



THE CALIFORNIA STATE UNIVERSITY



UNIVERSITY OF CALIFORNIA

Guiding Notes For General Education Course Reviewers

January, 2011

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These Guiding Notes have been developed by the faculty and staff who review course outlines proposed for lower-division general education credit in the University of California and the California State University. They elaborate on state policy, adding suggestions and insights from past reviewers.

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We make these Notes available to the public so our colleagues can see what the CSU and UC look for in proposals for general education courses. For community colleges, this may make for quicker and more successful course submissions.

This document is continuously shaped by the faculty and staff in California's public colleges and universities who serve as GE course reviewers, in particular Jolayne Service, Jane Leaphart, and Judy Osman. Special thanks go to Christine Mallon in the CSU Office of the Chancellor, who first compiled and published the notes as a single, user-friendly document.

California's Title 5, the IGETC Standards, and CSU Executive Orders remain the official policy documents for the general education transfer curriculum. Links to those policies and to these annually updated Notes are available in Part Three.

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PART ONE: BACKGROUND

The Purpose of General Education

General education represents the universal curriculum of the degree, the learning expected of all baccalaureates regardless of background or major. It develops the intellectual capacities and versatility that employers say they most value:

- Effective oral and written communication
- Critical thinking
- Familiarity with styles of inquiry from a range of disciplines
- Ability to work in groups
- Skills to solve complex problems
- Tolerance for ambiguity
- An understanding of a variety of cultures, including one's own

The universities of the UC system and California State system have each created a distinct general education curriculum that meets these goals. Students who know which university they will attend may be best served by the local GE curriculum, but should check with the receiving campus to see whether IGETC or GE Breadth is preferred.

For transfer students planning to attend a public California university but unsure of which one, the GE transfer curriculum establishes universally accepted minimum requirements in different academic areas, so students know which courses will take them closer to the degree, while maintaining consistent breadth in the baccalaureate.

Students who transfer into the UC or CSU from California Community Colleges may be “certified” as having completed the lower-division units of their general education.

Administration of the two statewide general education patterns is set by Title 5 of the California Code of Regulations, and governed day-to-day by these policies:

| | for students bound for | governing policy |
|---|-------------------------------|--|
| Intersegmental GE Transfer Curriculum (IGETC) | any UC or CSU | IGETC Standards v1.2 www.ccctransfer.org |
| CSU General Education Breadth | any CSU | CSU Executive Order 1033 www.calstate.edu/eo |

Each curriculum is defined by the set of courses approved for its subject areas, as published at www.assist.org and annually updated. The reviewers who use these Guiding Notes are participating in the annual updates by evaluating college course outlines proposed for general education credit in California's public universities.

General Education before Transfer

Both GE Breadth and IGETC will apply to any CSU, and IGETC will apply to any UC or CSU -- regardless of a student's choice of campus or major. However, students in high-unit majors such as science or engineering may find they can graduate sooner if they *don't* complete their GE before transferring.

For these majors, longer chains of prerequisites may make it more advantageous to take lower-division coursework in the discipline, and then complete General Education and major requirements as matriculated students at the university. Community college counselors can help students choose the most efficient way to complete their general education.

Students and their advisors should remember that any kind of GE certification before transfer is separate from – and doesn't guarantee – admission: certification recognizes completed coursework, not eligibility to enroll.

CSU GE Breadth vs. IGETC

Both the CSU GE Breadth and IGETC patterns are designed to educate students to think, write, and speak clearly and logically; to reason quantitatively; to know about the human body and mind, the development and functioning of human society, the physical and biological world, and human cultures and civilizations; and to develop an understanding of the principles, methods, and values of human inquiry.

They do so by grouping disciplines and modes of inquiry into areas such as science and social science, and each area is further divided into subareas such as "Biological Sciences" or "Ethnic Studies." Most areas and subareas in GE-Breadth match those in IGETC, and so course outlines are routinely submitted for both.

See the chart on the next page for a detailed comparison of areas.

| GE Breadth (CSU only) | | Discipline | IGETC (CSU and UC systems) | |
|--------------------------|----|--------------------------------|-------------------------------|---------------|
| AREA A | A1 | Oral Communication | 1C | AREA 1 |
| | A2 | Written Communication | 1A | |
| | A3 | Critical Thinking | 1B | |
| AREA B | B1 | Physical Sciences | 5A | AREAS 5 and 2 |
| | B2 | Biological Sciences | 5B | |
| | B3 | Laboratory Activity | 5A or 5B | |
| | B4 | Mathematics | 2 | |
| AREA C | C1 | Arts | 3A | AREA 3 |
| | C2 | Humanities | 3B | |
| AREA D | D1 | Anthropology & Archeology | 4A | AREA 4 |
| | D2 | Economics | 4B | |
| | D3 | Ethnic Studies | 4C | |
| | D4 | Gender Studies | 4D | |
| | D5 | Geography | 4E | |
| | D6 | History | 4F | |
| | D7 | Interdisciplinary Soc. Science | 4G | |
| | D8 | Political Science | 4H | |
| | D9 | Psychology | 4I | |
| | D0 | Sociology & Criminology | 4J | |
| AREA E | E | Lifelong Learning | | [no area] |
| [no area] | | Language Other Than English | 6A | AREA 6A |

Detailed review criteria for each area and subarea, as well as sample reviewer’s responses for each, comprise the next section of these Guiding Notes. Reviewers consider similar questions for the two patterns.

However, within their similarities are some important differences:

| GE Breadth pattern (CSU only) | IGETC pattern (CSU plus UC) |
|---|--|
| ⇒ requires oral communication | ⇒ doesn’t require oral communication of students transferring to the UC |
| ⇒ doesn’t require Language Other Than English | ⇒ requires Language Other Than English for students transferring to the UC |
| ⇒ any passing grade will count* | ⇒ only grades of C or better will count |
| ⇒ a single course may carry any number of units | ⇒ each course must carry at least three semester- or four quarter-units |
| ⇒ students may be certified one area at a time | ⇒ only full, certification is ordinarily available although students may complete up to two courses after transfer |
| ⇒ includes an area in Lifelong Understanding and Self-Development | ⇒ no area in Lifelong Understanding and Self-Development |

*Note: while any passing grade will allow a course to count for GE credit, for the sake of admission to the CSU, students may still be held to minimum grades of C or better in certain GE areas.

In practice the IGETC pattern is more restrictive. Courses that are approved for IGETC are automatically approved for the corresponding area(s) or subarea(s) in GE Breadth. However, not all courses approved for GE Breadth are approved for IGETC.

CSU Executive Order 405: American Institutions

CSU Executive Order 405 establishes for all CSU students a separate graduation requirement in United States History, Constitution, and American Ideals (informally abbreviated “American Institutions” or “AI”). As with lower-division general education, transfer students may fulfill American Institutions requirements before or after matriculating to the CSU.

Each CSU campus decides whether coursework applied to an area of GE-Breadth may also be applied to American Institutions. At the time of this writing, no California State University denies a certification in American Institutions or GE Breadth/IGETC that relies on such double-counting.

Process Overview: Faculty and Staff Review

California Community Colleges submit new or revised course outlines to the CSU and UC system offices electronically via OSCAR, the On-Line Service for Curriculum and Articulation Review. Intersegmental faculty and staff then evaluate the outlines for consistency with the respective policy documents. Approved outlines from previous years are automatically carried forward, unless a community college reports that a course has changed substantially since its last review. (For a description of what counts as a “substantial” change, see Submission, below.)

Course Design

Courses are created by faculty at participating institutions, usually California Community Colleges. The CSU and UC systems don’t suggest particular subjects. Before they can be offered (or submitted to a system office for GE transfer credit), courses go through the normal channels of curriculum approval, and only baccalaureate-level courses are eligible for GE transfer credit. Subsequent determinations made by the four-year schools relate only to the suitability of a course to an area of a GE pattern, and even high-quality courses may be denied.

A word of caution to the community college faculty who design courses for general education transfer credit in the UC or CSU: some published approvals are better models than others. Until 1993 courses were accepted without review by the four-year institutions. When the public segments created the current review process, those courses were “grandfathered in” without review. Second, as knowledge and the needs of our graduates evolve, so do our review criteria for general education. Creators of courses are encouraged to choose examples whose approval is recent, and in no case earlier than 1993.

| | |
|---------------------------|---|
| Submission | <p>Each fall, community college articulation officers submit courses by entering their new or substantially revised course outlines, one by one, into the online database at assist.org. (These course submission screens aren't visible to public users.)</p> <p>Substantial changes include changes in content, student learning objectives, modes of delivery (if student learning objectives or content are affected), prerequisites, contact hours and/or units, or methods/criteria of assessment. Technical changes (not requiring review) include prefix, number, or title changes and/or updates of sample texts.</p> <p>After the course outline data has been submitted, ASSIST forwards the information to a separate database called the "Online Service for Curriculum Articulation Review," or OSCAR. Submissions are copied to a working database at the CSU Office of the Chancellor, which displays to CSU and UC reviewers the course outline data as it was provided by the community colleges. The software permits users to log on, review the courses, and confidentially record their comments and recommendations.</p> |
| 1st Level Review | <p>Every submitted course undergoes a 1st-level review in which it is judged against criteria developed by faculty to describe a given area of GE-Breadth or IGETC. Each 1st-level review ends with a preliminary recommendation.</p> |
| 2nd Level Review | <p>Every course submitted for GE consideration then undergoes a 2nd-level review, which involves reading both the course outlines as submitted online, and evaluating the 1st-level reviews for fairness and consistency. 2nd-level reviewers write the comments that will be returned to the articulation officers at participating institutions. 2nd-level reviewers may also contact liaisons to the authors of the course outlines to get clarification or additional details.</p> |
| Discipline Faculty | <p>Courses with an unclear or marginal match to GE criteria are forwarded to intersegmental faculty in the disciplines, for a final decision.</p> |
| Reconciliation | <p>Reviewer recommendations for courses in GE Breadth and American Institutions are reconciled by the department of Academic Programs and Policy, in the CSU Office of the Chancellor. Determinations of IGETC congruence are made in discussions with the UC Office of the President.</p> |
| Notification | <p>By early April, the system offices forward their decisions to articulation officers at participating institutions throughout California. Soon afterward the review decisions in OSCAR are communicated to ASSIST, so the public can see which community college courses bear GE transfer credit at four-year institutions.</p> |

PART TWO: REVIEW CRITERIA BY AREA

Criteria Applying to All Areas

From the IGETC Standards 1.2:

Courses in the IGETC shall be culturally broad in their conception. They should help students understand the nature and richness of human culture and social structures through a comparative approach and have a pronounced historical perspective. They should recognize the contributions to knowledge, civilization, and society that have been made by men, women and members of various ethnic or cultural groups.

IGETC courses shall address the modes of inquiry that characterize the different areas of human thought: the nature of the questions that can be addressed, the way questions are formulated, the way analysis is conducted, and the validity and implications of the answers obtained.

When they submit courses for GE acceptability, participating institutions will indicate the pattern, area and subarea to which they want the course applied. Reviewers use area-specific criteria as well as the following, which apply to all submitted courses:

- ⇒ **Any course submitted for GE must be baccalaureate level.** Because community colleges serve multiple constituencies, not everything they teach is comparable in depth and rigor to courses at four-year universities; for example, some coursework is instead meant to train students for specific jobs, or to prepare them for college.

The UC faculty have asked to review every community college course proposed for transferability, whether or not for general education. Prior to the IGETC update cycle each year, community colleges use OSCAR to propose courses for the Transfer Credit Agreement (TCA).

CSU faculty chose instead to let community colleges decide which courses should transfer. In 1973 the CSU adopted Executive Order 167 to define transferability. Later the CSU's faculty senate elaborated on the definition in a document called "Determining a Baccalaureate Level Course." (Both the Executive Order and subsequent elaboration are available at the Academic Programs and Policy web site, calstate.edu/app.) Generally, indications that a course is baccalaureate level include (1) a clear emphasis on cultural, historic, aesthetic, or other intellectual facets of the subject taught – particularly in classes that otherwise would amount to skills development; (2) stated requirements in reading and writing; (3) high demands of students, substantial student-faculty interaction, and clearly distinguished entry- and exit-level expectations; and (4) the existence of comparable courses at four-year institutions.

- ⇒ **Course content should reflect a balance between breadth and depth appropriate for lower-division work.** While it's important for course outlines to reflect the depth of university-level work, proposed courses may be denied if their focus is too narrow. For example, an otherwise acceptable course in literature (IGETC Area 3B) that focuses on a single book, or in self-development (GE-Breadth Area E) that focuses only on the first years of childhood, would fail to provide the breadth expected of general education.

- ⇒ **Variable-topics courses are excluded.** As a rule, no variable-topics courses (or directed-studies courses) are acceptable for IGETC or CSU GE-Breadth regardless of area, because they change too much from one term (and instructor) to the next. However, not all the topics in a course have to be specified in great detail; for example, a course on Victorian-era English literature doesn't have to name every novel assigned. A course in "Contemporary Controversies in Science" that examined a different controversy every term would be denied.
- ⇒ **Course outlines may belong in area(s) other than those requested.** Some disciplines such as English and history may encompass multiple areas, for example by emphasizing the practice of English rhetoric (IGETC Areas 1A or 1B) vs. great works in English (IGETC Area 3B), or emphasizing the development of political philosophies (GE Breadth Area C2) vs. their historical impact on different social groups (GE Breadth Area D6). Reviewers may disagree with the participating institution's area designation as originally submitted, and will approve the course for the most appropriate area in their judgment.
- ⇒ **Proposed courses should include a textbook.** Reviewers use the representative text as a way to confirm their understanding of course content. It's understood that the instructor in a given section may choose a different text, but the proposed one is still given close attention. It's expected that the structure of the text will be consistent with the course outline.

Texts don't need to be published in hard copy. The UC and CSU welcome the use of online texts and other Open Educational Resources, so long as the resource is a stable, bona fide textbook, and not just a collection of links to lecture notes or other web pages.
- ⇒ **Courses and recommended textbooks should be current.** Course outlines should reflect contemporary thinking in the discipline, for example by showing a relatively recent date of approval from the department or campus curriculum committee.

Normally at least one text (and for some disciplines, *all* the texts) should have been published within seven years of the submission date (e.g., published in 2003 for course outlines submitted fall, 2010). Older books should be included if they're considered classics in the field. Reviewers make exceptions if the course authors provide a strong rationale.
- ⇒ **Any course outline should contain enough detail to make a decision possible.** Reviewers are asked not to make assumptions based on their own disciplinary background or knowledge of the community college, course topic, or instructor. Among the areas of information submitted, course descriptions are considered least reliable because they're used to market the course to students. Course objectives, methods of instruction, and methods of evaluation are more informative. Listed prerequisites are also good indicators of course content, rigor, and disciplinary grounding.
- ⇒ **Course outlines should make sense to the reviewer.** Occasionally courses are rejected because the course outline is in a language other than English, doesn't match the "cross-listed course" in the OSCAR database, or has gaps or contradictions in the submitted information.
- ⇒ **Course outlines should be in English** -- even when the course isn't.

- ⇒ **IGETC and GE-Breadth decisions should be consistent.** Because transfer students count on courses that meet IGETC standards to work in the CSU Breadth pattern, reviewers will approve courses in GE-Breadth for the sake of consistency. This is true even for courses that were proposed only for IGETC.

Typical reviewer comments applying to all Areas

"This outline contains insufficient detail in the content section for reviewers to determine how the course meets the area requirements."

"Outlines submitted for IGETC course approval must be in English."

"This is primarily a skills course."

"No variable-topics courses (or directed-studies courses) are acceptable for IGETC or GE-Breadth."

"This is primarily an occupation-oriented course."

"This outline is different from the one submitted for the counterpart cross-listed course."

"Courses proposed for IGETC must have a minimum unit value of 3-semester or 4-quarter units."

"Textbook information should include the date of publication."

"The perspective is predominantly humanistic, not social scientific. The course is retained solely in Area C2 of GE Breadth and Area 3B of IGETC."

"The texts appear to be outdated. Outlines with texts more than five years old may be rejected if more recently published texts are appropriate and readily available."

"This course is accepted in Area D5 to maintain consistency with IGETC, as well as Area D3."

"This course is accepted in Area C2 to maintain consistency with its cross-listed counterpart."

CSU GE-Breadth Area A and IGETC Area 1

Communication in the English Language & Critical Thinking

Areas A and 1 emphasize development of students' communication and reasoning skills. These require coursework in "communication in the English language, to include both oral communication and written communication," making them the only areas in the GE patterns that must be taught in English.

1A Written Communication

(GE Breadth Area A2)

Written Communication courses must lead to achievement of the same "freshman composition" objectives as found at most universities. Courses should explore rhetorical principles independent of the application of writing to a specific profession: an advertising department's course in Copy Writing or a journalism department's course in News Writing would not be suitable for Written Communication.

From the IGETC Standards 1.2:

A first-semester course in English reading and written composition must include substantial instruction and practice in expository essay writing at the college level with a minimum of 6,000 words. Courses should also require a substantial amount of reading of significant literature.

Difference in GE Breadth: Area A2 of the GE Breadth pattern has no minimum number of words; however, some number of words should be specified in the course outline.

Reviewers look for evidence of assigned and graded student writing, both in class and as assigned homework.

The course must carry an appropriate prerequisite, such as an SAT score or placement score, distinguishing it from a basic skills class.

Typical reviewer comments applying to Area A2/1A

"Courses in this area must be conducted in English."

"Courses designed exclusively for the satisfaction of remedial composition cannot be counted toward fulfillment of the English composition requirement."

"A revised outline should specify the approximate total number of words (counting only final drafts) that students are expected to write, and should specify writing assignments required in class and outside the classroom."

"Courses in news writing and reporting are excluded from Area A2."

"This course focuses on the development of students' creative writing skills and techniques rather than the development of expository writing, which emphasizes form, content, context, and effectiveness of communication."

1B Critical Thinking and Composition

(GE Breadth Area A3)

The second semester of English composition adds a requirement of critical thinking.

From the IGETC Standards 1.2:

Written work shall be evaluated for both composition and critical thinking. Texts chosen in this area should reflect an awareness of cultural diversity. A minimum of 6000 words of writing is required.

Instruction in critical thinking is to be designed to achieve an understanding of the relationship of language to logic, which should lead to the ability to analyze, criticize, and advocate ideas, to reason inductively and deductively, and to identify the assumptions upon which particular conclusions depend. The minimal competence to be expected at the successful conclusion of instruction in critical thinking should be the ability to distinguish fact from judgment, and belief from knowledge; to use elementary inductive and deductive processes; and to recognize common logical errors or fallacies of language and thought.

Difference in GE Breadth: Area A3 in GE Breadth is a course in critical thinking but not writing. There's no minimum word count, and the course is typically offered by departments of philosophy.

Critical thinking courses include explicit instruction and practice in inductive and deductive reasoning and identification of formal and informal fallacies of language and thought. Literary criticism courses are typically not accepted in this area.

Typical reviewer comments applying to Area A3/1B

"The content section of the outline does not provide enough detail to determine whether all elements of critical thinking required by CSU E.O. 1033 for Area A3 are present (e.g., whether students will be able to advocate ideas effectively and to reason inductively and deductively)."

"This course does not appear to include sufficient explicit instruction and practice in inductive and deductive reasoning or identifying formal and informal fallacies of language and thought."

"Area 1B courses must include evaluation of information."

"Journalism courses are excluded from Area A3."

Reviewers look for courses that develop students' ability to think systematically and identify faulty reasoning, such as:

- ⇒ hasty generalization
- ⇒ non sequitur
- ⇒ false analogies
- ⇒ post hoc arguments
- ⇒ attacks ad hominem
- ⇒ bandwagon appeal
- ⇒ tautology/circular reasoning
- ⇒ either-or fallacies

1C Oral Communication

(GE Breadth Area A1)

Courses must include faculty-supervised, faculty-evaluated practice in communicating orally *in the physical presence of other listeners*. Rhetorical principles must be covered (study of effective communication in formal speeches or social interaction is appropriate, for example). The CSU Communications Departments have asked that course outlines submitted for IGETC Area 1C or CSU GE-Breadth Area A1 be very specific regarding how instruction and evaluation are conducted, so that it may be determined that student presentations will be made in front of faculty and other listeners (not online or recorded).

Interpersonal communications courses are not a natural fit in Area A1, but a few have been made to work by incorporating significant faculty-supervised, faculty-evaluated practice in speaking with others and at least a small component of traditional rhetoric.

Typical reviewer comments
applying to Area A1/1C

“The revised outline will need to specify methods of instruction.”

“Course must include faculty-supervised, faculty-evaluated practice in oral communication presented in front of other listeners (not online or recorded).”

“Rhetorical principles must be covered (study of effective communication in formal speeches or social interaction is appropriate, for example).”

“This course is accepted with reservations about the extent of faculty-supervised, faculty-evaluated practice in oral communication. Reviewers suggest revising the outline.”

A note about Area 1C Oral Communication

The UC system doesn't require Oral Communication. Area 1C has been set aside under the IGTEC pattern so that evaluators can see whether students transferring into the CSU have met this graduation requirement, but the review standards are identical to those for Area A1 Oral Communication in the CSU's GE-Breadth pattern.

CSU GE-Breadth Area B4 and IGETC Area 2

Mathematical Concepts and Quantitative Reasoning

From Executive Order 1033:

Courses in subarea B4 shall have an explicit intermediate algebra prerequisite, and students shall develop skills and understanding beyond the level of intermediate algebra. Students will not just practice computational skills, but will be able to explain and apply basic mathematical concepts and will be able to solve problems through quantitative reasoning.

From the IGETC Standards 1.2:

The Mathematical Concepts and Quantitative Reasoning requirement shall be fulfilled by completion of a one-term course in mathematics or statistics above the level of intermediate algebra, with a stated course prerequisite of intermediate algebra. Courses outside the discipline of math using the application of statistics may be used to fulfill this requirement, as long as the course has intermediate algebra as a prerequisite and knowledge of intermediate algebra is necessary to be successful. An appropriate course in statistics must emphasize the mathematical basis of statistics, probability theory and estimation, application and interpretation, uses and misuses, and the analysis and criticism of statistical arguments in public discourse.

Knowledge relevant to public and private decision making is expressed frequently in quantitative terms, we are routinely confronted with information requiring quantitative analysis, calculation, and the ability to use and criticize quantitative arguments. In addition, many disciplines require a sound foundation in mathematical concepts. The requirement in Mathematical Concepts and Quantitative Reasoning is designed to help prepare students to respond effectively to these challenges. Courses approved to fulfill this requirement must focus on quantitative analysis and the ability to use and criticize quantitative arguments.

Symbolic Logic, Computer Programming, and survey courses such as Math in Society, were deemed unacceptable to fulfill the Mathematical Concepts and Quantitative Reasoning requirement.

Certain courses are always excluded from Area B4:

- ⇒ courses in the history of mathematics
- ⇒ logic and symbolic logic courses
- ⇒ computer programming courses (although Discrete Math offered by a Computer Science department may be acceptable)

Difference from GE Breadth: Math courses developed specifically for students preparing to teach elementary school are excluded from IGETC but acceptable in GE Breadth.

CSU math faculty have asked reviewers to check for inclusion of specific elements of math instruction before granting approval. See the next page for details.

Approving Math Courses for Elementary School Teachers (GE Breadth pattern only)

Math courses designed as part of a teacher preparation or liberal studies curriculum must meet specific criteria to qualify for area B4 of GE Breadth. Faculty have asked that such courses include *all* of these elements listed in the January, 2008 posting of the TCSU math descriptor 120, "Mathematical Concepts for Elementary School Teachers - Number Systems."

Course Topics: In conformity with ESM standards, topics must include, but are not limited to:

1. Basic set theory and logic: set operations, relations and functions, Venn diagrams, DeMorgan's Laws, truth tables, equivalent statements, deductive reasoning, contradictions, tautologies;
2. Numeration systems: history, Hindu-Arabic numeration system, other place values systems, computations in different bases;
3. Integers: structure and basic properties, computational algorithms;
4. Modular arithmetic: operations, divisibility;
5. Basic number theory: prime and composite numbers, prime factorization, fundamental theorem of arithmetic, least common multiple and greatest common divisor;
6. Rational numbers: structure and properties, ratio and proportion;
7. Real numbers: structure and basic properties, arithmetic operations, rational and irrational numbers, decimal representation, number line representation;
8. Patterns and sequences: arithmetic sequences, geometric sequences, mathematical induction.

Student Learning Outcomes: In conformity with ESM standards, course outcomes must include, but are not limited to:

1. Analyze multiple approaches to solving problems from elementary and advanced levels of mathematics, using concepts and tools from sets, functions, and logic.
2. Compare numeration systems, including their historical development, with attention to base numeration systems, exponents, scientific notation, and place values.
3. Evaluate the equivalence of numeric algorithms and explain the advantages and disadvantages of equivalent algorithms in different circumstances.
4. Analyze algorithms from number theory to determine divisibility in a variety of settings, such as different base systems and modular arithmetic.
5. Analyze the structure of least common multiples and greatest common divisors and their role in standard algorithms.
6. Explain the concept of rational numbers, using both ratio and decimal representations; analyze the arithmetic algorithms for these two representations; and justify their equivalence.
7. Analyze the structure and properties of whole, rational, and real number systems; define the concept of rational and irrational numbers, including their decimal representation; and illustrate the use of a number line representation.

Arts and Humanities and Social and Behavioral Sciences

Between them these two areas cover Arts, Humanities, and Social Sciences – the broad middle ground of what most educated people consider liberal learning. Taken together, these two areas have accounted for more than half of all course outlines submitted for general education credit in California.

To ensure the breadth of learning expected of a baccalaureate, it’s important that courses in these two areas be distinguished from each other:

| Study in Arts and Humanities | Study in the Social Sciences |
|---|---|
| ⇒ focuses on the human condition: its limits, potential, and creative expressions | ⇒ uses hard-science techniques of experimentation and empirical evidence to explore human experience |
| ⇒ relies on critical analysis of specific texts or works to support its claims | ⇒ includes explicit use of research and the scientific method |
| ⇒ is “hermeneutic,” <i>i.e.</i> , interpretive, especially of speech or writing | ⇒ employs quantitative and qualitative analysis |
| | ⇒ is likelier to examine groups of people and patterns of behavior than particular artifacts, individuals or idiosyncrasies |

Although the areas are distinct, some disciplines such as Ethnic Studies may comprise significant coursework in both kinds of inquiry, and so count in both areas of general education.

History is among the hardest disciplines to categorize, by historians’ own admission:

Since the 1980s, the discipline of history, which has always straddled the humanities and social sciences, has become more identified with the humanities . . . Indeed, the American Historical Association has recently urged the National Research Council (NRC) to classify history with the humanities in its periodic ranking of departments. For the institutional purposes that motivate the NRC rankings (and the methodologies used for them), the formal shift in category makes sense. But this change of institutional location in the national organization of research should not be understood as an intellectual abandonment of the discipline’s historical association with the social sciences. History should value and maintain its Janus-faced position in the world of scholarship—looking to both the humanities and the social sciences.

-- *The Education of Historians for the Twenty-First Century*
 American Historical Association, 2004

The CSU and UC systems take their cues from the discipline, and tend to categorize history in the humanities. However, if participating institutions submit a history course for approval in Area D/Area 4 Social Sciences and the outline supports the designation, then that’s where the course is approved.

CSU GE-Breadth Area C and IGETC Area 3

Arts, Literature, Philosophy, and Foreign Languages

From the IGETC Standards 1.2:

The Arts and Humanities historically constitute the heart of a liberal arts general education because of the fundamental humanizing perspective that they provide for the development of the whole person. Our understanding of the world is fundamentally advanced through the study of Western and non-Western philosophy, language, literature, and the fine arts.

From Executive Order 1033:

Students will cultivate and refine their affective, cognitive, and physical faculties through studying great works of the human imagination. Activities may include participation in individual aesthetic, creative experiences; however Area C excludes courses that exclusively emphasize skills development.

Students may take courses in languages other than English in partial fulfillment of this requirement if the courses do not focus solely on skills acquisition but also contain a substantial cultural component. This may include literature, among other content.

3A Arts (Art, Dance, Music, Theater)

(GE Breadth Area C1)

Arts include:

- ⇒ visual arts
- ⇒ architecture
- ⇒ interior design
- ⇒ music
- ⇒ dance
- ⇒ theater
- ⇒ film

Studio and performance classes that develop technique or skills alone don't meet the standards established for this area. For C1 in the CSU's GE-Breadth pattern courses must also address aesthetic and cultural study; for the corresponding Area 3A in the IGETC pattern the requirement is stronger; courses must *predominantly* emphasize cultural and/or aesthetic study.

A note to faculty who create courses in this area: beware of emulating arts courses with existing approvals on ASSIST. Approval for arts courses in particular is often "grandfathered in" from years before 1993, when the current review process was put in place. These skills-heavy courses would be unlikely candidates for GE under the current procedure and criteria.

To determine the degree of emphasis on skills acquisition, reviewers look at the time spent in lecture vs. activity (1.5 vs. 4.5 hours per week more than tips the scale to activity-based). For example, community college courses in design and color often carry a heavy lab component to prepare students for immediate employment; this is sound professional preparation but tips the course away from the goals of general education.

On the other hand, a noteworthy course in ceramics did qualify. The outline took a historic approach to the study of ceramics, much as an art appreciation course would. The students created ceramic works only as a reinforcement of the historic/cultural style (*e.g.*, the students produced a ceramic piece in the Japanese raku style after studying the historic and cultural influence of raku).

Special cases:

Music Theory: Music Theory courses are primarily skills-development courses (notation and ear training) and are ordinarily excluded, even if they include some classical compositions.

Film Studies: Film studies courses (as opposed to film production) may qualify for either Arts or Humanities, depending on the focus of the course. Sometimes film is used as a means to study a particular time or culture, making a humanities (area C2 or 3B course) designation appropriate. When the focus is instead on film as a medium of artistic expression, the more appropriate placement is Arts (area C1 or 3A).

The same distinction applies to courses in still photography rather than motion pictures: if the medium is merely the means to examine the human condition, the approval will be in the Humanities area; if the medium itself is the main subject of study, then the approval will be in Arts.

Art for Teachers: Frequently these courses are denied for general education, because they emphasize pre-professional training for educators rather than great works of the human imagination.

Typical reviewer comments
applying to Area C1 *and* 3A

“Performance and studio classes may be credited toward satisfaction of this subject area only if they include the integration of history, theory, and criticism.”

“This course’s strong focus on technical and performance skills precludes its acceptance in Area C1. It is accepted in Area E with the usual unit limitation on physical-activity courses.”

3B Humanities

GE Breadth Area C2

From the IGETC Standards 1.2:

Acceptable Humanities courses are those that encourage students to analyze and appreciate works of philosophical, historical, literary, aesthetic and cultural importance. The faculty of the two segments determined that courses such as English composition, Logic, Speech, Creative Writing, Oral Interpretation, Readers Theater, Spanish for Spanish Speakers, and all elementary foreign language courses were skills or performance courses that do not meet the specifications for IGETC. Advanced foreign language courses were approved if they include literature or cultural aspects. Theater and film courses were approved if they were taught with emphasis on historical, literary, or cultural aspects. The segments will also accept Logic courses if the focus is not solely on technique but includes the role of logic in humanities disciplines.

In determining which of these submissions should qualify under either pattern, reviewers ask:

- ⇒ will students learn to analyze and appreciate works of philosophical and cultural importance?
- ⇒ does the course use canonical or seminal works as pathways to a broader understanding of the human condition?
- ⇒ how will the course help students confidently understand and articulate their own subjective intellectual experiences?

These criteria are key to determining the suitability of courses in a range of disciplines:

- ⇒ **Language courses** should do more than impart vocabulary and rules of grammar; they should use the second language to evoke a sympathetic response to the acquired culture, to help students understand the “other” in the first person.

For most languages courses in IGETC, the course should be equivalent to at least the third year of high school to meet the criteria for Area 3B. Another useful indicator of whether the course exceeds that threshold is in its prerequisite: courses approved for Area 6A under the IGETC pattern are intended to achieve that minimum proficiency level, and so if they're listed as prerequisite to a course submitted for Area C2 in GE-Breadth, then the more advanced course probably has a strong enough cultural component to qualify.

The prerequisite may be stated as:

- ⇒ a community college course that satisfies Area 6A of IGETC
- ⇒ two years of high school study of the language
- ⇒ some other measure of proficiency

There may be a rare exception, however, for a course that (1) is intended for students who may begin just a little below proficiency level, (2) is designed to take them well beyond proficiency level, and (3) includes a significant cultural component.

Difference from GE Breadth: Language courses at the elementary level may be acceptable for Humanities designation under GE Breadth but not IGETC.

Reviewers check to see if the cultural content justifies the qualification – *i.e.*, if it includes more than food, festivals, and holidays.

- ⇒ **Creative writing courses** are acceptable for GE Breadth Area C2 only if they include reading and analysis of respected works of literature. Students should be learning to “read as writers” (focusing on how creative writing is developed, not just how readers interpret what is written), which is a different process than literary criticism. (Note that there is a difference here between the GE Breadth pattern and the narrower IGETC pattern: creative writing courses are *never* accepted for IGETC.)
- ⇒ **Courses in geography, history, and art** may satisfy Area 3B Humanities if the outline indicates a strong cultural content and an exploration of subjective human experience.
- ⇒ **Literature courses** may be disallowed because they are too narrow. A course in a single novel or literary movement (*e.g.*, postmodern American fiction) is probably more suitable for upper-division work, since it may not incorporate literary analysis from a variety of critical perspectives.
- ⇒ **Courses in mass communication or mass media** are not accepted in Area 3B or C2. (However, courses that study the interaction of mass communication and society are often appropriate for social studies.)
- ⇒ **Courses in English as a Second Language** may – despite their focus on proficiency and the acquisition of skills – be advanced enough to meet the objectives of the Humanities Areas C2 and 3B.
- ⇒ **Logic courses** are categorically excluded from Area C2. Such courses are designed primarily to develop students’ reasoning skills, not their appreciation of “great works of the human imagination.”
- ⇒ Depending on their dominant mode of inquiry, **history courses** may be categorized in Area C2 Humanities, Area D6 History, or both.
- ⇒ Courses in linguistics may also be a close call between humanities and social science. In such cases reviewers may take the department prefix (typically Anthropology or English) to suggest which mode of inquiry is dominant.
- ⇒ **Art history courses** are always reviewed in Humanities, not as any of the social sciences in Areas D or 4.

Special Cases for History Courses in GE Breadth: Adding Areas

For each history course it submits, a community college may request GE designation under Humanities, Social Sciences, or both. In most cases reviewers accept that recommendation when categorizing the course.

However, there are several cases where reviewers *add* approval in an area of CSU GE Breadth where the course wasn't originally submitted:

1. **When the course is submitted differently for IGETC approval.** A course submitted under the Humanities area for one pattern but under the Social Sciences area for the other is approved in *both* the Humanities and Social Sciences areas for GE-Breadth. This protects transfer students who expect the IGETC pattern to work the same for both university systems, and switch to the GE-Breadth pattern before transfer.
2. **When the course is in the history of a U.S. ethnic group.** A course like "History of Native Americans" may be submitted in Area D6 History, and approved in Area D6 History *and* Area D3 Ethnic Studies. This facilitates graduation for students enrolled at CSU campuses which individually require coursework in cultural diversity, satisfied by Area D3.
3. **When a humanities-focused history course has been approved under the "U.S. history" objective of the CSU's United States History, Constitution, and American Ideals requirement.** For example, a course in the cultural influences of the major U.S. immigrant populations from 1840 to the present is submitted and approved under Area C2 Humanities, and had prior approval under Area US-1, Historical Development of American Institutions and Ideals. Reviewers will *add* approval under Area D6 History, for transfer students whose pre-major coursework relies on these areas double-counting.

Typical reviewer comments applying to Areas C2 and 3B

"Courses for native (heritage) speakers must emphasize culture and cultural readings in the language rather than a focus on grammar and written language skills exclusively."

"A significant cultural component (including the history and literature of the deaf community) needs to be made evident in the course outline."

"This children's literature course appears to focus too heavily on how to select books for children and how to read them to children, rather than on learning and applying the techniques of literary analysis and criticism to literature written for children."

"This course focuses on the development of students' creative writing skills and techniques rather than the critical analysis of literary genres."

"Mass communication/mass media courses are not accepted in IGETC Area 3B."

"The strong focus on skills and techniques precludes it from being accepted for Area C2."

CSU GE-Breadth Area D and IGETC Area 4

Social, Political, and Economic Institutions & Behavior; History

From CSU Executive Order 1033:

Students learn from courses in multiple Area D disciplines that human social, political and economic institutions and behavior are inextricably interwoven. Through fulfillment of the Area D requirement, students will develop an understanding of problems and issues from the respective disciplinary perspectives and will examine contexts. Students will explore the principles, methodologies, value systems and ethics employed in social scientific inquiry. Courses that emphasize skills development and professional preparation are excluded from Area D. Coursework taken in fulfillment of this requirement must include a reasonable distribution among the subareas specified, as opposed to restricting the entire number of units required to a single subarea.

From the IGETC Standards 1.2

The pattern of coursework completed shall ensure opportunities for students to develop understanding of the perspectives and methods of the social and behavioral sciences. Problems and issues in these areas should be examined in their contemporary, historical, and geographical settings. Students who have completed this requirement shall have been exposed to a pattern of coursework designed to help them gain an understanding and appreciation of the contributions and perspectives of men, women and of ethnic and other minorities and a comparative perspective on both Western and non-Western societies. The material should be presented from a theoretical point of view and focus on core concepts and methods of the discipline rather than on personal, practical, or applied aspects.

For this area, reviewers look in particular for evidence that:

- ⇒ students will learn how to practice social science, and not just understand what social scientists have concluded.
- ⇒ the course has a specific disciplinary focus. Because the Standards and the Executive Order both require coursework in more than one subarea, it's important for each course to keep a distinct, discipline-based perspective. Often the choice of textbook is used as evidence of this.
- ⇒ the course leads to a broad understanding of social science, and not just the discipline within it. In the words of one reviewer, "it has to look like Area D, not just Area D3."
- ⇒ students are learning more than pre-professional skills. At the extreme, courses proposed for GE social science can look too much like training for careers in criminal justice or social work, with learning objectives different from those of general education.

Areas D and 4 group disciplines into ten subareas:

4A Anthropology & Archaeology

GE Breadth Area D1

4B Economics

GE Breadth Area D2

4C Ethnic Studies

GE Breadth Area D3

Ethnic studies courses must focus on one or more ethnic groups in the U.S. Courses with a focus outside the U.S. and that integrate anthropological perspectives, theories, and methods may qualify for Area 4A (Area D1 under GE Breadth).

4D Gender Studies

GE Breadth Area D4

Ethnic Studies or Gender Studies courses emphasizing artistic or humanistic perspectives (rather than social scientific analysis) are categorized in Areas 3B and C2.

4E Geography

GE Breadth Area D5

Many geography department courses fit here, but depending on the emphasis courses may be better suited to the physical sciences or life sciences (GE-Breadth Area B or IGETC Area 5).

4F History

GE Breadth Area D6

For a number of reasons, course approvals for this area of GE-Breadth may be affected by approvals in IGETC or American Institutions.

4G Interdisciplinary Social or Behavioral Science

GE Breadth Area D7

Interdisciplinary courses must specify which disciplinary perspectives are informing the course (through readings, coverage of theory and methods, and texts specific to the discipline). Interpersonal communication courses that draw on theories of psychology, sociology, and gender studies may be placed here.

4H Political Science, Government, and Legal Institutions

GE Breadth Area D8

These courses focus on social scientific analysis of the *institutions* responsible for law enforcement, justice, and corrections. Courses that emphasize *individual* criminal behavior are considered for Area 4J/D0, below, and those that prepare students for specific professions are excluded from GE-Breadth.

4I Psychology

GE Breadth Area D9

It's particularly important that psychology courses focus on the methods, approaches, and foundations of the discipline. At their weakest, submissions in Areas D9/4I may appear like self-help classes: how to be happy in marriage, conflict resolution for teens, etc.

Research Methods courses (often created by faculty in psychology or sociology) should include both the methodology of the discipline and basic social science theories and principles. If they are purely a methodology course emphasizing research strategies,

techniques, and use of statistics, then they may not have the requisite breadth for general education.

4J Sociology and Criminology

GE Breadth Area D0

Criminology courses should focus on social scientific analysis of the etiology (causation) of crime and criminal behavior, rather than emphasizing professional skills. Note also the distinction from courses in Criminal Justice, which focus on the institutions responsible for law enforcement, justice, and corrections), and are categorized within Political Science (Area D8).

In this area, reviewers are especially careful with Administration of Justice courses. The critical distinction is whether or not the course deals with the theory beyond criminal behavior. Sometimes the term “criminology” means procedures (not theory) so those courses are denied; at other times “criminology” is meant to include the theory behind the crime, and so the course is approved.

Typical reviewer comments applying to Areas D1-D0 *and* 4A-4J

“This course emphasizes the application of social scientific findings in an occupationally oriented context, rather than principles, theories, and methods of social science.”

“Most of the course appears to be devoted to career-oriented teacher preparation, rather than social scientific concepts, theories, and methods.”

“The sociological perspective makes the course more appropriate for Area 4J than Area 4I.”

“With no prerequisites or co-requisites in archaeology or anthropology to provide a conceptual and theoretical context, this course’s attention to archaeological methods is not sufficiently grounded in disciplinary perspectives to meet the objectives of Area D1.”

“This course appears to concentrate on the development of students’ communication skills rather than on social scientific principles, theories, and research methods. Its objectives are more appropriate for Area A1, but A1 courses cannot be specific to a single field of study (in this case, Business).”

“The course outline does not make clear how sociological concepts, theories, and methodology underlie the examination of marriage and the family as social institutions.”

“This course is also accepted in CSU GE Area D3 to reflect its focus on an ethnic group (ethnic populations) in the United States.”

CSU GE-Breadth Areas B1-B3 and IGETC Area 5

Physical and Biological Sciences

These areas of IGETC and GE Breadth call for three kinds of coursework: physical science lecture, life science lecture, and a lab associated with a lecture.

From the IGETC Standards 1.2:

Courses [in physical and biological sciences] must emphasize experimental methodology, the testing of hypotheses, and the power of systematic questioning, rather than only the recall of facts. Courses that emphasize the interdependency of the sciences are especially appropriate for non-science majors.

The contemporary world is influenced by science and its applications, and many of the most difficult choices facing individuals and institutions concern the relationship of scientific and technological capability with human values and social goals. To function effectively in such a complex world, students must develop a comprehension of the basic concepts of physical and biological sciences, and a sophisticated understanding of science as a human endeavor, including the limitations as well as the power of scientific inquiry.

From CSU Executive Order 1033:

In subareas B1-B3, students develop knowledge of scientific theories, concepts, and data about both living and non-living systems. Students will achieve an understanding and appreciation of scientific principles and the scientific method, as well as the potential limits of scientific endeavors and the value systems and ethics associated with human inquiry.

Courses in these subareas of Areas B and 5 emphasize the perspectives, concepts, principles, theories, and methodologies of the scientific disciplines. Those that have built-in laboratory activity may also qualify for Area B3, so long as the course outline clearly distinguishes the laboratory activity from the lecture.

Some but not all course outlines submitted for these areas will refer to “the scientific method.” Implicit inclusion of the scientific method is acceptable, especially for courses designed for students majoring in science. EO 1033 refers to “methodologies of science as investigative tools,” so Area B/5 courses should enhance students’ appreciation of how scientists do science, not just what scientists have concluded.

This distinction of learning not just the conclusions of scientists but also *how science is practiced* is the key to making review decisions in a few special cases:

⇒ **Multi-disciplinary and interdisciplinary science courses.** Some community colleges have designed courses to meet California’s credentialing standards for prospective elementary school teachers, who will need to know something about geology, astronomy, physics and chemistry. These “do-it-all” courses are usually acceptable, so long as they address science as a way of intellectual inquiry.

Organic chemistry courses may also strike reviewers as interdisciplinary, but are ordinarily categorized in B1/5A Physical Science, where the subject is frequently housed and taught.

- ⇒ **Physical geography courses.** These are almost always accepted in Area B1. (Other kinds of geography course are closer to the social sciences and are instead approved in Area D5.)
- ⇒ **Physical anthropology courses.** Depending on the emphasis, a course in physical anthropology may belong with other biological sciences in Area B2.
- ⇒ **Lower-division major preparation courses.** These may work unless they're too narrow; the question is whether students will achieve the "science literacy" expected of educated citizens in any profession.

In defining "science literacy" for an educated populace, science faculty from across the CSU agreed to this definition and course-scoring rubric, which reviewers of community college courses may find helpful:

A student who achieves science literacy through a course that satisfies a general education science requirement must master literacy in understanding both:

- (a) science as the system of reasoning—the acquisition of testable knowledge of the physical world, including explanations of the phenomena and
- (b) the minimal foundational concepts and content of the science discipline(s) addressed by the course.

This rubric addresses "a":

| Unacceptable | Minimally acceptable | Very Acceptable | Ideal |
|--|-------------------------|-------------------------|------------|
| Item 13 only or item 13 plus omission of any items 1-7 | Items 1-7, plus Item 13 | Items 1-10 plus Item 13 | Items 1-13 |

Learning Outcomes for Science Literacy in Science as a Framework of Reasoning in an Introductory Course

1. Student can articulate in her/his own words a reasonable definition for what constitutes science.
2. Student can describe, using at least two specific examples, how science literacy is important in everyday life to an educated person.
3. Student can explain why the attribute of doubt has value in science.
4. Student can explain how scientists select which among several competing working hypotheses best explains a physical phenomenon.
5. Student can explain how "theory" as used and understood in science differs from "theory" as commonly used and understood by the general public.
6. Student can explain why peer review generally improves our quality of knowing within science.
7. Student can explain how science uses the method of reproducible experiments to understand and explain the physical world.
8. Student can name one assumption that underlies all science.
9. Student can provide two examples of science and two of technology and use these to explain a central concept by which one can distinguish between science and technology.
10. Student can cite a single major theory from one of the science disciplines and explain its historical development.
11. Student can explain and provide an example of modeling as used in science.
12. Student can explain why awareness of ethics becomes increasingly important to a society becoming increasingly advanced in science.
13. Student can meet the minimal learning outcomes specified by the discipline that address the major ideas, concepts and content of the science discipline. *The arbiter of "specified by discipline" might range from locally at the scale of a department to internationally as specified by the larger profession.*

Typical reviewer comments
applying to Areas B1 *and* 5A and Areas B2 *and* 5B

“This course emphasizes professional applications of chemistry rather than science as an investigative tool; it does not address sufficiently the principles, theories, and methodology of chemistry.”

“Because the course emphasizes technical skills rather than the scientific principles and theories of physical or cultural geography, it is appropriate for neither Area 5A nor Area 4E.”

“Science courses should cover basic scientific principles and not just include memorization of facts or skills practice.”

“The college is urged to revise the outline to distinguish clearly the laboratory activities from the content of the lectures.”

Laboratory Activity

Courses meeting the requirements of this subarea must be associated with a lecture component, either built into the laboratory section itself or connected as a co-requisite or prerequisite. It's especially important for colleges to clearly delineate laboratory activity from the lecture: a list of topics to be covered in the lab sections is seldom enough to tell reviewers whether the activity warrants the additional lab approval. Reviewers rely in particular on the choice of textbook, checking that it's appropriate for a course with lab activities.

When a participating institution submits a science course that includes both lecture and lab, it may be approved for GE Breadth Areas B1 & B3 as a pair, or Areas B2 & B3 as a pair – even if the institution didn't request placement in Area B3.

Stand-alone lab courses are designated B3 only, and *only* when associated with a lecture course as either a pre- or co-requisite.

Laboratory courses offered entirely online are held to particularly close scrutiny. University science faculty have instructed reviewers to be sure such delivery doesn't compromise learning objectives that are met by in-person instruction. For the time being, all such submissions are referred to discipline faculty for further review.

Typical reviewer comments
applying to Area B3

“Lecture-and-Lab science outlines should distinguish lecture content from lab activity.”

“This course is accepted in Area B3, to reflect the laboratory component, as well as in Area B1.”

“This laboratory course is acceptable in Area B3 only if the corresponding lecture is adopted as its pre- or co-requisite.”

GE-Breadth Area E (CSU only)

Lifelong Learning and Self-Development

Courses that meet the learning objectives of Area E draw on findings from the biological, behavioral, and social sciences to study humans from psychological, sociological, and physiological perspectives.

From Executive Order 1033

A minimum of three semester units or four quarter units in study designed to equip learners for lifelong understanding and development of themselves as integrated physiological, social, and psychological beings.

Student learning in this area shall include selective consideration of content such as human behavior, sexuality, nutrition, physical and mental health, stress management, financial literacy, social relationships and relationships with the environment, as well as implications of death and dying and avenues for lifelong learning. Physical activity may be included, provided that it is an integral part of the study elements described herein.

With the exception of courses in physical activity (detailed below), reviewers expect courses in Area E to include three kinds of inquiry:

- ⇒ **Sociological:** in this context, the relationships between an individual and broader society.
- ⇒ **Physiological:** the human body as an integrated organism with systemic functions such as movement, nutrition, growth, reproduction, and aging.
- ⇒ **Psychological:** the study of the mental processes that create consciousness, behavior, emotions, and intelligence.

Any single course should address all three – though not necessarily with equal emphasis. Submissions in this area fail when they focus on a single learning skill (e.g. library use, computer literacy, first aid, or study skills for college success).

Second, any course submission should address all three areas for *more than a few years of a human lifespan*. The consideration doesn't need to extend from cradle to grave, but study should include more than early childhood or the octogenarian experience, in order to provide the breadth expected of general education.

Conversely, child development courses that meet criteria for Area E are often designated Area D7/4G Interdisciplinary Social Sciences.

Physical Activity

Physical activity courses (except for special-topics or directed studies courses) are acceptable in Area E, if the students move and are instructed (or supervised or coached) by a faculty member or a designee when doing so. Faculty supervision is essential. Varsity sports may be included, and so may basic training in the military, in cases where they are awarded academic credit.

However, students may not complete Area E using only physical activity courses. Participating institutions are asked to limit the number of physical-activity units they count when certifying a student for Area E.

(Note the wording: a community college may offer a three-semester-unit class in badminton and qualify it for Area E; it just can't apply all three units to a student's Area E certification.)

Military Service

CSU Executive Order 1036 encourages campuses to use evidence of military training to satisfy Area E for their students who enroll without a prior certification in GE. Typically the evidence is the completion of basic training as listed on the veteran's discharge papers, Form DD-214. All CSU campuses have elected to honor GE Breadth transfer certifications that clear Area E Lifelong Learning with a DD-214.

Typical reviewer comments applying to Area E

"This course is accepted in Area E with the usual unit limitation on physical-activity courses."

"For physical-activity courses to qualify for Area E, the activity has to be under the supervision of the instructor (or appropriately qualified staff members working with the instructor)."

"It is not clear that an instructor or qualified assistant observes the students' physical activity and provides instruction, supervision on the students' performance."

"Attention to the integration of physiological, psychological, and social considerations does not appear to be sufficient; most of the course appears to be devoted to college-specific material, study skills, and educational planning."

"Courses that teach specific job skills are not considered appropriate for Area E."

"This course does not appear to integrate physiological, psychological, and sociological study to a sufficient extent to qualify for Area E."

"Child development courses qualify for Area E only if they cover birth through adolescence."

"Although there is some mention of "behavior" in the outline, the extent to which the course integrates psychological and socio-cultural considerations with its physiological content is not clear."

"Although this course has some topics that draw clearly on findings and principles of psychology and sociology, it hardly touches on physiological (e.g., health) considerations and appears to be devoted to too great an extent to college-specific material and educational planning."

There is no IGETC Counterpart to Area E.

Students using the IGETC pattern to meet their lower-division general education before transfer to the CSU are exempted from this systemwide requirement.

IGETC Standards Area 6A (UC only)

Language Other Than English

Courses approved for this area are deemed “proficiency,” *i.e.*, equivalent to two years’ high school foreign language. This means that language courses above this level could in theory have a strong enough cultural component to qualify under Area C2 in GE-Breadth (or Area 3B in IGETC).

Some UC campuses and departments may require more than two years of language proficiency; students should check with the receiving campus to determine whether a course satisfying IGETC Area 6A will clear the entire requirement in a Language Other Than English.

From the IGETC Standards 1.2:

Students shall demonstrate proficiency in a language other than English equal to two years of high school study. Those students who have satisfied the UC freshman entrance requirement in a language other than English will have fulfilled this requirement. This requirement may also be satisfied by demonstration of equivalent proficiency prior to transfer.

Language courses should provide instruction in the written and oral language as well as history and cultural traditions of the country associated with the language studied. Languages other than English for Native Speakers are appropriate for transfer. Courses primarily conversational must have as a prerequisite a course equivalent to the third year of high school study or one year of college level in the language. Also, the content of conversation courses should not be primarily business or travel-oriented.

CSU “American Institutions” (CSU only)

U.S History, Constitution, and American Ideals

The CSU’s graduation requirements in American Institutions are established in Executive Order 405, separately from the areas of GE Breadth. EO 405 created policy to implement Title 5 Section 40404 of California’s Civil Code, which calls for study in three areas:

1. The historical development of American institutions and ideals (Area US-1),
2. The Constitution of the United States and the operation of representative democratic government under that Constitution (Area US-2), and
3. The process of California state and local government (Area US-3).

While the Executive Order doesn’t set a unit or course minimum for these areas, it’s unusual for a single course to adequately address all three. Instead participating community colleges submit a sequence of courses – typically including courses from their history and/or political science departments – that together meet the graduation requirement in American Institutions.

Following the executive order, reviewers use these criteria for each of the three areas:

Area US-1: American History

Students are expected to learn significant events from U.S. history, as follows:

- ⇒ covering a minimum time span of approximately one hundred years
- ⇒ occurring in the entire area now included in the United States of America
- ⇒ including the relationships of regions within that area and with external regions and powers
- ⇒ the role of major ethnic and social groups
- ⇒ the “continuity of the American experience” (i.e., not a string of isolated events) and its derivation from others cultures, including study of politics, economics, social movements, and/or geography (at least three of the four)

Area US-2: The U.S. Constitution

Course outlines should reflect content that teaches:

- ⇒ the political philosophies of the framers of the Constitution
- ⇒ the operation of United States political process and institutions under the U.S. Constitution
- ⇒ the rights and obligations of individual citizens in the political system established under the Constitution

Area US-3: California State and Local Government

Courses in this area will address:

- ⇒ the Constitution of the State of California
- ⇒ the nature and processes of California state and local government
- ⇒ the relationships between the U.S government and California’s state and local governments

Notice that these criteria are extremely detailed. Good courses are often turned down, as reviewers have to consider not only their quality but also how closely they meet these exact criteria, as set by administrative law and CSU policy.

Typical reviewer comments applying to American Institutions

“The outlines will have to be revised to include considerably more information about the courses’ coverage of the U.S. and California state constitutions and the nature and processes of the federal, state, and local governments.”

“The course content section of the outline does not address the political philosophies of the framers of the U.S. Constitution or the Constitution of the State of California”

“The course content appears to focus largely on the American Southwest, not the entire area now comprising the U.S.”

“This course covers a time span of 62 years, which is considerably less than the 100-year time span that is expected of courses meeting the historical elements of the requirement.”

“This course in the history of Armenian Americans is too narrowly focused on a single population to qualify for US-1.”

ELECTRONIC BIBLIOGRAPHY

These notes are available on-line at www.calstate.edu/app/general-ed-transfer.shtml.

The documents cited in these Guiding Notes are those in effect as of January, 2011. Readers are encouraged to refer to online sources, as these references are often revised or superseded.

General Education Breadth, IGETC, and American Institutions

- ⇒ IGETC Standards 1.2
www.ccctransfer.org
- ⇒ CSU Executive Order 1033: General Education Breadth
www.calstate.edu/eo/EO-1033.pdf
- ⇒ CSU Executive Order 405: American Institutions
www.calstate.edu/eo/EO-405.pdf
- ⇒ Guiding Notes for General Education Course Reviewers
www.calstate.edu/app/general-ed-transfer.shtml

Courses and Articulation in California

- ⇒ ASSIST
www.assist.org
- ⇒ College Catalogs
www.collegesource.org
- ⇒ California Community Colleges and Districts
www.cccco.edu

Transferability of Baccalaureate-Level Coursework

- ⇒ CSU Executive Order 167: Transfer of Credit
www.calstate.edu/eo/EO-167.pdf
- ⇒ Working Definition of Baccalaureate Credit (Faculty Senate Resolution of 1987)
www.calstate.edu/app/general-ed-transfer.shtml

SAMPLE COMMUNITY COLLEGE OUTLINES

On the remaining pages of these Guiding Notes are three course outlines that recent reviewers found noteworthy, and which the community colleges agreed to share as part of this guide. Each one successfully addresses a particular challenge in designing courses for general education in California's public universities:

Cerritos College Art 113: Art, Science, and
Technology in Culture and Society

- interdisciplinary, but clearly
meets the criteria for at least one
area of IGETC and GE Breadth

El Camino College Anatomy and Physiology 34A,
Anatomy & Physiology I

- clearly delineates lecture and lab
activity

Orange Coast College Chinese A180: Elementary
Chinese

- clear incorporation of cultural
elements despite the elementary
level of language acquisition

CERRITOS COLLEGE

Norwalk, California

COURSE OUTLINE

ART 113

ART, SCIENCE, AND TECHNOLOGY IN CULTURE AND SOCIETY

Approved by the Curriculum Committee on: February 26, 2009

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Instructor

Reviewed by:

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Revised/reviewed: NA

Content review: 2-26-09

Distance Education: 2-26-09

- I. Catalog description
 - A. Course description

This course is an overview of the intersections between art, science, and technology, as well as their broader impact on, and interaction with, visual and material culture. Areas of focus will include the social impact of scientific innovations, technology-driven art, and art/science collaborative projects, including discussions of code-based and algorithmic art, data visualization, robotic and interactive art, machine aesthetics, body modification and cyborg experiments, ecological and environmental art, conceptual Internet projects, culture jamming and hacktivist art, game art and virtual reality, surveillance art, and tele-presence and locative media.
 - B. Class hours: 3 lecture
Units: 3
 - C. Prerequisite: None
Corequisite: None
 - D. Recommendation: ENGL 52 and READ 54 or equivalent with grades of Pass or “C” or higher.

- II. Texts and other instructional materials
 - A. Required texts

Paul, Christiane. Digital Art. 2nd ed. New York: Thames, 2008.
Strosberg, Eliane. Art and Science. New York: Abbeville, 2001.
Wilson, Stephen. Information Arts: Intersections of Art, Science, and Technology. Cambridge: MIT P, 2002.
 - B. References
None
 - C. Required materials
None

- III. Course content
 - A. Art and science: two cultures / shared histories
 - 1. Measurement and proportion
 - a. Classical models and Renaissance anatomical studies
 - b. The golden section and the Fibonacci sequence
 - c. The visualization of biometrical data
 - 2. Humanism and perspective
 - a. The Copernican system and the Renaissance perspectival observer
 - b. Einsteinian relativity and multipoint perspective
 - 3. Harmony and chaos
 - a. The formulaic universe
 - 1. Harmony of the spheres and idealized representation
 - 2. Enlightenment classification and the visualization of types
 - b. Pattern and noise
 - 1. Chaos theory and complex abstraction
 - 2. Network theory and the representation of movement

- III. Course content (continued)
 - B. The science of art history: interpretation and technology
 - 1. Carbon-dating and the construction of historical chronology
 - 2. Chemical analysis and the understanding of medium
 - 3. X-Ray vision: seeing beneath the surface
 - 4. Museum and archival informatics
 - C. The art history of science: mediated knowledge and devices of wonder
 - 1. The camera obscura
 - 2. The telescope
 - 3. The microscope
 - 4. Radiography
 - 5. MRI and CAT scans
 - D. Code-based and algorithmic art
 - 1. Mathematics: formulas and patterns
 - 2. Abstraction and complexity
 - 3. Turing and Babbage: setting the rules
 - 4. Chance and the avoidance of authorship
 - 5. Coding self-generative art
 - 6. Reading code as active text: critical code studies
 - 7. Interactive art and artificial intelligence
 - 8. Swarm intelligence, cybernetics, and the autoverse
 - 9. Bugs, virus, and Trojans: the aesthetics of failure
 - E. Data visualization
 - 1. Early graphic design and communication
 - 2. Software-based processing of data
 - 3. Aggregated data representations
 - 4. Participatory data and mapping social networks
 - F. Machine aesthetics
 - 1. Modernism and industrial materials
 - 2. Art movements: from Futurism to Steampunk
 - 3. Apocalyptic visions in popular media
 - G. Robotics and interactive art
 - 1. Ancient automatons
 - 2. Automation and mass production
 - 3. Conceptual kinetics and electronics
 - 4. Installations and sound sculpture
 - 5. (Self-)destructive machines
 - 6. Motion, gesture, touch, gaze, manipulation, and activated objects
 - 7. Visualizing robotics in popular media
 - H. Body modification and cyborg experiments
 - 1. Preserving the body
 - a. Mummification
 - b. Plastination
 - c. Bone, tissue, and skin: the body as artistic material
 - 2. Dissecting the body
 - a. Renaissance dissection

- III. Course content (continued)
 - b. Mind/body debates and extropian dreams
 - c. Representing DNA maps and cloning
 - d. Digital networks and data doubles
 - e. Invasion of the body with nanotech
 - 3. Extending the body
 - a. Prosthetics and cyborg theory
 - 1. Physical extensions
 - 2. Cognitive extensions
 - b. Body modification
 - 1. Nip/tuck: born vs. made
 - 2. Neo-primitives: piercing, tattooing, and scarification
 - I. Ecological and environmental art
 - 1. Land art
 - 2. Reclamation projects
 - 3. Ephemeral materials from nature: light, lightning, water, and wind
 - 4. Visualizing space in popular media
 - J. Computer-based and Internet art
 - 1. ASCII art
 - 2. Net.art
 - 3. Email-based art projects
 - 4. Cyberfeminism and gender production online
 - 5. Collective and distributed projects
 - 6. Hypertext narrative and rhizomatic navigation
 - K. Culture jamming and hacktivist art
 - 1. Denial of service: interventions in the circuits of power
 - 2. Remix/reuse: appropriation and remediation
 - L. Game art and virtual reality
 - 1. Life on the screen
 - a. Textual: MUDs and MOOs
 - b. Representational: Sims and Second-life
 - 2. Hacking the game: conceptual art hacks
 - 3. Machinima
 - 4. Fanime and cosplay
 - M. Surveillance art
 - 1. The Machinic gaze: theories of surveillance
 - a. The disciplinary society: Foucault and the panopticon
 - b. The control society: De Landa and the panspectron
 - 2. Camera play: countering the surveillant eye
 - N. Tele-presence and locative media
 - 1. Phenomenology and virtualization
 - a. Tele-presence
 - b. Tele-absence
 - 2. The digital flaneur and the production of space
 - a. The Situationist International
 - b. Psychogeography projects

- III. Course content (continued)
 - c. Audio tour: from the Walkman to the iPod
 - d. Cartography and global positioning systems

- IV. Course objectives
 - A. Analyzing terminology used in technologically-based art history and criticism
 - B. Analyzing the social impact of science and technology as explored in various historic and contemporary art projects.
 - C. Recognizing the influence that materials and technologies have on the creative process
 - D. Recognizing the importance of visual culture in the construction of scientific theories
 - E. Examining the cultural theories that have shaped artistic and scientific production
 - F. Examining the historical significance of science and technology on the process and production of major art movements
 - G. Examining how new technologies create new visual and material cultures

- V. Assignments
 - A. Reading
 - 1. Textbooks
 - 2. Selected readings on reserve in the library
 - B. Writing or problem solving or skill attainment
 - 1. Written essays
 - 2. Course journal
 - 3. Research paper
 - C. Critical thinking
 - 1. Compare and contrast the formal and symbolic languages of new media and technology-based art
 - 2. Analysis of cultural context on artistic production of new media and technology-based art
 - 3. Analysis of "unknowns"

- VI. Methods of instruction may include
 - A. Lecture (text and podcasts)
 - B. Online discussion boards and email correspondence
 - C. Image and video material to support instruction
 - D. Museum and gallery visits to experience works of art
 - E. Periodic review sessions to assist student preparation for quizzes
 - F. Cooperative learning and group projects
 - G. Technology mediated instruction which could include online, televised, or other delivery methods - the instructor will make available alternative methods of instruction for students with disabilities when access is not compatible with the person's disability

- VII. Methods of evaluation
 - A. Midterms

VII. Methods of evaluation (continued)

- B. A written research paper
- C. Final examination

VIII. Learning outcome

The student will demonstrate the ability to recognize different new media and technology-based works of art through a slide identification test. The student will also demonstrate through a written analysis the social, political, and cultural conditions within which the work of art was made. This analysis will also demonstrate the ability to critically assess the relationship between form and content in new media and technology-based art.

**EL CAMINO COLLEGE
COURSE OUTLINE OF RECORD**

I. COURSE DESCRIPTION

Course Title and Number: Anatomy and Physiology 34A

Descriptive Title: Anatomy and Physiology I

Discipline: Life Sciences

Division: Natural Sciences

Course Length: Full Term Other (specify): _____

Hours Lecture: 3 Hours Laboratory: 5 Course Units: 4

Grading Method: Letter Credit/No Credit Both No Grade

Course Type: Credit, Degree Applicable Credit, Not Degree Applicable Non-Credit

Transfer CSU: Yes Effective Date _____ No

Transfer UC: Yes Approval Date _____ Pending No

Conditions of Enrollment:

Specify Prerequisite, Corequisite, Recommended Preparation, Enrollment Limitation or None.

Prerequisite: Chemistry 4, Chemistry 20, or Chemistry 21A, or equivalent or concurrent enrollment

Catalog Description:

This is the first semester of the two-semester Anatomy and Physiology lecture and lab course. It is an in-depth course examining major organ systems, their morphology and functions as well as some of their common pathologies. Topics include an introduction to the human body, chemical and biochemical principles, cell morphology and function, cell division, genetics and histology. In the first semester, the students study the integumentary, skeletal, and muscular systems, as well as the first half of the nervous system. Laboratory investigations include models of the human body and dissection of higher vertebrates, in addition to physiological experiments. The course is designed for science, health-related, pre-nursing (Bachelor of Science in Nursing), and pre-professional majors.

II. COURSE OBJECTIVES

List the major objectives of the course. These must be stated in behaviorally measurable terms.

Upon successful completion of this course, the student should be able to:

1. Demonstrate mastery of the microscope and be able to identify the cellular structures and tissues for all the systems covered.
2. Demonstrate an understanding of the interaction of chemical and physiological processes in cells and the body systems examined.
3. Identify all major anatomical structures in cells and tissues, as well as the integumentary, skeletal, muscular, and nervous systems.
4. Demonstrate an understanding of the physiological process and how they interact with the morphologies of the above systems.
5. Describe clinical disorders related to the topics discussed, as well as current treatments.
6. Explain how the systems work together as a whole, and methods whereby the body maintains homeostasis.

III. OUTLINE OF SUBJECT MATTER

The topics should be detailed enough to enable an instructor to determine the major areas that should be covered and so that the course may have consistency from instructor to instructor and semester to semester.

| Approximate Time in Hours | Major Topics |
|---------------------------|--|
| Lecture 2 | Introduction to the Human Body <ol style="list-style-type: none">1. Identify body regions, quadrants, planes, sections, and cavities2. Identify surface anatomy and directional terms3. Name levels of organization and clinical diagnostic methods4. Name all organ systems, including their general functions and related organs5. Understand the general mechanisms for homeostasis including components of feedback loops |
| Lab 6 | Lab Activities <ol style="list-style-type: none">1. SI system and computations lab2. Human models, cell models |
| Lecture 2 | Inorganic Chemistry <ol style="list-style-type: none">1. Identify structures of the atom, isotopes, components of molecules, and chemical bonds2. Describe the structure of water and its properties |
| Lab 4 | Lab Activities <ol style="list-style-type: none">1. Model building lab |
| Lecture 4 | Biochemistry <ol style="list-style-type: none">1. Identify the four major biomolecules and their properties and sources, including biosynthesis and degradative reactions2. Describe properties and mechanics3. Explain the formation of ATP via cellular respiration (aerobic/anaerobic) |

| | |
|-----------|--|
| Lab 4 | Lab Activities <ol style="list-style-type: none">1. Organic model building lab2. Computer simulation on organic chemistry and biochemistry |
| Lecture 4 | Cell Structure and Function <ol style="list-style-type: none">1. State and describe the function of each cell organelle2. Explain the following processes: diffusion, facilitated diffusion, osmosis, active transport (primary/secondary), pinocytosis, phagocytosis, exocytosis3. Describe cell to cell communication processes and receptor types |
| Lab 8 | Lab Activities <ol style="list-style-type: none">1. Microscope Lab2. Cell models and cell slides3. Biological process wet lab4. Computer simulation on cell transport |
| Lecture 2 | Cell Division <ol style="list-style-type: none">1. Describe, compare, and contrast the phases of mitosis and meiosis |
| Lab 4 | Lab Activities <ol style="list-style-type: none">1. Mitosis and meiosis models and slide series |
| Lecture 4 | Genetics <ol style="list-style-type: none">1. Discuss the structures of DNA and RNA2. Explain the processes of replication and protein synthesis |
| Lab 8 | Lab Activities <ol style="list-style-type: none">1. Genetic heredity labs2. Genetic problems |
| Lecture 6 | Histology <ol style="list-style-type: none">1. Recognize the basic histological tissues (epithelial, connective, muscular, and nervous) and describe their characteristics, functions, and locations2. Utilize the light microscope to view specimens and demonstrate proper microscope care |
| Lab 6 | Lab Activities <ol style="list-style-type: none">1. Tissue slides and models |
| Lecture 4 | Integumentary System <ol style="list-style-type: none">1. Describe the components and specific functions of the integument and accessory structures2. Associate the functions of integument structures with other organ systems3. Explain the homeostatic mechanisms related to integumentary system4. Explain why the histology of the epidermis is well suited for its function5. Analyze the benefits of skin being a multilayer organ6. Analyze the changes in skin structure and function that occur with aging |

Lab 4

Lab Activities

1. Skin models and skin slides

Lecture 6

Skeletal System

1. Identify the bones, their landmarks and functions
2. Classify joints and recognize features and functions
3. Compare and contrast the function of osteoblasts and osteoclasts during bone growth, repair, and remodeling. Include endochondrial and intramembranous ossification
4. Hormonal regulation of osteogenic processes
5. Contrast the remodeling/growth processes of a child (birth to adolescence) and adult (middle to old age)

Lab 12

Lab Activities

1. Slides and models of bones and joints
2. Human skeletons (articulated and disarticulated)

Lecture 7

Muscular System

1. Identify major skeletal muscles of the human body including flexors and extensors of the neck, thorax, hip, knee, ankle, shoulder, elbow, and wrist
2. Describe the terms: prime mover (agonist), antagonist, synergist and fixator
3. Explain in detail all the anatomically and chemical events which occur in muscle contractions
4. Compare and contrast the characteristics in histological structures of all three muscle types
5. Describe the anatomy of a neuromuscular junction
6. Discuss the nature of a simple muscle twitch, summation, tetanus, and fatigue
7. State the properties of isotonic contractions, isometric contractions, and work

Lab 16

Lab Activities

1. Dissection – Identify the major skeletal muscles of the cat
2. Classroom models of all muscle systems
3. Computer simulation on animal muscle physiology
4. Computer-assisted lab on human muscle physiology

Lecture 5

Nervous System Introduction

1. Classify adult derivatives of the nervous system with respect to their embryological region of origin
2. Differentiate between the function and structure of the central, peripheral, and autonomic divisions of the nervous system
3. Describe the structure and function of neurons and glial cells
4. Classify neurotransmitters and explain how they are released at the synaptic cleft
5. Explain the processes of neuronal signaling including the effects of electrical and chemical gradients and potentials
6. Compare and contrast types of potentials and conduction

Lab 6

Lab Activities

1. Computer simulation on neurophysiology
2. Slides and anatomic models

Lecture 4

Central Nervous System

1. Identify the parts of the central nervous system, including the functions and organization of the brain and spinal cord
2. Describe the structural basis for, and the importance of the protective layers in the central nervous system
3. Identify the five lobes of the cerebral cortex and describe how the motor and sensory functions of the cerebrum are distributed among the lobes
4. Explain the relationship between sensory and motor homunculi and body function
5. Explain intellectual processes such as memory and consciousness. Explain sleep, wakefulness, circadian rhythms, behavior patterns, and psychosomatic reaction

Lab 6

Lab Activities

1. Dissection of the major features of a sheep brain
2. Anatomical models and slides of the human nervous system

Lecture 4

Peripheral Nervous System

1. Distinguish the branches of the peripheral nervous system and major nerve plexi
2. Describe reflex responses in terms of the major structural and functional components of a reflex arc, include structure and functional classification of reflex arcs
3. Describe the specific functions of each of the cranial nerves and also indicate if each is a sensory, motor, or mixed nerve
4. Distinguish between ascending and descending tracts in the spinal cord
5. Describe the location and function of neurons in sensory and motor pathways, including decussation pathways

Lab 6

Lab Activities

1. Reflex labs and cranial nerve assessment labs
2. Anatomic Models

Total: Lecture 54
Lab 90

IV . METHODS OF EVALUATION

A. CREDIT, DEGREE APPLICABLE AND CREDIT, NOT DEGREE APPLICABLE COURSES

Check the PRIMARY method of evaluation for this course.

- Substantial writing assignments
- Problem solving demonstrations (computational or non-computational)
- Skills demonstrations

A minimum of one response in the categories 1, 2, or 3 below, as applicable, is required. However, you may check all that apply.

1. Indicate the types of writing assignments used as primary or secondary methods of evaluation for this course.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Essay exams | <input type="checkbox"/> Reading reports |
| <input checked="" type="checkbox"/> Written homework | <input checked="" type="checkbox"/> Laboratory reports |
| <input type="checkbox"/> Term or other papers | <input type="checkbox"/> Other (specify) |

2. Indicate the types of problem-solving demonstrations used as primary or secondary methods of evaluation for this course.

- | | |
|--|---|
| <input checked="" type="checkbox"/> Exams | <input checked="" type="checkbox"/> Homework problems |
| <input checked="" type="checkbox"/> Laboratory reports | <input type="checkbox"/> Fieldwork |
| <input checked="" type="checkbox"/> Quizzes | <input type="checkbox"/> Other (specify) |

3. Indicate the types of skill demonstrations used as primary or secondary methods of evaluation for this course.

- | | |
|---|--|
| <input checked="" type="checkbox"/> Class performance | <input type="checkbox"/> Fieldwork |
| <input type="checkbox"/> Performance exams | <input type="checkbox"/> Other (specify) |

4. If objective exams are also used, check all that apply.

- | | |
|---|--|
| <input checked="" type="checkbox"/> Multiple choice | <input checked="" type="checkbox"/> True/false |
| <input checked="" type="checkbox"/> Completion | <input checked="" type="checkbox"/> Other (specify): short answer, essay, and laboratory practica. |
| <input checked="" type="checkbox"/> Matching items | |

B. NON-CREDIT COURSE

Indicate the methods of evaluation that will be used to determine that stated objectives have been met.

V. COURSEWORK

A. TYPICAL ASSIGNMENT

Provide an example of a typical assignment. This assignment must correspond to the PRIMARY method of evaluation indicated in Section IV, Methods of Evaluation. That is, it must be a writing assignment or, if more appropriate, an assignment involving problem solving or skill demonstration.

A 5 year-old boy develops a headache, cough, myalgia, and a fever. He has been a healthy child with all immunizations up to date. He is given a decongestant and an aspirin for his symptoms with some relief. However, 4 days later, he is brought back by his parents because of persistent vomiting and irritability. On physical examination, he is found to be semicomatose, becoming combative on stimulation. What is the diagnosis of this patient? What organ systems are involved in the progression of this patient? What are the possible causes of this disease?

B. COLLEGE-LEVEL CRITICAL THINKING ASSIGNMENTS

Cite two specific assignments that demonstrate college-level critical thinking. (Required for degree applicable courses only.)

1. A 23 year-old woman calls her physician for the results of her Pap test. She has a history of Chlamydia. She has never had an abnormal Pap smear. She occasionally has unprotected intercourse. The physician informs her that the Pap test was normal. The patient is relieved, but wants to know whether this result could be wrong. The physician explains that a Pap test detects abnormal cells in roughly 4 of 5 women who have abnormal cervical cells. What are the normal cells found in the cervix? What is dysplasia? What is anaplasia? What is hyperplasia? What is hypertrophy? What organ system is being dealt with in this patient? When should a Pap test be done in a woman?
2. A 58 year-old woman comes to the clinic complaining of excessive sweating for the last few months. On questioning it seems that she often feels warm and flushed, even when others in the room are comfortable with the temperature. On further questioning she reveals a history of frequent stools, insomnia, and heart palpitations. She denies taking any medications or supplements, remembers no recent illnesses, and has never suffered these symptoms before. She has noticed, however, a painless lump in her neck that has been present at least since the symptoms started. Vital signs are: temperature 38.0°C (100.4°F), blood pressure 138/88mmHg, pulse 121/min, and respirations 20/min. Examination reveals a thin woman with a bounding pulse and a slight resting tremor. Palpation of the thyroid reveals a palpable, nontender, half-centimeter nodule in the left lobe of the gland. Ocular and skin examinations are normal. Fine-needle aspiration of the nodule is performed, and, after review by a pathologist, reveals normal tissue. A thyroid function panel reveals:
TSH 0.01uU/L
Thyroxine 13.2ug/dL

What is the diagnosis of this patient? What are some possible etiologies for this patient? What organ systems are involved in the progression of this patient? What is cardiac palpitation? What is the mechanism involved in the heart palpitations? What is the painless lump in her neck called?

C. WORK OUTSIDE OF CLASS

Two hours work outside of class are required for each hour of lecture or equivalent. Each student in this course will be required to participate in the following work outside of class time. Check all that apply.

- Study
- Answer questions
- Skill practice
- Required reading
- Problem solving activity
- Written work (such as essay/composition/report/analysis/research)
- Journal (done on a continuing basis throughout the semester)
- Observation of or participation in an activity related to course content (such as theatre event, museum, concert, debate, meeting)
- Course is lab only - minimum required hours satisfied by scheduled lab time
- Other (specify)

VI. INSTRUCTIONAL METHODOLOGY

A. Check all planned instructional activities that apply:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Lecture | <input checked="" type="checkbox"/> Group Activities |
| <input checked="" type="checkbox"/> Lab | <input checked="" type="checkbox"/> Role play/simulation |
| <input checked="" type="checkbox"/> Discussion | <input type="checkbox"/> Guest Speakers |
| <input checked="" type="checkbox"/> Multimedia presentations | <input type="checkbox"/> Field trips |
| <input checked="" type="checkbox"/> Demonstration | <input type="checkbox"/> Other (specify) |

Note: In compliance with Board Policies 1600 and 3410, Title 5 California Code of Regulations, the Rehabilitation Act of 1973, and Sections 504 and 508 of the Americans with Disabilities Act, instructional delivery shall provide access, full inclusion, and effective communication for students with disabilities.

VII. TEXTS AND MATERIALS

If multiple selection is offered, only representative texts need be listed. An up-to-date list of required and recommended materials is maintained in the division office.

A. REQUIRED TEXTS (title, author, publisher, year)

- *1. Human Physiology: An Integrated Approach, 4th ed., by D. U. Silverthorn, Pearson Benjamin Cummings, 2007.
- *2. Human Anatomy, 5th ed., by Marieb, Mallatt, and Wilhelm, Pearson Benjamin Cummings, 2008.
3. Human Anatomy & Physiology Laboratory Manual, 9th ed., by E. N. Marieb and S. J. Mitchell, Pearson Benjamin Cummings, 2008.

*A combined Anatomy and Physiology textbook equivalent to the two separate textbooks listed above is also acceptable

B. REQUIRED SUPPLEMENTARY READINGS

C. OTHER REQUIRED MATERIALS

Biopac kits

B. ENROLLMENT LIMITATION

1. Indicate the category which describes the Enrollment Limitation for this course.

- Band/Orchestra
- Theater
- Speech
- Chorus
- Journalism
- Dance
- Intercollegiate Athletics
- Honors Course
- Blocks of Courses
- Other (specify)

2. List Degree and/or Certificate requirements that are met by this course.

3. List all El Camino College courses that also satisfy the requirements listed above in Section B.2.

Originator: Thanh-Thuy Bui, Jessica Padilla, Margaret Steinberg, and Simon Trench Submittal Date: November, 2008

BOARD APPROVAL DATE: _____

Reviewed and/or Revised by:

_____ Date: _____
_____ Date: _____
_____ Date: _____

REQUIRED SIGNATURES FOR NON-CREDIT COURSE

College Curriculum Committee Chair

Vice-President - Academic Affairs

ORANGE COAST COLLEGE COURSE OUTLINE OF RECORD

Course developer: J. Brown Course ID:
TOP No. 1107.00 CIP No. 160301 Course adoption: 3/4/09
Date last revised: 3/4/09 Revised by:
Distance learning alternative Last program review Stand Alone

COURSE MASTER DICTIONARY DATA

Title 5 credit status: Associate degree credit course X Nondegree credit course Noncredit course

Course name/number: Chinese A180 Division: Literature and Languages

Course title: Elementary Chinese Department: World Languages

Units: 5.0 Total course hours: 90

Weekly hours configuration: 5.0 lecture

Grading method: Graded CR/NC Student option X Noncredit

Level Y Basic skills status: N (P, B or N) Method of Instruction: 2-Lecture
(Levels A-C applicable to English, writing, P = Precollegiate basic skills (2-digit no.)
ESL, reading or mathematics courses) B = Basic skills not precollegiate
A=1 level below transfer level N = Not a basic skills course
B=2 levels below transfer level
C=3 levels below transfer level
Y= Not applicable

Materials fee: No X Yes \$

Justification:

COURSE PREREQUISITE/ COREQUISITE/ ADVISORY:

None

COURSE DESCRIPTION:

The focus is on development of elementary proficiency in listening, speaking, reading, and writing in Mandarin Chinese, with an introduction to cultures related to the Chinese language. This course is equivalent to two years of high school Chinese.

COURSE CLASSIFICATION:

A Liberal Arts/AA/AS X D-H Community course
B Remedial I Occupational required
C Remedial I Occupational elective

COURSE TRANSFER:

0 Non-transfer/Non-AA 2 Transfer CSU X
1 Non-transfer AA 3 Transfer UC X

JUSTIFICATION FOR THE COURSE:

Student and community demand.

COURSE CONTENT AND SCOPE/TOPIC OUTLINE:

Topic 1

Discussion of other people, simple greetings, ask simple yes/no questions, answer simple yes/no questions. Introduction of the interrogative particle ~ *ma* 妈, the modal particle ~ *ne* 呢, sentence structure, and the adverb ~ *ye* 也. Plus, the Chinese writing system, the pinyin foundation, as well as pronunciation guide and spelling rules are covered.

Topic 2

Discussion of names, exchanging names, finding out who someone is. Study of language patterns, the polite form of the pronoun, introduction of the interrogative pronouns ~ *shen me* 甚么 and the particle ~ *de* 的. Cultural introduction of the Chinese naming system, plus Chinese “carving chops.”

Topic 3

Cover one’s nationality, which language they speak, talk about other’s nationalities and languages. Discussion of the adverb ~ *hen* 很 and its many uses. How to informally introduce a new topic into a conversation. The Chinese cultural concept of “Native Town” is discussed.

Topic 4

Vocabulary relating to school and fields of study are introduced as well as one’s major. Students will also learn the demonstrative pronouns for this and that ~ *na* 那 and ~ *zhe* 这. Plus the introduction of measure words and the use of the measure word and repeated use of the adverb ~ *hen* 很. Also, students learn to make plural pronouns. Cultural discussion of the Chinese educational system is introduced.

Topic 5

How to introduce people, make small talk, and find out what someone owns. The verb ~ *yo* 有 is introduced. Students learn how to ask “how many” by using ~ *ji* 几. Plus, students learn the adverb for “all” ~ *dou* 都 “.” Cultural discussion of Chinese forms of address are presented.

Topic 6

The family is introduced. Students learn how to talk about themselves and their family, also occupations. Grammar focuses on when, where, and how. More common measure words are introduced. Pinyin and tones are stressed. Cultural component is Chinese families.

Topic 7

Home residence, addresses, places, and numbers are learned. Students learn the verb ~ *zhu* 住 “to live.” The pronoun ~ *nar* 那儿 is taught. The numbers 0-10 are covered. Cultural link is traditional Chinese houses.

Topic 8

To know someone or to recognize someone, to attend class, plus business matters. Vocabulary also centers around eating, attending class, wanting, and returning. Affirmative-negative questions are explained. Cultural note is business cards in China.

Topic 9

How to make a phone call is discussed as well as how to ask what someone is doing and how to explain what one is doing. Students discuss the internet as well. Grammar includes the progressive aspect of action ~ *zai* 在. Cultural link is cell phones in China.

Topic 10

Giving times and dates in Chinese, talk about daily schedules, and writing letters. Discussions about everyday activities. The past tense of activities is discussed. The words ~ *jiu* 就 and ~ *cai* 才 are learned to discuss past activities. Cultural discussion is university life in China.

Topic 11

Food and restaurants are introduced. Choosing between alternatives on a menu, asking what someone wants, and telling what someone wants. Additional food related measure words are taught. Students learn the conjunction ~ *hai shi* 还是. Cultural lesson is Chinese food and Chinese snacks.

INSTRUCTIONAL OBJECTIVES:

The student will be able to:

1. Apply native daily spoken Chinese such as greeting, telling time, expressing likes and dislikes, indentifying and describing people, discussing future plans, and shopping.
2. Use a basic vocabulary of 450 words orally and in writing.
3. Apply grammatical structures and appropriate vocabulary in speaking situations.
4. Write sentences, with an increased level of complexity, that demonstrate knowledge and appropriate application of language structures and vocabulary.
5. Exhibit an elementary knowledge of some aspects of Chinese culture, history, and geography.

STUDENT LEARNING OUTCOMES:

The students will be able to:

1. Recognize and produce the Chinese language at the beginning level in the four primary areas of communication: listening, speaking, reading and writing.
2. Demonstrate an understanding and appreciation of the cultures related to the Chinese language by comparing and contrasting them with the students' own culture(s).
3. Use current technologies to further develop their language and cultural competencies.

METHOD OF STUDENT EVALUATION:

Tests, skill demonstrations, problem solving exercises, essays, etc.

INSTRUCTIONAL METHODOLOGIES

Emphasis on creating interactional language activities based on the thematically organized exercises that allow/prepare students to progress through stages of language acquisition. Listening comprehension and pronunciation skills are reinforced through online language laboratory activities. Grammar learning is stressed to the extent needed to support the language skills at this level of usage.

WRITING ASSIGNMENTS/PROFICENCY DEMONSTRATION

Writing assignments are used at every step through the semester to exercise the structural vocabulary and expressive skills being learned.

REPEATABILITY

N/A

FEASIBILITY

OCC Course Outline of Record

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Faculty: Faculty in place

Classroom: Adequate.

Library Learning Resources: Adequate resources available.

EDUCATIONAL MATERIALS:

Wu, Sue-mei and Yu, Yueming. Chinese Link. New Jersey: Pearson Prentice Hall, 2007