Students admitted as freshmen prior to Autumn 2001 and students admitted as transfers.) A minimum of 90 units (including the last 15) at Stanford. In special cases, students who have earned at least 90 units in resident work and who have completed the General Education, Writing, and Language Requirements, as well as all major/minor requirements, may petition for a waiver of the last 15 units-in-residence requirement.
5. (Students admitted as freshmen Autumn 2001 and thereafter.) A minimum of 135 units (including the last 15) at Stanford. In special cases, students who have earned at least 135 units in resident work and who have completed the General Education, Writing, and Language Requirements, as well as all major/minor requirements, may petition for a waiver of the last 15 units-in-residence requirement.

Stanford confers the Bachelor of Science degree on candidates who fulfill these requirements in the School of Earth Sciences, in the School of Engineering, or in the departments of Applied Physics, Biological Sciences, Chemistry, Mathematics, or Physics in the School of Humanities and Sciences. The University also awards B.S. degrees to candidates in the Program in Science, Technology, and Society; in the Program in Mathematical and Computational Science; in the Program in Symbolic Systems; and, when appropriate, in the Program for Individually Designed Majors. Candidates who fulfill these requirements in other schools or departments receive the Bachelor of Arts degree.

Students who complete the requirements for two or more majors, which ordinarily would lead to the same degree (B.A. or B.S.), should review "The Major" section of this bulletin to ensure that they have an understanding of the requirements for multiple or secondary majors.

### BACHELOR OF ARTS AND SCIENCE (B.A.S.)

The University confers the degree of Bachelor of Arts and Science (B.A.S.) on candidates who have completed, with no overlapping courses, the curricular requirements of two majors which ordinarily would lead to different bachelor's degrees (that is, a Bachelor of Arts degree and a Bachelor of Science). These students must have applied in advance for graduation with the B.A.S. degree instead of the B.A. or B.S. degree, been recommended by the C-USP, and have fulfilled requirements 1, 2, and 4/5 above in addition to the requirements for multiple majors.

Students who cannot meet the requirements for both majors without overlapping courses are not eligible for the B.A.S., but may apply to have a secondary major recorded on their transcripts. (See "The Major" section below.)

### DUAL BACHELOR'S DEGREES (CONCURRENT B.A. AND B.S.)

A Stanford undergraduate may work concurrently toward both a B.A. and a B.S. degree. To qualify for both degrees, a student must complete:

1. A minimum of 225 units of University work. (As described below, units above the allowable limits for activity courses and for courses taken on a satisfactory/no credit and credit/no credit basis cannot be counted towards the 225 minimum.)
2. The Writing, General Education, and Language Requirements.
3. The curricular requirements of two majors (one of which leads to a Bachelor of Arts degree and the other to a Bachelor of Science degree).
4. (Students admitted as freshmen prior to Autumn Quarter 2001 and students admitted as transfers.) A minimum of 135 units (including the last 15) at Stanford. In special cases, students who have earned at least 135 units in resident work and who have completed the General Education, Writing, and Language Requirements, as well as all major/minor requirements, may petition for a waiver of the last 15 units-in-residence requirement.
5. (Students admitted as freshmen Autumn Quarter 2001 and thereafter.) A minimum of 180 units (including the last 15) at Stanford. In special cases, students who have earned at least 180 units in resident work and who have completed the General Education, Writing, and Language Requirements, as well as all major/minor requirements, may petition for a waiver of the last 15 units-in-residence requirement.

A student interested in dual bachelor's degrees should file a "Statement of Intention to Declare Dual Degrees" with the University Registrar's Office no later than two quarters in advance of completing the program. The statement is submitted on a standard petition form along with recommendations of appropriate representatives of the two departments whose major requirements the student is expecting to fulfill.

Students who do not meet the higher unit and residence requirements of the dual degree option may be eligible instead for the B.A.S. degree as described above.

### SECOND BACHELOR'S DEGREE

Stanford does not award a second Bachelor of Arts degree to an individual who already holds a Bachelor of Arts, nor a Bachelor of Science degree to an individual who already holds a Bachelor of Science degree. However, the holder of a Bachelor of Arts degree from Stanford may apply to the Subcommittee on Academic Standing for admission to candidacy for a Bachelor of Science degree, and the holder of a Bachelor of Science degree from Stanford may apply for candidacy for a Bachelor of Arts degree. The Subcommittee on Academic Standing may determine whether the application for a second degree will be approved and/or the conditions a student must meet in order to be allowed to earn a second degree. A recommendation of the major department for the second bachelor's degree must accompany the application.

Generally, a holder of a B.A. or B.S. degree may not apply for the Bachelor of Arts and Sciences degree, although a student may submit a petition for exception. The Office of the University Registrar's Academic Standing section in Old Union reviews these petitions. A student approved for this program may register as an undergraduate and is subject to the current rules and regulations affecting undergraduates. Requirements for a second Stanford bachelor's degree are the same as those described above for dual bachelor's degrees.

### COTERMINAL BACHELOR'S AND MASTER'S DEGREES

The coterminal degree program allows undergraduates to study for a master's degree while completing their bachelor's degree(s) in the same or a different department. Undergraduates with strong academic records may apply for admission to a coterminal master's program as early as the eighth quarter (or upon completion of 105 units) but no later than the 11th quarter of undergraduate study. Full-time enrollment during Summer Quarters, as well as allowable undergraduate transfer credit, are also counted towards quarters of undergraduate study. Students who wish to apply for a master's program after these deadlines must apply through the regular graduate admissions process.

To apply for admission to a coterminal master's program, students must submit to the prospective graduate department the following: coterminal application, statement of purpose, preliminary program proposal, two letters of recommendation from Stanford professors, and a current Stanford transcript. Graduate Record Examination (GRE) scores or other requirements may be specified by the prospective department.

For coterminal students, the quarter following completion of 12 full-tuition undergraduate quarters is identified as the first graduate quarter for tuition assessment. Beginning with this quarter, coterminal students are subject to graduate student policies and procedures (including those described in the "Graduate Degrees" section of this bulletin) in addition to undergraduate minimum progress standards. These policies include continuous registration or leaves of absence for quarters not enrolled and minimal progress guidelines.

In the first graduate quarter, a coterminal student is assigned an adviser in the master's department for assistance in planning a program of study to meet the requirements for the master's degree. The plan is outlined on the Program Proposal for a Master's Degree, which is approved by the master's department by the end of the first graduate quarter. Authorizations for master's programs expire three calendar years from the first graduate quarter. An extension requires review of academic performance by the department.

The specific University residency, unit requirement, and additional policies for a bachelor's/master's program are described under Residency and Unit Requirements in Coterminal Programs in the "Graduate Degrees" section of this bulletin.

Conferral of each degree is applied for separately by the deadlines given in the University *Time Schedule*. The master's degree must be conferred simultaneously with, or after, the bachelor's degree.

## DEGREE REQUIREMENTS

### A LIBERAL EDUCATION

As do all major universities, Stanford provides the means for its undergraduates to acquire a liberal education—an education that broadens the student's knowledge and awareness in each of the major areas of human knowledge, that significantly deepens understanding of one or two of these areas, and that prepares him or her for a lifetime of continual learning and application of knowledge to career and personal life.

The undergraduate curriculum at Stanford allows considerable flexibility. It permits each student to plan an individual program of study that takes into account personal educational goals consistent with particular interests, prior experience, and future aims. All programs of study should achieve some balance between depth of knowledge acquired in specialization and breadth of knowledge acquired through exploration. Guidance as to the limits within which that balance ought to be struck is provided by the University's General Education Requirements and by the requirements set for major fields of study.

These educational goals are achieved through study in individual courses that bring together groups of students examining a topic or subject under the supervision of scholars. Courses are assigned credit units. To earn a bachelor's degree, the student must complete at least 180 allowable units and, in so doing, also complete the Writing Requirement, the General Education Requirements, the Language Requirement, and the requirements of a major.

The purpose of the Writing Requirement is to promote effective communication by ensuring that every undergraduate can write clear and effective English prose. Words are the vehicles for thought, and clear thinking requires facility in writing and speech.

The Language Requirement ensures that every student gains a basic familiarity with a foreign language. Foreign language study extends the student's range of knowledge and expression in significant ways, providing access to materials and cultures that otherwise would be out of reach.

The General Education Requirements provide guidance toward the attainment of breadth and stipulate that a significant share of a student's work must lie outside an area of specialization. These requirements ensure

that every student is exposed to different ideas and different ways of thinking. They enable the student to approach and to understand the important "ways of knowing" to assess their strengths and limitations, their uniqueness, and, no less important, what they have in common with others.

Depth, the intensive study of one subject or area, is provided through specialization in a major field. The major relates more specifically to a student's personal goals and interests than do the general requirements outlined above. Stanford's curriculum provides a wide range of standard majors through its discipline-oriented departments, a number of interdisciplinary majors in addition to department offerings, and the opportunity for students to design their own major programs.

Elective courses, which are not taken to satisfy requirements, play a special role in tailoring the student's program to individual needs. For most students, such courses form a large portion of the work offered for a degree. Within the limitations of requirements, students may freely choose any course for which previous studies have prepared them.

Following are more detailed descriptions of these various requirements and the rationales upon which they are based.

### THE GENERAL EDUCATION REQUIREMENTS PURPOSE

The General Education Requirements are an integral part of undergraduate education at Stanford. Their purpose is two-fold: 1) to introduce students to a broad range of fields and areas of study within the humanities, social sciences, natural sciences, applied sciences, and technology; and 2) to help students prepare to become responsible members of society. Whereas the concentration of courses in the major is expected to provide depth, the General Education Requirements have the complementary purpose of providing breadth to a student's undergraduate program. The requirements are also intended to introduce students to the major social, historical, cultural, and intellectual forces that shape the contemporary world.

Fulfillment of the General Education Requirements in itself does not provide a student with an adequately broad education any more than acquiring the necessary number of units in the major qualifies the student as a specialist in the field. The major and the General Education Requirements are meant to serve as the nucleus around which the student is expected to build a coherent course of study by drawing on the options available among the required and elective courses.

Information regarding specific courses that have been certified to fulfill the General Education Requirements, and regarding a student's status in meeting these requirements, is available at the Office of the University Registrar. Course planning and advising questions related to the General Education Requirements should be directed to the Undergraduate Advising Center.

It is the responsibility of each student to ensure that he or she has fulfilled the requirements by checking in Axess within the Undergraduate Progress function or by checking with the Office of the University Registrar. This should be done at least two quarters before graduation.

Students should be extremely careful to note which set of General Education Requirements apply to them. The date of matriculation at Stanford determines which requirements apply to an individual student.

### AREA REQUIREMENTS

To fulfill the General Education Requirements (GER), undergraduates who entered Stanford in Autumn Quarter 1996 and thereafter must complete a minimum of nine courses certified for this purpose in four areas as follows:

*Area 1 Program*—Introduction to the Humanities courses (one-quarter introductory courses followed by two-quarter thematic sequences)

Students are expected to satisfy the Area One Requirement during their freshman year.

For a full description of the Introduction to the Humanities Program (I-HUM), see "Introduction to the Humanities Program" under the School of Humanities and Sciences' Course Descriptions.

**Area 2: Natural Sciences, Applied Science and Technology, and Mathematics**—Students can fulfill this requirement by completing three certified GER courses in this area, with no more than two of these courses from the same subarea.

**Area 3: Humanities and Social Sciences**—Students are required to complete three certified GER courses in this area with at least one course in the humanities subarea and one in the social sciences subarea.

**Area 4: World Cultures, American Cultures, and Gender Studies**—Students must complete at least one certified GER course in two of the three subareas.

Courses certified as meeting the General Education Requirements must be taken for a letter grade and a minimum of 3 units of credit. A single course may be certified as fulfilling only one subarea within the General Education Requirements; the one exception is that a course may be certified to fulfill an Area 4 subarea in addition to an Area 3 subarea.

Courses that have been certified as meeting the requirements are identified throughout this bulletin with the notational symbols listed below. A comprehensive list of certified courses also appears as an Appendix to this bulletin.

#### Area 1 Program

GER 1a: first-quarter course

GER 1b: second-quarter course

GER 1c: third-quarter course

**Area 2: Natural Sciences, Applied Science and Technology, and Mathematics**

GER 2a: Natural Sciences subarea

GER 2b: Applied Science and Technology subarea

GER 2c: Mathematics subarea

**Area 3: Humanities and Social Sciences**

GER 3a: Humanities subarea

GER 3b: Social Sciences subarea

**Area 4: World Cultures, American Cultures, and Gender Studies**

GER 4a: World Cultures subarea

GER 4b: American Cultures subarea

GER 4c: Gender Studies subarea

Continuing undergraduates who entered Stanford prior to Autumn 1996 may elect to complete either the set of Distribution Requirements in effect when they entered or the set of General Education Requirements effective Autumn 1996 and described above. Note: students will not, however, be permitted to mix the requirements of the two systems or to change from one system to the other after they have elected the system under which they wish to be monitored for graduation. If the 1996 program of General Education Requirements is chosen, only certified courses passed with a letter grade and taken for 3 or more units can fulfill the requirements.

#### CREDIT TRANSFER

While courses taken in fulfillment of the General Education Requirements should be taught by Stanford faculty members who are Academic Council members or Senior Lecturers, students may propose that work taken at another college or university be accepted in fulfillment of a General Education Requirement. In such cases, the Office of the University Registrar's External Credit Evaluation staff determines, after appropriate faculty consultation, whether the work is comparable to any of the specifically certified courses or course sequences.

## THE WRITING AND RHETORIC REQUIREMENT

All instructors at Stanford University expect students to express themselves effectively in writing and speech. The Writing and Rhetoric Requirement helps students meet those high expectations.

All candidates for the bachelor's degree, regardless of the date of matriculation, must satisfy the writing and rhetoric requirement. Transfer students are individually advised at the time of matriculation by the Office of the Registrar's External Credit Evaluation section and, if necessary, the Program in Writing and Rhetoric (PWR), as to their status with regard to the requirement.

The current Writing and Rhetoric requirement, effective in 2003, includes courses at three levels. The first two levels are described in more detail below. Writing-intensive courses that fulfill the third level, the Writing in the Major (WIM) requirement, are designated under individual department listings.

All undergraduates must satisfy the first level Writing and Rhetoric requirement (WR 1) in one of three ways:

1. PWR 1: a course emphasizing writing and research-based argument.
2. Writing instruction in connection with the Structured Liberal Education (SLE) program.
3. Transfer credit approved by the Registrar's External Credit Evaluation office for this purpose.

All undergraduates must satisfy the second-level Writing and Rhetoric Requirement (WR 2) in one of three ways:

1. PWR 2, a course emphasizing writing, research, and oral presentation.
2. A course offered through a department or program certified as meeting the WR 2 requirement by the Writing and Rhetoric Governance Board. These courses will be designated as DWR 2.
3. Transfer credit approved by the Office of the University Registrar's External Credit Evaluation section for this purpose.

A complete listing of PWR 1 courses is available on the PWR web site at <http://pwr.stanford.edu>, and at the PWR office, Building 460, Room 223. Complete listings of PWR 2 and DWR 2 courses will be available to students on the PWR web site the quarter before they are scheduled to complete the WR 2 requirement. Certification of these courses will begin in Autumn 2003.

For a full description of the Program in Writing and Rhetoric (PWR), see "Writing and Rhetoric, Program in" section of this bulletin under the School of Humanities and Sciences.

Students who matriculated prior to Autumn 2003 should consult previous issues of the *Stanford Bulletin* and the "Writing and Rhetoric, Program in" section of this bulletin under the School of Humanities and Sciences to determine what requirements apply.

## THE LANGUAGE REQUIREMENT

To fulfill the Language Requirement, undergraduates who entered Stanford in Autumn 1996 and thereafter are required to complete one year of college-level study or the equivalent in a foreign language. Students may fulfill the requirement in any one of the following ways:

1. Complete three quarters of a first-year, 4-5 units language course at Stanford or the equivalent at another recognized post-secondary institution subject to current University transfer credit policies.
2. Score 4 or 5 on the Advanced Placement (AP) test in the following languages: French, German, Latin, and Spanish.
3. Achieve a satisfactory score on the SAT II Subject Tests in the following languages taken prior to college matriculation:

Chinese	630	Italian	630
French	640	Japanese	620
German	630	Korean	630
Latin	630	Hebrew	540
Spanish	630		

4. Take a diagnostic test in a particular language which either:
  - Places them out of the requirement, or
  - Diagnoses them as needing one, two, or three additional quarters of college-level study. In this case, the requirement can then be fulfilled either by passing the required number of quarters of college-level language study at Stanford or the equivalent elsewhere, or by retaking the diagnostic test at a later date and placing out of the requirement.

Written placements are offered online throughout the summer in Chinese, French, German, Japanese, Russian, Spanish, and Spanish for home background speakers.

For a full description of Language Center offerings, see "Language Center" under the school of Humanities and Sciences' Course Descriptions.

**CREDIT****ADVANCED PLACEMENT**

Stanford University allows up to 45 units of credit toward graduation for work completed in high school as part of the College Entrance Examination Board (CEEB) Advanced Placement curriculum. The awarding of such credit is based on CEEB Advanced Placement test scores and is subject to University and department approval.

The faculty of a given department determine whether any credit toward the 180-unit requirement can be based on achievement in the CEEB Advanced Placement Program in their discipline. Stanford departments electing to accept the Advanced Placement (AP) credit are bound by these University policies:

1. Credit is usually granted for an AP score of 4 or 5. Usually, 10 quarter units are awarded (but occasionally fewer than 10). No more than 10 quarter units may be given for performance in a single examination. If the student has scores of 4 or 5 on two exams within the same language (for example, French Language and Literature), or within the same subject (for example, Music Theory and Music History), the student is given a maximum total of 10 quarter units based on only one of the scores, the higher of the two, if different. The Studio Art and Art History examinations are treated separately and yield 10 quarter units each for scores of 4 or 5.
2. Whether credit is to be given for an AP score of 3 is a matter for departmental discretion; up to 10 units may be awarded.
3. No credit may be authorized for an AP score lower than 3.

Performance on an AP exam can indicate the appropriate placement for continuing course work in that subject at Stanford. Students may not enroll in courses at Stanford for which they received equivalent credit through the AP program. The chart below shows the current AP credit and placement policies. Further information is available from the Office of the University Registrar's External Credit Evaluation section.

**AP SCORES AND PLACEMENT<sup>1</sup>**

Test Subject	Score	Placement	Quarter Units <sup>2</sup>
Art History*	4, 5	Not applicable	10
Art (Studio)*	4, 5	Not applicable	10
Biology*	4, 5	Not applicable	10
Chemistry	4, 5	CHEM 32 or above	4
Comparative Gov. and Politics	4, 5	Not applicable	5
Computer Science AB	4, 5	CS 106X <sup>3</sup>	5
Computer Science A	4, 5	CS 106X <sup>3</sup>	5
Economics (Macro and Micro)	8, 9, 10	ECON 50	5 <sup>4</sup>
English (Language or Literature)*	4, 5	Not applicable	6
Environmental Science*	4, 5	Not applicable	5
European History*	4, 5	Not applicable	10 <sup>5</sup>
French (Language or Literature)*	4, 5	FRENLANG 22 (or higher by placement exam only)	10
German (Language or Literature)*	4, 5	GERLANG 21 (or higher by placement exam only)	10
Human Geography*	4, 5	Not applicable	7
Latin (Vergil or Literature)*	4, 5	CLASSLAT 101 (or higher by placement exam only)	10
Math AB	5	MATH 51	10
	4	MATH 42	5
Math BC	4, 5	MATH 51	10
	3	MATH 42	5
Math AB subscore	5	MATH 51	10
	4	MATH 42	5
Music*	4, 5	Not applicable	10
Physics B	5	PHYSICS 25, 51, or 61 <sup>6</sup>	10
	4	PHYSICS 23, 51, or 61 <sup>7</sup>	5

Test Subject	Score	Placement	Quarter Units <sup>2</sup>
Physics C (2 parts)			
Mech. only	4, 5	PHYSICS 23, 51, or 61 <sup>7</sup>	5
3	3	PHYSICS 23, 51, or 61 <sup>8</sup>	4
E&M only	4, 5	PHYSICS 21, 51, or 61 <sup>9</sup>	5
3	3	PHYSICS 21, 51, or 61 <sup>10</sup>	4
Both Parts	4, 5	PHYSICS 25, 51, or 61 <sup>11</sup>	10
3	3	PHYSICS 25 or 51 <sup>12</sup>	8
Psychology	4, 5	PSYCH 2 or above	4
Spanish (Language or Literature*)	4, 5	SPANLANG 11 (or higher by placement exam only)	10
Statistics	4, 5	STATS 61	5
U.S. Government and Politics*	4, 5	Not applicable	5
U.S. History*	4, 5	Not applicable	10 <sup>5</sup>
World History*	4, 5	Not applicable	10 <sup>5</sup>

\* Credit for this exam will not be awarded effective with students matriculating Autumn Quarter 2004-05 and thereafter

<sup>1</sup> Stanford CEEB Advanced Placement (AP) policies are subject to review and change.

<sup>2</sup> A maximum of 45 quarter units of AP and/or transfer credit and/or other external credit combined may be applied toward the undergraduate degree.

<sup>3</sup> Students may choose to skip CS 106A, 106B, and 106X and successfully complete CS 103, 107, or 109 to receive an additional 5 quarter units.

<sup>4</sup> A minimum score of 4 on both tests will receive 5 quarter units.

<sup>5</sup> Students may receive a maximum of 20 quarter units for European History, U.S. History, and/or World History combined.

<sup>6</sup> Take PHYSICS 25 (placing out of 21 and 23); or take 51 then 55 (placing out of 53); or take 61 (with strong math background) then 63 and 65.

<sup>7</sup> Take PHYSICS 23 then 25 (placing out of 21); or take 51 then 55 (placing out of 53); or take 61 (with strong math background) then 63 and 65.

<sup>8</sup> Take PHYSICS 23 then 25 (placing out of 21); or take 51 then 53 then 55; or take 61 (with strong math background) then 63 and 65.

<sup>9</sup> Take PHYSICS 21 then 25 (placing out of 23); or take 51 then 53 (placing out of 55); or take 61 (with strong math background) then 63 and 65.

<sup>10</sup> Take PHYSICS 21 then 25 (placing out of 23); or take 51 then 53 then 55; or take 61 (with strong math background) then 63 and 65.

<sup>11</sup> Take PHYSICS 25 (placing out of 21 and 23); or take 51 (placing out of 53 and 55); or take 61 (with strong math background) then 63 and 65.

<sup>12</sup> Take PHYSICS 25 (placing out of 21 and 23); or take 51 then 53 then 55.

**ACTIVITY COURSES**

For undergraduates who entered Autumn 1996 and thereafter, a maximum of 8 units of credit earned in activity courses, regardless of the offering department or if accepted as transfer units, count towards the 180 (225 if dual degrees are being pursued) units required for the bachelor's degree. All activity courses are offered on a satisfactory/no credit basis.

Undergraduates who entered Stanford between Autumn 1986 and the end of the 1995-96 academic year may apply a maximum of 12 units in activity courses (Physical Education or Music Activity) to the 180/225 unit requirement for graduation.

**COURSES TAKEN ON SATISFACTORY/NO CREDIT OR CREDIT/NO CREDIT BASIS**

For undergraduates who entered Autumn 1996 and thereafter, a maximum of 36 units of credit (including activity courses) taken at Stanford or its overseas campuses for a "CR" or "S" grade may be applied towards the 180 (225 if dual degrees are being pursued) units required for the bachelor's degree. For those who entered Stanford as transfer students in Autumn 1996 and thereafter, the maximum is 27 units.

Departments may also limit the number of satisfactory or credit courses accepted towards the requirements for a major. Satisfactory/credit courses applied towards a minor may be similarly limited. Courses not letter-graded are not accepted in fulfillment of the General Education Requirements applicable to undergraduate students who entered Stanford in Autumn 1996 and thereafter. Writing in the Major courses are usually offered letter grade only. In those instances where the course is offered for a letter grade or CR/NC, the course must be taken for a letter grade.

**INTERNSHIP GUIDELINES**

Undergraduate internships should not by themselves carry any credit. However, an individual student may arrange with a faculty member for a research or other academic project to be based on the internship. Arrangements between students and faculty regarding credit are expected to be made well in advance of the internship. Credit should be arranged within departmental rules for directed reading or independent study and should meet the usual department standards.

## TRANSFER WORK

Academic credit for work done elsewhere will be allowed toward a Stanford bachelor's degree under the following rules and conditions:

1. Credit may be granted for work completed at institutions in the U.S. only if the institutions are accredited.
2. Study in institutions outside the U.S., when validated by examination results, tutorial reports, or other official evidence of satisfactory work, may be credited toward a Stanford bachelor's degree, subject to the approval of the credit evaluator and the appropriate departments.
3. Credit is officially allowed only after the student has been unconditionally admitted to Stanford.
4. Credit is allowed for work completed at institutions in the U.S. only on the basis of an official transcript received by the Registrar at Stanford directly from the institution where the credit was earned.
5. Credit from another institution will be transferred for courses which are substantially equivalent to those offered at Stanford University on the undergraduate level, subject to the approval of the credit evaluator. A maximum of 20 quarter units may represent courses which do not parallel specific courses at Stanford, again, subject to the approval of the credit evaluator as to quality and suitability.
6. The credit allowed at Stanford for one quarter's work may not exceed the number of units that would have been permissible for one quarter if the work had been done at Stanford; for work done under a system other than the quarter system, the permissible maximum units are calculated at an appropriate ratio of equivalence.
7. Credit is allowed at Stanford for work graded 'A,' 'B,' 'C,' or 'Pass,' but not for work graded 'D' or below.
8. No more than 45 (90 for transfer students) quarter units of credit for work done elsewhere may be counted toward a bachelor's degree at Stanford.
9. Credit earned in extension and correspondence courses is transferable only if the university offering the courses allows that credit toward its own bachelor's degree. Such credit is limited to a maximum of 45 quarter units for extension courses, a maximum of 15 quarter units for correspondence study, and a maximum of 45 quarter units for the combination of extension and correspondence courses.
10. Credit earned in military training and service is not transferable to Stanford, unless offered by an accredited college or university in the U.S. and is evaluated as above by the credit evaluator.

## CONCURRENT ENROLLMENT

Students may enroll concurrently at Stanford and at another college or university. The following policies apply to Concurrent Enrollment:

1. Students may not exceed 20 quarter units between both schools. This is the same unit maximum for undergraduate students at Stanford. (One semester credit or hour equals 1.5 quarter units.)
2. Satisfactory academic progress is determined only by Stanford courses and units. Transfer work completed at other institutions is not considered in this calculation.
3. Students are expected to consult with Transfer/External Credit Evaluation (Old Union, room 141) if planning to transfer the work back to Stanford. Consultations should be completed prior to enrolling in the transfer institution.

## THE MAJOR

The primary purpose of the major is to encourage each student to explore a subject area in considerable depth. This in-depth study complements the breadth of study promoted by the General Education Requirements and, in many cases, by a student's choice of electives. Work in depth permits practice in critical analysis and the solving of problems. Because of its depth, such study also provides a sense of how knowledge grows and is shaped by time and circumstances.

The structure of a major should be a coherent reflection of the logic of the discipline it represents. Ideally, the student should be introduced to the subject area through a course providing a general overview, and upper-division courses should build upon lower-division courses. The

course of study should, if feasible, give the student the opportunity and responsibility of doing original, creative work in the major subject. Benefits of the major program are greatest when it includes a culminating and synthesizing experience such as a senior seminar, an undergraduate thesis, or a senior project.

## REQUIREMENTS

Undergraduates must select a major by the time they achieve junior status (85 units completed). All undergraduate major programs listed in this bulletin, except for certain honors degree programs that require application and admission in advance, are open to all students. Students may use Axess to declare, drop or exchange a major at any time. In some departments or programs, though, a late change could easily result in extending the period of undergraduate study. Students who have applied to graduate, wish to declare an individually designed major or pursue a dual B.A./B.S. degree, and coterminous students must use printed forms to select or change a major. Students requiring assistance should contact the Office of the University Registrar, Old Union, room 141.

Check individual department or program listings in this bulletin for the undergraduate degrees offered and for specific major requirements. If an area of study has no baccalaureate degree, that discipline is not available as a regular undergraduate major.

Faculty set the minimum requirements for the major in each department. These requirements usually allow latitude for tailoring a major program to a student's specific educational goals. The responsibility for developing a major program within department or program requirements lies ultimately with the individual student working in consultation with the major adviser.

## MULTIPLE MAJORS

Although most students declare only one major, a student may formally declare more than one major within a single bachelor's degree (B.A., B.S., or B.A.S.) program. The student may do that either at the time of initial major declaration or, as may be more advisable given the planning required to complete more than one major, by amending the original declaration. The student's major departments or programs will have access routinely to all information pertinent to that student's academic record (for example, course and grade information), and each is expected to provide advising and other assistance. Students may pick up appropriate information regarding major declarations from the Office of the University Registrar. To be awarded a bachelor's degree with multiple majors, the student must fulfill the following requirements:

1. Formally declare all majors to the Office of the University Registrar.
2. Satisfy the requirements of each major without applying any course towards the requirements of more than one major or any minor unless:
  - a) overlapping courses constitute introductory skill requirements (for example, introductory math or a foreign language);
  - b) overlapping courses enable the student to meet school requirements (for example, for two majors within the School of Engineering). Currently, only the School of Engineering has school requirements for its undergraduate majors.

Students pursuing multiple majors must complete a multiple major program form indicating which courses they plan to apply toward each major and any minor(s). Departments must certify that the plan of study meets all requirements for the majors and any minor(s) without unallowable overlaps in course work. To facilitate advance planning, multiple major program forms are available at any time from <http://registrar.stanford.edu>. This must be submitted to the Office of the University Registrar by the application to graduate deadline for the term in which the student intends to graduate.

When students cannot meet the requirements of multiple majors without overlaps, the secondary major, outlined below, may be relevant.

## SECONDARY MAJOR

In some cases, students may complete course requirements for more than one major, but they may not meet the requirements outlined for the multiple major option. For example, the student may develop a course

## UNDERGRADUATE MAJOR UNIT REQUIREMENTS

Major Department	Units required outside the dept./program	Units required within the dept./program	Total # of units	Notes/Special Requirements	WIM Course
<b>School of Earth Sciences</b>					
Earth Systems	84-100	28	130	Internship/Senior Seminar	EARTHSYS 210
Geological & Environmental Sciences	25-29	52-62	79-91	advanced summer field experience	GES 54Q, 55Q, 110,131, 151,152,185,190
Engr.Geol. & Hydrogeology	54-62	34-37	88-99		
Geophysics	43-45	15	min. 58		see adviser
Petroleum Engineering	72	39-40	111-112		PETENG 180
<b>School of Engineering</b>					
Chemical Engineering	min. 59	min. 58	min. 117		CHEMENG 185A,185B
Civil Engineering	min. 58	min. 52-55	min. 116		CEE 100
Environmental Engineering	min. 57	min. 52	min. 116		CEE 100
Computer Science	33-57	47-71	97-112	Senior Project	CS 191W,194,201
Computer Systems Engineering	68-80	25-42	104-111	Senior Project	CS 191W,194,201
Electrical Engineering	45	68	113		ENGR 102E and EE 108A
Engineering (Individually Designed)	min. 41	40	90-107		see adviser
Management Science and Engineering	57-80	35-63	109-124		MS&E 152W,164,193W,197
Material Science and Engineering	53-59	51	104-110		MATSCI 162
Mechanical Engineering	69-79	56	125-135		ENGR 102M and ME 203
Product Design	72-74	31	103-105		ENGR 102M and ME 203
<b>School of Humanities and Sciences</b>					
African and African American Studies	50	10	60	CSRE Senior Sem.	AFRICAAM 105
American Studies	approx. 25	approx. 40	approx. 65		AMSTUD 200
Anthropological Sciences	—	45	65		ANTHSCI 190,290A
Archaeology	45	20	65		ANTHSCI 147
Art					ARTHIST 1
History	—	50	50	library orientation	
Studio	—	65	65	library orientation	
Asian American Studies	55	5	60	CSRE Senior Sem.	See CSRE
<b>Asian Languages</b>					
Chinese	0-16	27-43	min. 43		CHINGEN 133
Japanese	0-20	23-43	min. 43		JAPANGEN 138
Biological Sciences	50-52	24	74-76		BIOSCI 44X,44Y,54,55, 145,165H,175H,176H
Chemistry	34	53	87		CHEM 134
Chicana/o Studies	55	5	60	CSRE Senior Sem.	See CSRE
Classics		60	60		CLASSICS 176
Communication	5	min. 60	65		COMM 120
Comparative Literature		60-65	depends on track		COMPLIT 101
Comparative Studies in Race & Ethnicity	55	5	60	CSRE Senior Sem.	CSRE 200X
Cultural and Social Anthropology	—	40	65	Foreign language 2nd-year level	CASA 90

Major Department	Units required outside the dept./program	Units required within the dept./program	Total # of units	Notes/Special Requirements	WIM Course
Drama	—	65	65		DRAMA 161,162,163,164
East Asian Studies	75	—	75	senior essay; seminar	CHINGEN 133; JAPANGEN 138; POLISCI 243
Economics	—	75-80	75-80	—	ECON 101
English		60	60		ENGLISH 60/160
w/ Creative Writing		60	60	dept. approval	
w/ Interdisciplinary Emphasis	20	50	70	dept. approval and interdisciplinary paper	
w/ Interdepartmental Emphasis	20	45	65	20 units in foreign lang. lit.; dept. approval	
Feminist Studies	45	15 core	60	—	FEMST 102L
French and Italian					
French	max. 24	32 above #100	56 above #100	—	FRENLT 123,261
French and English Literatures	max. 24	32 above #100	56 above #100	4 Eng. Lit. courses	
French and Italian Literatures	max. 24	32 above #100	56 above #100	4 Ital. Lit. courses	
Italian	max. 28	32 above #100	60 above #100	—	ITALLIT 114,115
Italian and English Literatures	max. 28	32 above #100	60 above #100	4 Eng. Lit. courses	
Italian and French Literatures	max. 28	32 above #100	60 above #100	4 Fr. Lit. courses	
German Studies	0-25	35-60	60	3 above #130	GERLIT 122Q,123N, 126Q,131
History	—	58-60	58-60	3 above #130	HISTORY 102A,200A,B,C 200X,203D,204,208A,211, 213,217C,226,240,242, 245,246A,248S,249S, 250B,257A,259A,260A, 262S,272,275A,279, 286A,288,297A
Human Biology	min. 13	min. 39	min. 84	Internship	HUMBIO 3B
Interdisciplinary Studies in Humanities					
Option for Premeds	approx. 60 (approx. 110 (incl. premed requirements))	28 (honors) 28 (honors)	approx. 87 approx. 137	honors only major honors only major	HUMNTIES 200A,B,C HUMNTIES 200A,B,C
International Relations	55-65	0-10	65	2 yr. foreign lang.; INTNLREL 130,131,134,163 Overseas studies 1 qtr.	HISTORY 102A POLISCI 110C,148,215
Jewish Studies (Individually Designed)	75-77	—	75-77		See CSRE
Linguistics	—	50	50	foreign lang. @ 6th-quarter level	LINGUISTIC 150
Mathematical & Computational Science			73-78		MATH 109,110,120 STATS 166
Mathematics	up to 15 units	49	64		MATH 109,110,120,171
Music	—	67-68	62-72	piano-proficiency & ear-training exam	2 from: MUSIC 140-145, 148,151
Music, Science, & Technology	—	62	62-72	piano-proficiency & ear-training exam	MUSIC 151
Native American Studies	55	5	60	CSRE Senior Sem.	See CSRE
Philosophy	—	55	55	course in 194 series	PHIL 80
Philosophy and Religious Studies	—	60	60	3 seminars; 20 units in each dept. + 20 advanced units from both depts.	PHIL 80 or RELIGST 290
Physics	21-22	56-57	77-79		PHYSICS 107

Major Department	Units required outside the dept./program	Units required within the dept./program	Total # of units	Notes/Special Requirements	WIM Course
Political Science	0-10	50-60	60	POLISCI 110C,116,124R, 145,148,215,231S, 299R,341R	
Psychology	—	55	55	PSYCH 50,60,70,75,110	
Public Policy	55	28	83	15 units in concentration, Senior Seminar	PUBLPOL 104
Religious Studies	—	60	60	3 seminars; 25 units in concentration	RELIGST 290
Science, Technology, & Society					STS 110
B.A.	37	32	69	min. 17 units in technical literacy min. 20 units in concentration	
B.S.	50	32	82	min. 50 units in technical depth	
Slavic Languages and Literatures					SLAVLIT 146
Russian Language and Literature	—	52	52	1st- and 2nd- year Russian	
Russian Language, Culture, & History	12-16	35-39	52	1st- and 2nd- year Russian	
Sociology	—	60	60		SOC 200
Spanish & Portuguese		20-25	50		SPANLANG 102
Symbolic Systems	71	2	73	—	PHIL 80
Urban Studies	59	11	70		URBANST 120 ARTHIST 254

plan in which courses requisite for one major overlap with requirements for another. In these cases, the student may declare a secondary major which will result in the transcript bearing an annotation that the course requirements for that major have also been met.

## LIMITS OF THE MAJOR

In order to achieve the values of study in depth, a well-structured major should constitute approximately one-third of a student's program (55-65 units). To ensure the values of breadth, a major should comprise no more than two-thirds of a student's program (115-125 units). And, to avoid intellectual parochialism, a major program should not require a student to take more than about one-third of his or her courses from within a single department.

Major requirements in cognate subjects essential to the structure of a given major should be counted as part of the major program in applying these guidelines. Department or school requirements designed to provide extra disciplinary breadth should not be counted.

For a limited number of qualified students, many departments and programs offer special programs leading to degrees with honors. A student may apply to the major department or program for acceptance into the honors program. Demands on the student may vary, but all honors programs encourage creative, independent work at an advanced level in addition to the major requirements.

The guidelines set forth here are deliberately general; implementation must take into account the specific needs of a student's program and the nature of the discipline or disciplines involved. The exercise of responsibility in achieving the desired educational balance belongs first with the student, who, after all, has the strongest interest in the value of his or her education. It belongs secondarily to departments and major programs, which must set the requirements of competence in the many majors offered.

## DEGREES, HONORS, AND MINORS

### CONFERRAL OF DEGREES

Upon recommendation to the Senate of the Academic Council by the faculty of the relevant departments or schools and the Committee on Undergraduate Standards and Policy, degrees are awarded four times each year, at the conclusion of Autumn, Winter, Spring, and Summer quarters. All diplomas, however, are prepared and awarded in Spring Quarter. Stanford University awards no honorary degrees.

Students must apply for conferral of a graduate degree by filing an Application to Graduate by the deadline for each term. The deadlines are published in the *Time Schedule of Classes*. A separate application must be filed for each degree program and for each conferral term. Applications are filed through Axess, the online service which allows students to update their administrative/academic records.

Requests for conferral are reviewed by the Office of the University Registrar and the student's department, to verify completion of degree requirements. Course enrollment is required in the conferral term or the term immediately preceding. Students with unmet financial obligations resulting in the placement of a hold on their registration will not receive a transcript, statement of completion, degree certificate, or diploma until the hold is released by Student Financial Services.

Students are typically expected to apply to graduate during the term in which they expect to be awarded a degree. The University, however, reserves the right to confer a degree on a student who has completed all of the requirements for a degree even though the student has not applied to graduate; such an individual would then be subject to the University's usual rules and restrictions regarding future enrollment or registration.

Students who wish to withdraw a request for conferral or make changes to the Application to Graduate should notify the Office of the

University Registrar in writing. Students who withdraw their graduation applications or fail to meet degree requirements must reapply to graduate for a subsequent term.

## THE UNDERGRADUATE MINOR

Students completing a bachelor's degree may elect to complete one or more minors in addition to the major. Minors must be officially declared by students no later than the deadline for their application(s) to graduate, according to declaration procedures developed and monitored by the Registrar. Earlier deadlines for declaration of the minor may be set by the offering school or department. Satisfactory completion of declared minors is noted on the students' transcripts after degree conferral.

A minor is a coherent program of study defined by the department or degree program. It may be a limited version of a major concentration or a specialized subset of a field. A minor consists of no fewer than six courses of 3 or more units to a maximum of 36 units of letter-graded work, except where letter grades are not offered. Departments and degree programs establish the structure and requirements of each minor in accordance with the policy above and within specific guidelines developed by the deans of schools. Programs which do not offer undergraduate degrees may also make proposals to their cognizant deans to establish a minor. Requirements for each minor are described in the individual department or program listings in this bulletin.

Students may not overlap ("double-count") courses for completing major and minor requirements, unless:

1. Overlapping courses constitute introductory skill requirements (for example, introductory math or a foreign language), or
2. Overlapping courses enable the student to meet school requirements (for example, for a major within the School of Engineering and a minor). Currently, only the School of Engineering has school requirements for its undergraduate majors.

Undergraduate students use Axess to declare or drop a minor.

Students with questions about declaring minors or double-counting courses towards combinations of majors and/or minors should consult with the departments or programs involved or the Office of the University Registrar, Old Union.

## BACCALAUREATE HONORS

*With Distinction*—In recognition of high scholastic attainment, the University, upon recommendation of a major department or program, awards the Bachelor's Degree with Distinction. Distinction is awarded to 15% of the graduating class based on cumulative grade point averages. Distinction is calculated at the end of the Winter Quarter for each graduating class.

Students are also urged to consider the departmental honors programs that may give depth to their major study and to consider, as well, how the interdisciplinary honors programs might contribute to the quality of their undergraduate education.

*Departmental Honors Programs*—In recognition of successful completion of special advanced work, departments may recommend their students for honors in the major. Departmental honors programs demand independent creative work at an advanced level in addition to the major requirements.

*Interdisciplinary Honors Programs*—In recognition of successful completion of honors program requirements, the following interdisciplinary programs can recommend students majoring in any field for honors in their program:

Education  
Environmental Science, Technology, and Policy  
Ethics in Society  
Feminist Studies  
International Security Studies  
Humanities  
Jewish Studies  
Latin American Studies  
Science, Technology, and Society

The interdisciplinary honors programs are designed to complement study in a department major. The requirements for these honors programs are described in the department sections of this bulletin.

*Foreign Language Proficiency*—The notation "proficiency in (language)" appears on the official transcripts of those students whose levels of achievement are found by procedures established by the language department to be roughly equivalent to knowledge an excellent student can be expected to demonstrate late in the third quarter of the third year of study in that language.

## UNDERGRADUATE ADVISING

*Interim Director*: Chip Goldstein

*Associate Director for Professional Advising Services*: Kathy Wright

*Associate Director for Freshman and Volunteer Advising*: Dandre De Sandies

*Associate Director for Peer and Academic Support*: Diann McCants

*Associate Director for Expanded Advising Programs*: Randall Williams

The Undergraduate Advising Center coordinates the advising program for students who have not declared a major field of concentration. Freshmen are assigned to academic advisers according to their residence and their preliminary academic interest. Many freshmen receive enhanced academic support through participation in Expanded Advising Programs (EAP). Most sophomores who are undecided about their majors continue to work with their advisers from the first year. Some sophomores participate in the Sophomore Mentoring Program (SMP), which matches faculty mentors with students who have shared intellectual interests through a freshman seminar or sophomore college class. By the end of the sophomore year, undergraduates must declare a major. In junior and senior years, students are advised by faculty from the major department or program.

The Undergraduate Advising Center (UAC) partners with faculty, staff, and students (peer advisors and mentors) to address students' intellectual and developmental goals. The center staff includes professional advisers who meet with students individually to set academic goals and to devise strategies for achieving those goals. The staff also coordinates a comprehensive array of academic advising programs and services designed to support and supplement the undergraduate curriculum.

The UAC staff of professional advisers provides advising to all students, freshmen through seniors. These UAC advisers offer students help when the academic adviser is unavailable or when additional advice is needed. Other UAC services include: assistance with curriculum planning; help with choosing a major; information on designing an individually designed major (IDM); academic and personal counseling related to academic performance; advice regarding plans to attend graduate or professional school; peer tutoring for subject areas; and learning skills classes. Reference guides to graduate and professional schools are available. The Undergraduate Advising Center is located on the first floor of Sweet Hall. For detailed information, see the UAC web site at <http://uac.stanford.edu/> or phone (650) 723-2426.

## UNDERGRADUATE RESEARCH PROGRAMS

*Director*: Susie Brubaker-Cole

*Associate Director for Student Services*: Laura Selznick

*Associate Director for Honors Writing Programs*: Hilton Obenzinger

*Assistant Director for Program Management*: Marcia Keating

Undergraduate Research Programs (URP), a division of the office of the Vice Provost for Undergraduate Education (VPUE), seeks to foster and expand undergraduate participation in the creation of new knowledge at Stanford. URP sponsors and supports a broad range of programs

that encourage undergraduates to work closely and individually with faculty on research, advanced scholarship, and creative projects. Programs are designed to serve students who are new to research, as well as those with considerable research experience who are able to take on advanced, independent projects. URP actively maintains the university's commitment to diversity, and the range of research projects and topics reflects the broad diversity of Stanford's faculty and student populations. The URP office is located on the fourth floor of Sweet Hall; or see <http://urp.stanford.edu>.

## STUDENT GRANT PROGRAMS

URP administers research grants directly to Stanford undergraduates. All currently registered undergraduates are eligible to apply for grants, which may support the expenses of faculty-mentored research projects or need-based replacement of financial aid so that they may pursue research. Samples of previous successful grant applications are available at 414 Sweet Hall. Advice on writing grant applications and adhering to University research policies is available both in person and on the URP web pages at <http://urp.stanford.edu>.

The most popular student grants awarded by URP are the URO major and small grants. Small and major grants are restricted to supplies and expenses associated with research, and they are available to students in all fields of study. Major grants are awarded once a year, during Spring Quarter, to as many as 150 students, and priority is granted to students pursuing honors. The deadlines for major grants for 2003-04 are Friday, April 2, 2004 for projects in social sciences, natural sciences, and engineering, and Friday, April 16, 2004 for projects in the humanities and creative arts. Students with interdisciplinary projects are encouraged to apply for the earlier deadline. Small grants are awarded each quarter. The deadlines are October 24, 2003, February 6, 2004, and April 16, 2004.

The Chappell-Lougee Scholars program is a special opportunity for sophomores in the humanities and social sciences to be involved in research under faculty mentorship. Faculty may nominate students or students may nominate themselves. Financial need is considered, as well as the academic goals of the proposed project. Applications and nominations are due by Friday, December 5, 2003.

The Future Faculty Incentives Program encourages URP grant recipients from all categories to consider a career in college or university teaching. The award provides undergraduate loan repayment up to \$10,000 for graduate work toward a Ph.D. Preference is given to students from cultural, disadvantaged, or other backgrounds who would add diversity to the professoriate in their field of study. Financial need is also considered in the selection process. The application deadline is May 15 of the year in which the student plans to matriculate in a graduate program.

Stanford Fund Research Assistantships and Research Awards enable undergraduates in the humanities and social sciences with financial need to gain research experience in lieu of a campus job. Assistantships are for students who have not yet declared a major, but wish to explore a particular field under faculty supervision. Research Awards are for declared students with subject-matter expertise who wish to pursue that interest further. Recipients may have from 10-15 weeks of term time earnings replaced. High financial need is a criterion for acceptance. A maximum of 25 weeks of work in undergraduate employment may be replaced.

## DEPARTMENTAL AND FACULTY-SPONSORED RESEARCH OPPORTUNITIES

### DEPARTMENTAL AND RESEARCH CENTER PROGRAMS

Departments, interdisciplinary programs, and Stanford research centers may apply through the URP office for VPUE Departmental Grants for Undergraduate Research to support programs that provide undergraduates with close mentorship and training in scholarship and research. Typically, departments pair students with a faculty member or faculty-led research group according to their mutual scholarly interests. Students

conduct substantive, directed research on a particular aspect of the faculty's research project, either part-time (during the school year) or full-time (during the summer), and they meet frequently with their faculty mentors to discuss progress and future directions for the project. The official request for proposals may be found on the faculty resources section of the URP web pages. Students should check with URP staff to determine which departments and centers currently sponsor programs.

## FACULTY GRANTS FOR UNDERGRADUATE INDEPENDENT STUDY AND RESEARCH

Individual faculty members may also apply through the URP office for VPUE Faculty Grants for Undergraduate Research. Faculty Grants provide funding for undergraduates to work closely with faculty on a directed research project. Typical student research activities include conducting literature reviews, developing and conducting research surveys, collecting and analyzing data, aiding in the development of course materials, and conducting laboratory experiments. Faculty determine student participation in this program, so students should contact departments and faculty for more information. Faculty may obtain the official request for proposals on the faculty resources section of the URP web site.

## ONLINE RESOURCE FILES

Stanford students can obtain free access to two databases through the web, available at <http://urp.stanford.edu>, designed to facilitate undergraduate and faculty research collaborations. *Odyssey* lists openings for student research assistants on faculty projects. The *Iliad* Faculty Interests file contains information about the research interests of individual Stanford faculty across the University. Faculty members with ongoing research programs are encouraged to identify a piece of their project appropriate to undergraduate competencies and to list it through *Odyssey*.

## SUMMER RESEARCH COLLEGE

The Summer Research College (SRC) provides a 10-week, residential supplement to undergraduate research programs funded by grants through the URP office. The program is designed to enrich, but not interfere with, the student's primary responsibility to his or her faculty mentor and departmental research expectations. Benefits of the SRC residential programming (including faculty guests), special dinners, and cultural and social excursions. Students living in the College must be engaged full-time in a departmental research program for a minimum of eight weeks. Students should contact the URP office for more information.

## HONORS PROGRAMS

Qualified undergraduates are encouraged to participate in honors programs offered by departments and interdisciplinary programs. These capstone programs, usually completed in the senior year, provide opportunities for students to engage in advanced research, analysis, and articulation with faculty guidance. Honors programs may require in-depth research or field work with an extended written thesis, laboratory work accompanied by a report, or a creative project. Some honors programs require a public oral and visual presentation of the project's results. Each department and interdisciplinary program develops its own requirements for entry into its program and criteria for honors projects. Some honors programs require students to be majors, while other programs are available to any undergraduate with relevant preparation. Students are urged to check with each department and program to determine eligibility and other requirements.

## HONORS WRITING PROGRAMS

In addition to thesis writing support organized by departments and programs, URP offers writing consultation in the form of workshops during seminars, as well as consultation with graduate student assistants and faculty providing writing support for different honors programs. Students writing honors theses can also obtain individual editorial consultation at the URP office. Editorial support is also offered for other advanced writing needs, such as revision of a paper for publication in a

professional journal, and personal statements and essays for master's and doctoral programs, and for national fellowship competitions (see Fellowships and Graduate School Applications Services below).

## HONORS COLLEGE

The Honors College brings students writing honors theses to campus in September before the start of the regular school year for a program of group and major-based activities. By concentrating solely on the thesis for nearly three weeks, Honors College participants begin the senior year with a serious commitment to independent scholarship in an atmosphere of shared intellectual purpose. The college sponsors cross-disciplinary forums, such as writing workshops and methodology panels, as well as residential activities, such as cultural and social outings, and a celebratory concluding event to which students invite their research advisors. Students participating in Honors College receive a research stipend, room and board, and special access to computers. For students with demonstrated financial need, summer-time earnings replacement funds are also available.

## FELLOWSHIPS AND GRADUATE SCHOOL APPLICATIONS SERVICES

Fellowships and Graduate School Applications Services provides practical advice to Stanford undergraduates and recent graduates on how to apply for master's and doctoral programs and for scholarships and fellowships such as the Truman, Rhodes, Fulbright, Goldwater, Beinecke, Udall, and Mellon. The URP staff provides workshops and individual consultations on choosing a graduate school and fellowship program, writing personal statements, soliciting letters of recommendation, and speaking in interviews. The URP office also administers campus nomination competitions for the Goldwater, Udall, Beinecke, and Truman scholarships, and works with the Overseas Resource Center on preparing students for international scholarship competitions.

# CENTER FOR TEACHING AND LEARNING

*Associate Vice Provost and Director:* Michele Marincovich

*Senior Associate Director (Science and Engineering):* Robyn Wright Dunbar

*Associate Director (Humanities):* Valerie Ross

*Associate Director (Social Sciences and Technology):* Marcelo Clerici-Arias

*Academic Technology Specialist:* Jeremy Sabol

*Administrators:* Linda Salser, Cristy Osborne

*Lecturers:* Doree Allen, John Bilderbeck, Thomas Freeland, James Milojkovic, Joyce Moser, Anne Pasley, James Wagstaffe

*Oral Communication Program Director:* Doree Allen

*Department Offices:* Sweet Hall, 4th floor

Mail Code: 94305-3087

Department Phone: (650) 723-1326

Email: [TeachingCenter@stanford.edu](mailto:TeachingCenter@stanford.edu)

Web site: <http://ctl.stanford.edu>

The Center for Teaching and Learning is a university-wide resource on effective teaching and public speaking.

## SERVICES TO FACULTY, LECTURERS, AND TEACHING ASSISTANTS

CTL provides the Stanford community with services and resources on effective teaching.

Our goals are: to identify and involve successful teachers who are willing to share their talents with others; to provide those who are seeking to improve their teaching with the means to do so; to acquaint the Stanford community with important innovations and new technologies

for teaching; to prepare inexperienced teachers for their responsibilities; to contribute to the professional development of teaching assistants; to expand awareness of the role of teaching at research universities; and to increase the rewards for superior teaching.

CTL also has responsibility for helping teaching assistants (TAs) with their preparation for and effectiveness in teaching, and for helping departments with designing effective TA training programs. Goals are realized through continuing programs such as: microteaching and consultation; small group evaluation; workshops and lectures; a handbook on teaching and a library of teaching materials; quarterly teaching orientations; an informative quarterly newsletter; and work with individuals, groups, and departments on their specific needs. CTL offices are on the fourth floor of Sweet Hall. For further details, see CTL's teaching handbook or the CTL brochure, both available by calling (650) 723-1326, or see <http://ctl.stanford.edu>.

Send email with questions or requests to [TeachingCenter@stanford.edu](mailto:TeachingCenter@stanford.edu).

## ORAL COMMUNICATION PROGRAM

The Oral Communication Program at CTL provides opportunities for undergraduates and graduate students to develop or improve their oral communication skills. Courses and workshops offer a comprehensive approach to speech communication, including training in the fundamental principles of public speaking and the effective delivery of oral presentations. The goal is to enhance students' general facility and confidence in oral expression. The program also provides innovative, discipline-based instruction to help students refine their personal speaking styles in small groups and classroom settings. Those interested in individualized instruction or independent study are invited to visit the program's Speaking Center in Sweet Hall, where trained student tutors, multimedia, and instructional resource materials are available on an ongoing basis. For further details, call (650) 725-4149 or 723-1326 or consult our web site at <http://ctl.stanford.edu>.

## COURSES

All courses listed with CTL promote acquisition of strong public speaking skills and/or teaching excellence.

**CTL 60/160. Investigating Stanford's Treasures**—Private tours of some of Stanford's greatest resources led by Stanford experts; students interview the experts and introduce them to the class at the site. One hour of class discussion a week. Treasures may include Jasper Ridge Biological Reserve, Memorial Church, Special Collections, and the Martin Luther King, Jr., Papers Project.

1-2 units, Aut (Moser)

**CTL 115/215. Voice Workshop**—Innovative workshop focusing on breath, voice production, expansion of vocal range and stamina, and clarity of articulation. Geared toward public speaking generally including presentations, lectures, and job talks. Can be taken in conjunction with CTL 117.

1-2 units, Aut, Win, Sum (Freeland)

**CTL 116A. Film Noir**—The language of film noir. From Bogart to *Pulp Fiction*. The quintessential American film genre which combined femmes fatales, anti-heroes, lost dreams, violence, and a distinct style of expression. Film viewings, student oral presentations, and analyses of films.

1-2 units, Win (Moser)

**CTL 116B. Screwballs and the Language of Laughter: American Comic Film from Chaplin to Present**—A sampling of American comic masterpieces including silent movies, 30s screwball films, and works by Billy Wilder, Woody Allen, and contemporary film makers. Film viewings, student oral presentations, and analyses of films.

1-2 units, Win (Moser)

**CTL 117/217. The Art of Effective Speaking**—Introduction to the principles and practice of effective oral communication. Through formal and informal speaking activities, students develop skills in framing and articulating ideas through speech. Strategies are presented for speaking extemporaneously, preparing and delivering multimedia presentations,

formulating persuasive arguments, refining critical clarity of thought, and enhancing general facility and confidence in oral self-expression.

*3 units, Aut, Win (Freeland, Allen)*

**CTL 118. Public Speaking**—A practical approach to the art of public speaking. Emphasis is on developing skills in various speech types: exposition, argumentation, and persuasion. Students sharpen their skills with the aid of textbooks, videotapes, texts of famous speeches, and participation in a final program of talks. Students also evaluate presentations by others.

*3 units, Sum (Wagstaffe, Pasley)*

**CTL 119. Oral Communication Tutor Teaching Practicum**—Seminar for students with a strong background in public speaking who wish to train as public speaking tutors for CTL's Oral Communication Program. Readings, exercises, and supervised teaching refine speaking skills. Preparation to serve as a peer tutor in a variety of academic disciplines. Prerequisite: consent of instructor.

*3 units, Aut (Allen, Bilderbeck)*

**CTL 125. Making Words Come Alive: The Oral Experience of Literature**—Introduction to the oral interpretation of literature, including prose, poetry, drama, and public speeches, with the goal of developing speaking skills. Emphasis is on textual analysis, audience response, and delivery style. No previous performance experience required.

*2-3 units, Spr (Allen)*

**CTL 177. Performance of Power: Oratory and Authority from the Ancient World to the Postmodern**—Speech as action has long been seen as essential to leadership. This course examines theories and examples of oratory, from Aristotle to Margaret Thatcher, assessing each as model of voice-activated authority. The impact of mass media technologies as they transform the public space of oratory.

*2-3 units, Spr (Freeland)*

**CTL 199. Independent Study**—Special study under lecturer direction, usually leading to a written report or an oral presentation. Register with lecturer's permission using the section number associated with the instructor.

*1-3 units, Aut, Win, Spr, Sum (Staff)*

**CTL 201. Science Course Design**—(Same as GES 201.) For students interested in an academic career and who anticipate designing science courses at the undergraduate or graduate level. Goal is to apply research on science learning to the design of effective course materials. Topics include syllabus design, course content and format decisions, assessment planning and grading, and strategies for teaching improvement.

*2-3 units, Aut (Wright-Dunbar)*

**CTL 219. Oral Communication for Graduate Students**—Addresses graduate student speaking activities such as teaching (delivering lectures, guiding discussion, and facilitating small groups), giving professional presentations and conference papers, and preparing for orals and defenses. In-class projects, discussion, and individual evaluation assist students in developing effective techniques for improving oral communication skills.

*1-3 units, Sum (Allen, Freeland)*

## FRESHMAN AND SOPHOMORE PROGRAMS

*Assistant Vice Provost and Program Director: Sharon Palmer  
Academic Technology Specialists: Carlos Seligo, Dena Slothower  
Oral Communication Lecturer: Joyce Moser  
Administrators: Gari Gene, Mona Kitasoe, Jasmine Lu*

Freshman and Sophomore Programs (FSP), a division of the office of the Vice Provost for Undergraduate Education, sponsors and supports Stanford Introductory Seminars, including Freshman Seminars, Sophomore Seminars and Dialogues, and Sophomore College. FSP also co-

ordinates initiatives that encourage faculty and students to build on relationships formed in introductory seminars by forming on-going mentoring and research partnerships based on their shared intellectual interests. FSP is located on the fourth floor of Sweet Hall. For detailed information, see the FSP web site at <http://fsp.stanford.edu/> or call (650) 723-4338.

### STANFORD INTRODUCTORY SEMINARS

Stanford Introductory Seminars (SIS) provide opportunities for first- and second-year students to work closely with faculty in an intimate and focused setting. These courses aim to intensify the intellectual experience of the freshman and sophomore years by allowing students to work with faculty members in a small group setting; introducing students to the variety and richness of academic topics, methods, and issues which lie at the core of particular disciplines; and fostering a spirit of mentorship between faculty and students. Over 200 faculty from more than 60 departments take part in the introductory seminars programs. The courses are given department credit and most count towards an eventual major in the field. Some also fulfill General Education Requirements (GERs).

Some faculty who have taught Freshman Seminars or Sophomore College volunteer to continue working with their students through a formal advising relationship during the students' sophomore year.

### FRESHMAN SEMINARS AND SOPHOMORE SEMINARS AND DIALOGUES

Freshman Seminars and Sophomore Seminars and Dialogues are offered in a variety of disciplines throughout the academic year. Freshman preference seminars are typically given for 3-4 units to a maximum of 16 students, and generally meet twice weekly. Although preference for enrollment is given to freshman, sophomores may participate on a space-available basis and with the consent of the instructor. Sophomore preference seminars and dialogues, similarly, give preference to sophomores, but freshmen may participate on a space-available basis and with the consent of the instructor. Sophomore preference seminars are given for 3-5 units to a maximum of fourteen students, while sophomore preference dialogues take the form of a directed reading, and are given for 1-2 units to a maximum of four to five students. All seminars require a brief application. For a list of introductory seminars offered in 2003-04, please see the "Stanford Introductory Seminars" section of this bulletin. See the SIS annual course catalogue, published each September, or web site, <http://introsems.stanford.edu/>, for an application or more information.

### SOPHOMORE COLLEGE

Sophomore College offers sophomores the opportunity to study intensively in small groups with Stanford faculty for several weeks before the beginning of Autumn Quarter. Students immerse themselves in a subject and collaborate with peers, upperclass Sophomore Assistants, and faculty in constructing a community of scholars. They are also encouraged to explore the full range of Stanford's academic resources in workshops and individually. At its best, Sophomore College is characterized by an atmosphere of intense academic exploration. Each Sophomore College course enrolls twelve to fourteen students, who live together in a Stanford residence and receive two units of academic credit. Eligible students will have been enrolled for no more than three academic quarters; be sophomores in the Autumn Quarter of 2004; be in good academic standing; and have completed at least 36 units of academic work by the end of spring quarter. Students must also have an on-campus housing assignment for the ensuing academic year. Transfer students are not eligible. Admitted students who are found to have academic standing problems after the completion of Spring Quarter may have their admission revoked. Tuition, room, the remainder of board costs, and class-required travel are covered by Sophomore College. Each student pays a \$400 fee toward the cost of board; this fee is included in the Autumn Quarter University bill. Students are also responsible for travel to campus, phone, network activation one-time fee, and other personal expenses. Courses are announced in March, and applications are due in April. For a list of Sophomore College Seminars offered, please see the SIS section in this Bulletin. For more information or to apply, see the Sophomore College web site at <http://soco.stanford.edu/>.