

# **General Education**

## **Educational Objectives and Criteria**

*October 2012*

## GE MISSION STATEMENT

The General Education program is one of the primary sites for realizing Cal Poly's vision of a comprehensive polytechnic education. The program promotes an understanding and appreciation of the foundational disciplines that ground all intellectual inquiry. It enriches the specialized knowledge acquired in a major program with an understanding of its scientific, humanistic artistic and technological contexts. The program imparts knowledge and transferable skills, fosters critical reasoning and ethical decision making, supports integrative learning, and prepares students for civic engagement and leadership.

## GE PROGRAM GOALS

Cal Poly's GE Program seeks to promote connections between the various areas so students and faculty will perceive GE courses as interrelated rather than as isolated fragments. By placing basic knowledge in a larger context, each course in the program should provide a vision of how its subject matter is an important component of GE 2001. Students should understand the value of a discipline being studied as well as its relationship to other disciplines. Students are encouraged to complete foundational courses as early as possible. Lower-division coursework in Areas A-D has been designed to give students the knowledge and skills to move to more complex materials. The three-course Communications sequence, for example, provides instruction and practice in the kinds of skills in writing, speaking, and critical thinking that students will need in later courses. (Consequently, students are expected to complete this sequence during their freshman year and by no later than the end of their sophomore year.) By the end of the sophomore year, students should also complete lower-division courses in Science and Math, Arts and Humanities, and Society and the Individual.

## GE WRITING COMPONENT

All General Education courses must have a writing component. In achieving this objective, writing in most courses should be viewed primarily as a tool of learning (rather than a goal in itself as in a composition course), and faculty should determine the appropriate ways to integrate writing into coursework. While the writing component may take different forms according to the subject matter and the purpose of a course, at least 10% of the grade in all GE courses must be based on appropriate written work.

**Writing Intensive** courses are located in **Areas A1, A3, C1, C2, C4, and D5**. These courses include a minimum of 3000 words of writing and base 50% or more of a student's grade on written work. Faculty teaching Writing Intensive courses will provide feedback to students about their writing to help them grasp the effectiveness of their writing in various disciplinary contexts. A significant selection of writing-intensive upper-division courses will be made available. The GE Program is

committed to providing the resources to support both the required writing component and Writing Intensive coursework. The kind and amount of writing will be a factor in determining class sizes, and a Writing IN Generally Every Discipline (WINGED) program will provide support and training for faculty.

## GE INTERDISCIPLINARY AND LINKED COURSES

All lower-division coursework is considered foundational and is meant to ground students in various disciplines. Consequently, interdisciplinary courses will not ordinarily be offered at the lower-division level. The opportunity for interdisciplinary study will occur primarily at the upper-division level, with lower-division exceptions developing from specific programmatic needs. However, faculty are strongly encouraged to create linked courses. (Linked courses occur when students concurrently enroll in courses from two areas of the GE curriculum-e.g. a course in composition linked to a course in social science.) Academic disciplines are encouraged to cooperate in designing coursework which, when linked, enhances the study of more than one foundational area. Linkages can be thematic or can contribute to a core curriculum. Linked courses are especially encouraged as a way to provide subject matter for courses in writing and speaking, and for courses which connect the arts and humanities with the social sciences, and the liberal arts/sciences with polytechnic and professional curricula. Linked courses provide options for students.

Because many students fulfill part of their GE requirements at community colleges or other four-year institutions, however, all students cannot be required to take linked courses. In addition, conflicts in students' course scheduling often prevent them from enrolling in courses taking more than one term to complete. Courses offered for GE must normally allow students to complete a four-unit requirement in a single quarter. The value of a coherent, integrated program is clear, however, and packages of linked courses should, where possible, be developed as alternative tracks to fulfilling GE requirements.

## GE INFORMATION COMPETENCY GOAL

Information Competency is an educational goal of the university curriculum, and the GE Program affirms the goals established by the Information Competence Committee: According to its Mission Statement, Cal Poly aims to teach students "to discover, integrate, articulate, and apply knowledge" and to provide students "with the unique experience of direct involvement with the actual challenges of their disciplines."

To meet these goals, Cal Poly must help students acquire the skills necessary to master the challenges of an information-based society. As the amount of information proliferates and information technology becomes more sophisticated, it is especially imperative that college graduates be "information

competent." They must possess the information-management skills necessary for independent and lifelong learning and the tools required being informed and productive citizens. GE courses are expected to provide relevant guidance in information retrieval, evaluation of information, and appropriate citation of information.

## GE DOUBLE COUNTING

While many lower-division GE courses are necessarily specified as support courses (especially in the sciences), students should be able to choose upper-division courses in Arts and Humanities, Society and the Individual, and Technology. The upper-division electives in these areas are seen as opportunities for students to explore an interest in depth beyond their majors.

Consequently, courses from the student's Major Department may not be used to fulfill upper-division electives in **Areas C4 or D5**.

## U.S. CULTURAL PLURALISM

USCP is a university requirement, and faculty are encouraged to develop GE courses which also meet the USCP requirements.

## GE GENDER AND DIVERSITY COMMITMENT

Cal Poly seeks to provide its students with an education rich in diverse experiences and perspectives. Such an education is intended to provide students with knowledge and perspectives fostering adaptability and flexibility in a changing world, as well as enhancing students' understanding of, and tolerance for, differences among people.

The General Education Program affirms the university's commitment to diversity as a value central to the education of Cal Poly students. All GE courses are expected to address issues of gender and diversity within the context of the material presented in the course. Effective general education creates an awareness of those figures, male and female, who have made a significant impact on our society or a major contribution to science, mathematics, philosophy, literature, the arts, history, economics, and other areas of human endeavor. Students completing Cal Poly's GE Program should have a clear sense of the intellectual roots creating and contributing to American society and of the ways that various cultures, and both women and men, have contributed to knowledge and civilization and to transforming American society over time.

## SERVICE LEARNING

A service-learning component is encouraged in courses where it may be appropriate.

## STAFFING GE COURSES

Faculty teaching General Education courses should meet the following minimum qualifications or their equivalent: An understanding and appreciation of the educational objectives of Cal Poly's GE Program; For teaching lower-division courses, a master's degree in a related field (or, for teaching associates, appropriate training and supervision by an expert in the field); For teaching upper-division courses, a doctorate or an appropriate terminal degree in a related field is not required but is strongly expected; A professional commitment to the subject, as demonstrated by teaching experience, scholarly contributions, or continuing professional education.

## COMMUNICATION (AREA A)

**Introduction:** The three lower-division courses in Area A provide a foundation in the skills of clear thinking, speaking, and writing. Courses in this area provide extensive practice in the principles, skills, and art of reasoning in both oral and written communication. Writing and speaking are fundamental modes of expression that rely on the principles of rhetoric and clear reasoning, and instruction in logic is an essential support for these modes.

The sequence assumes that the mastery of reasoned communication must be developed and practiced over time and that this mastery is crucial to students' success at the university and beyond. By placing basic skills in a larger context, these courses also provide a vision of why this area is an important component of general education.

### Expository Writing (A1)

#### Lower-Division Educational Objectives

Lower-division courses in A1 must fulfill **EACH** of the following objectives:

After completing the first foundation course in writing, students are expected to have achieved facility in expository writing and should have an enhanced ability to:

- **EO 1** explore and express ideas through writing;
- **EO 2** understand all aspects of the writing act--including prewriting, drafting, revision, editing, and proofreading--and their relationship to each other;
- **EO 3** assess the writer's audience and apply the appropriate organizational approaches and language;
- **EO 4** recognize that writing and rewriting are necessary to the discovery, clarification, and development of a student's ideas;
- **EO 5** write essays that are clear, unified, coherent at all levels, and free of significant errors in grammar and spelling;
- **EO 6** read critically to derive rhetorical principles and tactics for the student's own writing;
- **EO7** understand the importance of ethics in written communication.

### Expository Writing: Lower-Division Criteria (A1)

Lower-division courses in A1 must meet EACH of the following criteria:

The course proposal and expanded course description must clearly indicate how the course will include at least 4,000 words of original writing for evaluation and provide both instruction and practice in:

- **CR 1** the writing process (including prewriting, drafting, revising, editing, and proofreading);
- **CR 2** structuring effective paragraphs which focus on a single issue and reflect both unity and coherence;
- **CR 3** the major organizational approaches to expository writing (e.g. comparison and contrast, process, classification and division);
- **CR 4** writing expository essays (which incorporate narration and description) that are appropriately adjusted to the writer's audience;
- **CR 5** precise and concrete usage with the appropriate levels of diction, voice, imagery, and figures of speech adapted to the intended audience;
- **CR 6** the use of standard grammar and punctuation; close critical reading;
- **CR 7** critically assessing students' own and others' papers;
- **CR 8** writing both in- and out-of-class analytic essays (with approximately one-third of the course exercises involving "speeded" writing).

### Oral Communication (A2)

#### Lower-Division Educational Objectives

Lower-division courses in A2 meet **EACH** of the following objectives:

- **EO 1** hear and understand what is said, formulate relevant responses in complete sentences free of slang, and construct spoken messages in a variety of rhetorical contexts, including brief messages, conversations, group discussions, and oral presentations;
- **EO 2** understand the place, function, and ethical use of oral communication; evaluate spoken messages critically, especially for their clarity, informative value, and use or abuse of rhetorical devices in oral persuasion;
- **EO 3** recognize that writing and speaking are closely related, and that each is an effective act of rehearsal for the other;
- **EO 4** locate, retrieve, evaluate, and incorporate material appropriate to oral presentation, and cite such material accurately;
- **EO 5** recognize the common fallacies of thinking;

- **EO 6** practice writing skills related to the subject matter of the course.

### Oral Communication (A2)

#### Lower-Division Criteria

Lower-division courses in A2 meet EACH of the following criteria:

The course proposal and expanded course outline must clearly indicate how the course will include appropriate writing activities of not less than 2500 words related to the content and the logic of oral presentations, provide an activity environment allowing four or more original oral presentations of 5-7 minutes (at least one must be a speech to inform and one a speech to persuade), and provide both instruction and practice in:

- **CR 1** applying techniques for attentive listening and accurate comprehension of spoken messages;
- **CR 2** the skills appropriate for a variety of oral presentations;
- **CR 3** the principles of outlining appropriate to various speaking situations;
- **CR 4** using organizational patterns appropriate to various speaking situations;
- **CR 5** evaluating the uses of language, including the abuses of language, in persuasive speaking;
- **CR 6** locating, retrieving, reporting, evaluating, integrating, and accurately citing research material;
- **CR 7** identifying the common fallacies of thinking, and understanding their implications in both written and oral forms.

### Reasoning, Argumentation, and Writing (A3)

#### Lower-Division Educational Objectives

Lower-division courses in A3 must fulfill EACH of the following objectives:

After completing this course, students should be able to understand, recognize, and apply principles of reasoning in argumentation to their own and others' written and oral communications; in achieving this objective, students should have an enhanced ability to:

- **EO 1** recognize lines of reasoning and the precise issues they address; determine the relevance of argument to issue and the relevance of premises to conclusion; and evaluate the strength of an argument by accurately applying principles of both formal and informal logic; **EO 2** write out-of-class argumentative essays that are well composed, demonstrating a clear sense of issue and developing cogent lines of reasoning;

- **EO 3** develop rhetorical awareness that will allow them to adapt their arguments to various audiences;
- **EO 4** recognize the moral, as well as logical, dimensions of rational discourse;
- **EO 5** write in-class analytical and argumentative essays typical of the critical-thinking component of "speeded" standardized graduate or professional-program admissions tests.

### **Reasoning, Argumentation, and Writing (A3)** **Lower-Division Criteria**

Lower-division courses in A3 must meet EACH of the following criteria:

Because both the Expository Writing and the Oral Communication courses prepare students for this course, enrollment requires satisfactory completion of (or receiving credit by examination in) both Expository Writing and Oral Communication. The course proposal and expanded course outline must clearly indicate how the course will include at least **3,000 words of original writing** for evaluation and provide both instruction and practice in:

- **CR 1** the principles of organizing and writing argumentative essays for various rhetorical situations;
- **CR 2** identifying issues; recognizing, analyzing, evaluating and constructing arguments (including treatment of deductive validity and soundness, inductive argument strength, and common deductive and inductive fallacies);
- **CR 3** criticizing the written arguments of others;
- **CR 4** discerning the relevance of premises to conclusions and the relevance of arguments to issues;
- **CR 5** recognizing the uses and abuses of language in written argument;
- **CR 6** finding, evaluating, and incorporating research materials, as well as attributing and documenting them accurately;
- **CR 7** applying principles of fair-minded argument (including how to identify and respond to bias, emotion, and propaganda);
- **CR 8** writing both in- and out-of-class argumentative essays.

### **SCIENCE AND MATHEMATICS (AREA B)**

**Introduction:** Lower-Division courses in Mathematics (B1), Life Science (B2), Physical Science (B3) and Lab taken with either a B2/B3 course provide a basic understanding of the nature, scope, and limitations of mathematics, statistics, and the physical and life sciences, as well as an understanding of their breadth of application to other disciplines. Foundation courses in this area teach fundamental concepts in mathematics, science, and statistics, including the scientific method;

consequently, these courses should not be interdisciplinary in nature. They also provide a vision of why this area is an important component of general education by placing basic knowledge in a larger context. (This might be accomplished by providing some historical perspective that includes great achievements in the discipline and their impact and/or by the examination of important contemporary issues and problems from the discipline.) Courses in this area should include an appropriate writing component to further students' understanding of basic scientific, mathematical, and statistical concepts.

### **Science and Mathematics (B1 - B4)** **Lower-Division Educational Objectives**

Lower-division courses in B1 - B4 must fulfill FOUR of the following objectives:

After completing the foundation Area B courses, students should have an enhanced ability to:

- **EO 1** understand and appreciate the scientific method and its role in scientific inquiry;
- **EO 2** understand the abstract logical nature of mathematics, as well as the applications and limitations of mathematics and statistics to other disciplines;
- **EO 3** analyze problems in a structured way and to develop strategies for solutions using scientific, mathematical, or statistical principles;
- **EO 4** understand and examine critically the scientific and mathematical aspects of issues and problems which arise in daily life;
- **EO 5** articulate fundamental scientific concepts using appropriate vocabulary;
- **EO 6** articulate fundamental mathematical and/or statistical concepts using appropriate vocabulary;
- **EO 7** advance, with the necessary preparatory skills, to study the wider-ranging, cross-disciplinary Area B topics to be presented at the upper-division level.

### **Life Science Learning Objectives (B2)** **Course Content Guidelines**

All Life Science (B2) GE courses will focus on fundamental life science concepts (as described below) throughout the entire course. B2 Life Science GE courses are not interdisciplinary in nature. Applications can be used to place the fundamental concepts in a larger context; however, the overall focus of B2 Life Science courses will be fundamental concepts.

Students should gain knowledge that can be transferred among any of the life sciences and should gain perspective on the diversity of life science. In addition, all B2 Life Science GE courses will address the nature of science, and how the

processes of science further our understanding of life science principles.

Life Science (B2) courses will introduce students to the Life Sciences either by presenting a broad overview of a number of important disciplines within the life sciences, or by presenting a narrower but more in-depth focus on a smaller set of disciplines. Courses presenting a broad overview of the life sciences will cover at least five of the subject areas listed below at a basic level. Courses presenting a narrower study of the life sciences will cover at least three of the subject areas in depth.

#### **Basic Life Sciences Subject Areas:**

1. The patterns, processes, and outcomes of evolution, including the relationship between the process of evolution and the diversity of life.
2. The genetic underpinnings of life, including the processes of reproduction and patterns of inheritance.
3. The interactions of organisms with each other and with their environment.
4. The development and function of structures at the cellular and/or organismal levels.
5. The molecular mechanisms underlying life, including their evolutionary conservation and the roles of important biomolecules.
6. The physiological principles underlying life, including energy transformations, homeostasis, and signaling/communication.

#### **Science and Mathematics (B1-B4) Lower-Division Criteria**

Lower-division courses in B1 - B4 must meet EACH of the following criteria:

The course proposal and expanded course outline must clearly indicate how the course:

- **CR 1** emphasizes fundamental concepts and principles, leading to an understanding of the nature, scope, and limitations of science, mathematics, or statistics;
- **CR 2** facilitates the achievement of at least four of the desired educational objectives for Area B;
- **CR 3** promotes an understanding of the breadth of application of science, mathematics, or statistics to other disciplines;
- **CR 4** examines great achievements, considers important contemporary issues, or provides a context that establishes the importance of the discipline;
- **CR 5** develops problem-solving and reasoning skills;
- **CR 6** incorporates a writing component.

#### **Courses in the Physical and Life Sciences should also:**

- **CR 7** emphasize the methods of science, including systematic observation and experimentation;
- **CR 8** emphasize essential concepts and ideas of one of the physical or life sciences;
- **CR 9** include techniques and procedures for the design of experiments, data collection, and analysis, if the course incorporates a laboratory.

#### **Courses in Mathematics and Statistics should also:**

- **CR 10** emphasize essential concepts, ideas, and problem solving in mathematics or statistics;
- **CR 11** have significant mathematical or statistical content;
- **CR 12** promote understanding rather than merely providing instruction in basic computational skills

#### **Lab Experience (B4) - Criteria**

GE Lab Experience courses (B4) are generally taught in the lab format, but activity courses will count as a lab experience if they satisfy the criteria listed in 1-4.

Lab experiences must meet the following criteria:

- must be based on the use of the scientific method or on the application of basic scientific principles in a laboratory environment or in a field experience.
- must involve observation and analysis or data collection and analysis.
- must contain an appropriate writing component.
- must require concurrent or previous enrollment in a course that satisfies the Area B life science or physical science requirements.

#### **Science and Mathematics Elective (B5)**

Lower-division courses suitable for Area B5 satisfy the same educational objectives and criteria as listed above for Areas B1-4, but are not foundational courses. As such, they are appropriate as second courses in science and mathematics. Upper-division courses in B5 must be integrative in nature, requiring application and generalization of basic scientific or mathematical knowledge from foundation Area B courses to new settings and problems.

Science and Mathematics (B5) courses may be interdisciplinary in nature, and could provide a capstone experience in science, mathematics, or statistics for students majoring in the Liberal Arts. Courses in this area also include writing as an integral part of the process of learning and discovery.

#### **Science and Mathematics Upper-Division Educational Objectives (B5)**



Upper-division courses in B5 must fulfill EACH of the following objectives: After completing the upper-division elective, students should have an enhanced ability to:

- **EO 1** integrate the concepts from foundation courses;
- **EO 2** apply the fundamental scientific, mathematical, or statistical concepts from the foundation courses to solve problems in new or more advanced areas

#### **Science and Mathematics Upper-Division Criteria (B5)**

Upper-division courses in B5 must meet EACH of the following criteria:

The course proposal and expanded course outline must clearly indicate that the course is at the 300 level and has one or more prerequisites from the Area B foundation courses, as well as how the course:

- **CR 1** integrates concepts from foundation courses;
- **CR 2** applies fundamental scientific, mathematical, or statistical concepts from the foundation courses to solve problems in new or more advanced area;
- **CR 3** includes an appropriate writing component. In addition to the above criteria, the following are strongly encouraged:
- **CR 4** courses that are interdisciplinary in nature;
- **CR 5** courses that include a significant writing component;
- **CR 6** courses that examine contemporary issues in the discipline.

#### **ABET Engineering Programs: (B6) Additional Designated Science and Mathematics courses**

Educational Objectives and Criteria for B6 must require the application and generalization of basic scientific or mathematical knowledge from lower division Area B courses.

#### **ABET Engineering Programs: (B6) Upper-Division Educational Objectives**

Upper-division courses in B6 must fulfill the following objective: After completing an upper division Area B course, students should have an enhanced ability to:

**EO 1** apply the fundamental scientific, mathematical, or statistical concepts from Area B foundation courses to solve problems in new or more advanced areas.

#### **ABET Engineering Programs: (B6) Upper-Division Criteria**

Upper-Division courses in B6 must meet EACH of the following criteria: The course proposal and expanded course outline must clearly indicate that the course is at the 300 or 400 level and has one or more prerequisites from the Area B foundation courses, as well as how the course:

- **CR 1** builds on concepts from foundation courses;
- **CR 2** applies fundamental scientific, mathematical or statistical concepts from the foundation courses to solve problems in a new or more advanced area;
- **CR 3** includes an appropriate writing component.

#### **ARTS AND HUMANITIES (AREA C)**

Introduction to Lower-Division Courses in Literature (C1), Philosophy (C2), Fine and Performing Arts (C3), and Languages other than English (C5) provide a basic understanding of the traditions, values, and achievements found in literature, philosophy, and the fine and performing arts. Courses in this area foster, encourage, and improve students' ability to understand and respond--cognitively and affectively--to cultural achievements in both verbal and non-verbal forms. Foundation courses in the arts and humanities prepare students to see achievements within their broad historical and cultural context.

These courses seek to improve and encourage students' ability to read with critical judgment and write with clarity, emphasizing writing as an integral part of the process of learning and discovery. They also cultivate an awareness of language and the arts as forms of expression valuable both in themselves and for developing critical awareness. By placing basic knowledge in a larger context, these courses provide a vision of why this area is an important component of general education.

#### **Arts and Humanities (C1 – C3) Lower-Division Educational Objectives**

Lower-division courses in C1 through C3 must fulfill EACH of the following objectives:

After completing the foundation courses in Area C, students should have an enhanced ability to:

- **EO 1** understand the possibilities and limitations of language as a symbolic and expressive medium; differentiate between formal and metaphorical language;
- **EO 2** read with insight, engagement, detachment, and discrimination; sustain an extended line of reasoning through both narrative and thematic development;
- **EO 3** recognize crucial historical developments within the arts and humanities; appreciate the significance of major literary, philosophic, and artistic works;

- **EO 4** understand the historical development of issues in the humanities in significant periods prior to and including the twentieth century; understand the ways that historical context can illuminate current problems and concerns;
- **EO 5** grasp relevant aspects of the relationship of the arts and humanities to science and technology;
- **EO6** appreciate non-verbal forms of understanding and expression; appreciate the aesthetic and historical development of one or more of the visual or performing arts; understand the relationship between form and content;
- **EO 7** understand currently accepted critical standards; understand the advantages and limitations of various schools of reasoning;
- **EO 8** appreciate the relative cultural significance of canonical and non-canonical works of literature, philosophy, and the arts.

### Literature (C1) Lower-Division Criteria

Lower-division courses in Literature (C1) must meet EACH of the following criteria:

The expanded course proposal and course outline must clearly indicate how the course:

- **CR 1** provides broad historical perspective on several significant literary periods (usually covering two or more centuries);
- **CR 2** encourages a comprehensive understanding of literary achievements and their relationship to other literary achievements and to the social, cultural, and historical context in which they were written;
- **CR 3** considers works from more than one genre and provides perspective on literary classification and conventions;
- **CR 4** develops the skills of reading with insight, engagement, discrimination, and detachment;
- **CR 5** develops the skills to analyze and evaluate a variety of literary approaches;
- **CR 6** focuses on significant accomplishments by diverse writers from various world cultures;
- **CR 7** serves as a writing-intensive course in GE;
- **CR 8** completion of Area A.

### Criteria for Literature (C1)

#### Courses in a Language other than English

- **CR 1** cultivates language skills that are advanced rather than basic;
- **CR 2** emphasizes critical thinking and cultural understanding of a language other than English;

- **CR 3** includes a significant amount of culture specific to the language being studied;
- **CR 4** emphasizes an in-depth understanding of language, to include the difference between formal and metaphorical uses of the language being studied;
- **CR 5** emphasizes a significant amount of literature in the language being studied, and focuses on these literary readings as the primary source of the in-depth, metaphorical understanding of the language being studied.

### Philosophy (C2) Lower-Division Criteria

Lower-division courses in C2 must meet EACH of the following criteria:

The expanded course proposal and course outline must clearly indicate how the course:

- **CR 1** provides broad historical perspective on philosophy (including at least one ancient or medieval work, at least one modern work, and no more than one work from the twentieth century);
- **CR 2** encourages an expansive understanding of philosophic achievements and their relationship to other philosophic achievements;
- **CR 3** provides perspective on the implications of holding a particular philosophical position;
- **CR 4** develops the skills of reading with insight, engagement, discrimination, and detachment;
- **CR5** develops the skills to analyze and evaluate a variety of philosophical positions;
- **CR6** relies upon primary texts for readings;
- **CR7** focuses primarily on major, recognized accomplishments in philosophy;
- **CR8** serves as a writing-intensive course in GE.

### Fine and Performing Arts (C3)

#### Lower-Division Criteria

Lower-division courses in C3 must meet EACH of the following criteria:

The expanded course proposal and course outline must clearly indicate how the course:

- **CR 1** provides broad historical perspective on one or more of the fine or performing arts;
- **CR 2** applies critical standards to the aesthetic appreciation of art;
- **CR 3** includes critical analysis in the evaluation of the artistic endeavor;



- CR 4 presents the ways in which the art form has had an impact on cultural development;
- CR 5 applies appropriate learning strategies to the understanding of art forms;
- CR 6 provides perspective on the relationship of technology to the arts;

CR 7 incorporates a significant amount of material from world cultural achievements;

CR 8 provides practice in a specific art form, if the course includes an activity or a laboratory in studio or performance art;

CR 9 provides assignments in writing that will form at least 25% of the students' total grade.

### Arts and Humanities Lower Division Elective (C5)

**Introduction:** Specified lower-division courses listed for Arts and Humanities Elective (C5) satisfy many of the educational objectives and criteria as listed for Areas C1-C3, but are not foundational courses. As such, they are appropriate as secondary courses (electives) in arts and humanities.

Courses specifically approved for Area C5:

The elective is provided as an additional choice option.

Alternatively, to fulfill the C Elective requirement, students may choose any approved C1, C2, C3 or C4 course, if it is not already being used to satisfy one of those areas.

### Arts and Humanities (C5) Lower-Division Educational Objectives

Lower-division courses in C5 must fulfill EACH of the following objectives: After completing the lower-division elective, students should have an enhanced ability to:

**EO 1** communicate effectively in real target-language situations with an understanding of the various registers of language, including formal and metaphorical;

**EO 2** recognize cultural development reflected in changing language use; understand the significance of major historical events and movements, including evolving technology, in the development of the target language;

**EO 3** understand the historical/cultural development of issues in the humanities in significant periods prior to and including the twentieth century; understand the ways that historical context can illuminate current problems and concerns;

**EO 4** appreciate the differences between various cultural registers, such as popular, traditional, indigenous, Western, non-Western, as they are expressed in the target cultures.

### C5: Lower-Division Criteria

Lower-division courses in C5 must meet EACH of the following criteria:

The course proposal and expanded course outline must clearly indicate that the course is at the **121 level or above**, as well as how the course:

**CR 1** provides training in the four language skills: speaking, listening, reading, and writing at an intermediate level or above;

**CR 2** emphasizes analysis of the structures of the target language together with contrast analysis when appropriate between the target language and English;

**CR 3** emphasizes an understanding of language in its socio-cultural context, to include the difference between various registers of language use;

**CR 4** includes a significant amount of cultural understanding specific to the language being studied; furthermore, cultivates in students an awareness of different perspectives based on linguistic and cultural heritage;

**CR 5** provides opportunities to develop communicative and cultural competency

### Arts and Humanities (C4) Upper-Division Elective

**Introduction:** Arts and Humanities (C4) courses must be integrative in nature, requiring the application and generalization of knowledge and/or understanding from foundation Area C courses (as appropriate) to the advanced study of a subject or to new, but related, areas of inquiry within the arts and humanities. These courses may be interdisciplinary in nature, and should focus on achieving depth rather than breadth. Courses in this area also emphasize writing as an integral part of the process of learning and discovery. Attention to relevant issues of gender and diversity is encouraged.

### Arts and Humanities (C4) Upper-Division Educational Objectives

Upper-division courses in Arts and Humanities (C4) must fulfill EACH of the following educational objectives:

After completing an upper-division course in the arts or the humanities, students should have an enhanced ability to:

- **EO 1** apply knowledge and understanding acquired in lower-division coursework in the arts or the humanities to the advanced study of a subject or to new, but related, areas of inquiry;
- **EO 2** respond in depth to the kinds of arts-or-humanities issues approached in lower-division study;
- **EO 3** appreciate the implications of a focused area of study;
- **EO 4** appreciate the way in which relationships between one area of study and another provide perspective on knowledge.

### Arts and Humanities (C4) Upper-Division Criteria

Upper-division courses in C4 must meet EACH of the following criteria:

The course proposal and expanded course outline must clearly indicate that the course is at the 300 level, and have as prerequisites the completion of Area A and at least one or more foundation courses from Area C. The course proposal and expanded course outline should also clearly indicate how the course:

- **CR 1** explores in depth a subject in the arts or humanities;
- **CR 2** provides perspective on the subject's relationship to other cultural achievements and to relevant issues of gender and diversity;
- **CR 3** serves as a Writing Intensive course in GE.

### AREA D/E: SOCIETY AND THE INDIVIDUAL

Introduction: Lower-Division Foundation courses in: The American Experience (D1), Political Economy (D2), Comparative Social Institutions (D3), and Self Development (D4/CSU Area E) provide students with a basic understanding of humans, their institutions, and their social achievements in both contemporary and historical contexts. Courses in this area prepare a student for the demanding tasks of civic participation, life-long learning, the understanding of self and of the human community, and the achievement of perspective in time, space, and human diversity. Consequently, courses in this area should encourage students to see themselves in context with others, and to see the human experience as something that is both uniquely individual and communally comparable. By placing basic knowledge in a larger context, these courses provide a vision of why this area is an important component of general education. Courses in this area also emphasize writing as an integral part of the process of learning and discovery.

#### Society and the Individual (Area D1-D4) Lower-Division Educational Objectives

Lower-division courses in D1 - D4 must meet THREE of the following objectives:

After completing the foundation courses in Area D/E, students should have an enhanced ability to understand:

- **EO 1** physiological, psychological, and social influences on thinking and behavior; how the mind and body work in concert; issues of "nature" versus "nurture"; personal development; and the importance of maintaining physical and mental health;
- **EO 2** how human beings act in concert; historically how communities have grouped together; basic interpersonal relationships (social, economic, political, and legal); the constant interplay in human society between the protection

and elevation of the individual and the welfare of the community; how individual actions affect the whole;

- **EO 3** organizations of public order, of commerce and labor, and of society (family, education, government, religion, and economy) and their origins; how humans create institutions and what they expect from them; and how institutions function to first reflect then shape human society;
- **EO 4** the impact of history on the present and the future; how history affects the study of history; the importance of mythology; historical development in multidisciplinary terms (economic, political, sociological, institutional, intellectual, legal, and scientific); and the development of both western and non-western cultures;
- **EO 5** how the environment affects human behavior; the human impact on the environment; the importance of geographic and environmental factors on the historical evolution of human society and economy; the interconnectedness of the planet, its natural resources, and its population;
- **EO 6** the human experience in comparative terms by examining the diversity of experience from both individual and group perspectives with special attention to the issues of gender, ethnicity, and racial diversity on our planet;
- **EO 7** the importance of empirical information and appropriate methodologies.

#### Society and the Individual (Area D1-D4) Criteria for Lower-Division Courses

Lower-division courses in D1 - D4 must meet **EACH** of the following criteria:

#### The American Experience (D1) Criteria

The course proposal and expanded course outline must clearly indicate how the course:

- **CR 1:** meets the requirements for Title 5 Section 40404 which provides for the comprehensive study of American history and American Government;
- **CR 2:** outlines the impact of social, political, legal, and economic forces and events in the historical development of the US;
- **CR 3:** considers the rights and obligations of citizens in the political and legal system established by the US Constitution;
- **CR 4:** defines the political philosophies of the framers of the Constitution, the nature and operation of American political institutions and processes, and the system of jurisprudence which operate under that Constitution, as amended and interpreted;
- **CR 5:** explores the complex issue of gender in the United States;

- **CR 6:** explores the complex issues of race and ethnic diversity in the United States;
- **CR 7:** outlines the relationship between and among such factors as geography, history, religion, economics, cultural diversity, politics, and the rule of law in the development of the American nation;
- **CR 8:** covers the principles and practices of the political process, including political parties, interest groups, legislative politics, campaign practices, and the interrelationship between the executive, legislative, and judicial branches of the US government, over time;
- **CR 9:** encourages the fundamental assumption of the responsibilities of citizenship;
- **CR 10:** makes use of primary source material;
- **CR 11:** includes an appropriate writing component.

### Political Economy (D2) Criteria

The course proposal and expanded course outline must clearly indicate how the course:

- **CR 1:** focuses on resources, production, consumption, and market exchange, seen in the context of one another and of other forms of human activity over time and comparative in nature, putting economic institutions in the context of the other four basic social institutions (family, government, religion, and education); stresses broad aggregates of economic activity rather than one particular sector; and discusses more than one single economic system;
- **CR 2:** covers international, including non-western, as well as domestic economic issues;
- **CR 3:** uses primary source material as appropriate;
- **CR 4:** blends the theoretical and the practical to make the material relevant to current issues;
- **CR 5:** includes an appropriate writing component and gives a broad view of economic activity without specialized attention to only one aspect;
- **CR 6:** includes an appropriate writing component.

### Comparative Social Institutions (D3) Criteria

The course proposal and expanded course outline must clearly indicate how the course:

- **CR 1:** provides an understanding of basic human social institutions in the context of the present and the past: family, government, economy, education, and religion, including their origins, structures, functions, patterns of change, and integration;
- **CR 2:** includes western and non-western societies in a cross-cultural, global perspective, and recognizes the

growing interdependence of the global community and its environmental/geographic context;

- **CR 3:** develops an appreciation of cultural and social diversity, both domestically and globally, which includes an understanding of ethnic, gender, and class inequality;
- **CR 4:** introduces students to relevant methodologies;
- **CR 5:** includes an appropriate writing component.

### Self-Development (D4/CSU E) Criteria

The course proposal and expanded course outline must clearly indicate how the course:

- **CR 1:** provides an understanding and appreciation of the self as an integrated physiological, psychological, and social being; and addresses issues relevant to the physical, emotional, intellectual, and social aspects of well-being;
- **CR 2:** presents the theories and methodologies used to examine the self, their contexts, and their advantages and disadvantages;
- **CR 3:** provides an understanding of the commonalities and individual differences among humans, and how these are expressed across the human life span and in a social or cultural context;
- **CR 4:** provides an opportunity for students to see practical application of classroom material for enhancing their own personal development;
- **CR 5:** includes an appropriate writing component.

### Society and the Individual (D5) Upper Division Elective

Introduction: Courses must be integrative in nature, requiring application and generalization of knowledge and understanding from foundation Area D/E courses to the advanced study of a subject or to new, but related, areas of inquiry. These courses may be interdisciplinary in nature, and should focus on achieving depth rather than breadth. Courses in this area also emphasize writing as an integral part of the process of learning and discovery. Attention to issues of gender and diversity is encouraged.

### Society and the Individual (D5) Upper-Division Educational Objectives

Upper-division courses in D5 must fulfill EACH of the following objectives:

After completing an upper-division course in this area, students should have an enhanced ability to:

- **EO 1** apply knowledge and understanding acquired in lower-division coursework in the area to the advanced study of a subject or to new, but related, areas of inquiry;

- **EO 2** respond in depth to the kinds of issues approached in lower-division study in the area;
- **EO 3** appreciate the implications of knowledge in a focused area of study;
- **EO 4** appreciate the way in which relationships between one area of study and another provide perspective on knowledge.

### **Society and the Individual (D5)**

#### **D5: Upper-Division Criteria**

The course proposal and expanded course outline must clearly indicate that the course is at the 300 level and has two or more prerequisites from the Area D/E foundation courses. (Although some courses may require specific prerequisites, most courses should require only the completion of coursework in two or more of the four sub-areas.)

Upper-division Courses in D5 must meet EACH of the following criteria:

The course proposal and expanded course outline should also clearly indicate how the course:

- **CR 1** draws upon and utilizes the perspective of one or more of the multiple fields in the social and behavioral sciences and human life development;
- **CR 2** makes an explicit connection between the perspectives of two or more of the Foundation Courses in Area D/E;
- **CR 3** serves as a Writing Intensive course in GE. In addition, upper-division courses should, where appropriate, should:
- **CR 4** include consideration, both past and present, of the social, economic, political, legal, and commercial institutions and behavior that are inextricably interwoven in either the US or international contexts;
- **CR 5** cover the social, political, legal, and economic forces that influence the creation, development, evolution, and implementation of practical public policies in the American or international contexts;
- **CR 6** examine the psychological, physiological, and social influences on the development of the self that influence and determine the quality of one's life as related to one's environment.

technical, economic, commercial, and social) that are necessary for making rational, ethical, and humane technological decisions.

### **Area F: Upper-Division Criteria**

Upper-division Courses in Area F must meet EACH of the following criteria:

Since courses satisfying the technology elective are integrative in nature and build on an Area B foundation, they must be upper-division and, as a minimum, require junior standing and have as a prerequisite the completion of Area B. If necessary, specific Area B foundation courses (e.g. Math 141, BIO 151, etc.) may be listed as prerequisites.

Since GE technology elective courses should be designed to be accessible to a wide range of students, the prerequisites may not be overly restrictive. The course proposal and expanded course outline must clearly indicate how the course is accessible to a broad audience, as well as how the course:

- CR 1 builds on the Area B foundation;
- CR 2 will instruct students about one or more areas of technology having a coherent theme, with an emphasis on how the technology works.
- CR 3 develops an awareness of how basic scientific and mathematical knowledge is used to solve technical problems;
- CR 4 develops an awareness of the methods used and difficulties inherent in applying technology to solve social, economic, scientific, mathematical, artistic, and/or commercial problems;
- CR 5 addresses the ethical implications of technology;
- CR 6 includes critical examination of technology from multiple perspectives;
- CR 7 provides students with an historical, contemporary, and future-looking perspective of the technology;
- CR 8 incorporates a writing component. In addition to the above criteria, the following are strongly encouraged:
- CR 9 courses that are interdisciplinary in nature;
- CR 10 courses that examine local or current issues;
- CR 11 courses that address how new and emerging technologies impact society.

### **TECHNOLOGY (Area F) UPPER-DIVISION ELECTIVE**

Upper-Division Elective Educational Objectives

- **EO 1** understand the relationship between technology and its scientific basis;
- **EO 2** understand and be able to articulate the considerations (which may include scientific, mathematical,

## General Education Program

*Strengthening intellectual, creative and professional lives*

**CAL POLY**  
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The General Education Program is one of the primary sites for realizing Cal Poly's vision of a comprehensive polytechnic education. The program promotes an understanding and appreciation of the foundational disciplines that ground all intellectual inquiry. It enriches the specialized knowledge acquired in a major program with an understanding of its scientific, humanistic, artistic, and technological contexts. The program imparts knowledge and transferable skills, fosters critical reasoning and ethical decision making, supports integrative learning, and prepares students for civic engagement and leadership.

FOUNDATIONAL LEARNING - Intellectual and Practical Skills, Knowledge of Human Cultures, and Personal and Social Responsibility			
COMMUNICATION (Area A)	CLA, LAES, LS	CAED, CAFES, CSM, OCOB	CENG, BRAE, ARCE
Expository Writing (A1 - Writing Intensive)	4	4	4
Oral Communication (A2)	4	4	4
Reasoning, Argumentation, Writing (A3 - Writing Intensive)	4	4	4
<b>Communication unit sub-total</b>	<b>12</b>	<b>12</b>	<b>12</b>
SCIENCE AND MATHEMATICS (Area B)	CLA, LAES, LS	CAED, CAFES, CSM, OCOB	CENG, BRAE, ARCE
Mathematics/Statistics (B1)	8	8	8
Life Science (B2)	4	4	4
Physical Science (B3)	4	4	4
Lab taken with <i>either</i> Life Science (B2) <i>or</i> Physical Science (B3) (B4)	<i>required (0 units)</i>	<i>required (0 units)</i>	<i>required (0 units)</i>
Science and Mathematics Elective (B1 - B5)	4		
Upper-Division Science and Mathematics (B6)			4
Designated Science and Mathematics Courses			8
<b>Science and Mathematics unit sub-total</b>	<b>20</b>	<b>16</b>	<b>28</b>
ARTS AND HUMANITIES (Area C)	CLA, LAES, LS	CAED, CAFES, CSM, OCOB	CENG, BRAE, ARCE
Literature (C1 - Writing Intensive)	4	4	4
Philosophy (C2 - Writing Intensive)	4	4	4
Fine and Performing Arts (C3)	4	4	4
Arts and Humanities Elective (C1 - C5)		4	
<b>Arts and Humanities unit sub-total</b>	<b>12</b>	<b>16</b>	<b>12</b>
SOCIETY AND THE INDIVIDUAL (Area D)	CLA, LAES, LS	CAED, CAFES, CSM, OCOB	CENG, BRAE, ARCE
The American Experience (D1 - 40404)	4	4	4
Political Economy (D2)	4	4	4
Comparative Social Institutions (D3)	4	4	4
Self Development (D4; CSU Area E)	4	4	4
<b>Society and the Individual unit sub-total</b>	<b>16</b>	<b>16</b>	<b>16</b>
INTEGRATED AND APPLIED LEARNING - Synthesis and advanced inquiry across disciplines			
UPPER-DIVISION COURSES	CLA, LAES, LS	CAED, CAFES, CSM, OCOB	CENG, BRAE, ARCE
Arts and Humanities (C4 - Writing Intensive)	4	4	4
Society and the Individual (D5 - Writing Intensive)	4	4	
Technology (Area F)	4	4	
<b>Upper-division courses unit sub-total</b>	<b>12</b>	<b>12</b>	<b>4</b>
<b>Total</b>	<b>72 units</b>	<b>72 units</b>	<b>72 units</b>

**Advising Note:** All Cal Poly students are required to take 72 units of General Education. A minimum of 12 units is required in residence. A minimum of 12 units is required at the upper-division level (8 units upper-division for Engineering Programs). Some programs indicate specific GE courses to fulfill Major and Support course requirements. Course from a student's Major department may not be used to fulfill upper-division Arts & Humanities (C4) or upper-division Society and the Individual (D5).

**ARCE** = Architectural Engineering; **BRAE** = BioResource & Agricultural Engineering; **CAED** = College of Architecture & Environmental Design; **CAFES** = College of Agricultural, Food, & Environmental Sciences; **CLA** = College of Liberal Arts; **CSM** = College of Science & Mathematics; **CENG** = College of Engineering; **LS** = Liberal Studies; **LAES** = Liberal Arts/Engineering; **OCOB** = Orfalea College of Business