ACADEMIC SENATE
OF
THE CALIFORNIA STATE UNIVERSITY

AS-3230-15/APEP/AA
September 3-4, 2015

ESTABLISHING A TASK FORCE ON THE REQUIREMENTS OF CSU GENERAL EDUCATION (GE) MATHEMATICS / QUANTITATIVE REASONING (B4) CREDIT

RESOLVED: That the Academic Senate of the California State University (ASCSU) appoint a task force to address two fundamental questions.

a. Can the pre-requisite content for the CSU GE B4 course be met concurrently with achieving the CSU GE B4 standards?
b. What should be the pre- (potentially co-) requisite content for quantitative reasoning and mathematical competency (CSU GE B4)?[1]

; and be it further,

RESOLVED: That the ASCSU define the membership of this task force to potentially include:

a. A member of the General Education Advisory Committee (GEAC) Statway advisory group
b. Another member of GEAC
c. A member of Academic Affairs (AA) Committee
d. A member of Academic Preparation & Education Programs (APEP) Committee
e. A representative of the Math Council
f. A faculty member who teaches B4 outside of mathematics
g. A California Acceleration Project (CAP) or Statway instructor
h. A member of the Entry Level Mathematics (ELM) test development committee
i. A representative of the CSU Office of the Chancellor
j. A representative of the Academic Senate of the California Community Colleges (ASCCC)
k. Any other interested ASCSU faculty member

RESOLVED: That the ASCSU distribute this resolution to University of California (UC) Board of Admissions and Relations with Schools (BOARS) leadership, General Education Advisory Committee (GEAC), CSU Math Council, Academic Senate of the California Community Colleges (ASCCC) Leadership, Executive Vice Chancellor Loren Blanchard.

RATIONALE*: Five years ago the Chancellor's Office General Education Advisory Committee (GEAC) approved a limited pilot program within the California Community Colleges (CCC) in order to assess the viability of meeting CSU GE B4 quantitative reasoning requirements with a two-course integrated statistics sequence. This sequence bypasses the existing intermediate algebra proficiency in quantitative reasoning*

[1] Executive Order 1100 specifies Intermediate Algebra; the math council statement advocates for ELM content; Statway includes a lesser amount of algebra.

required by Executive Order (EO) 1100 as a prerequisite to CSU GE B4 courses. At its September 2015 meeting GEAC agreed to extend the pilot (at seven CCC districts) for an additional three years and invited other CCC districts to submit proposals utilizing curricular innovations in statistical pathways. In addition, GEAC called for the establishment of a task force to include disciplinary experts to review existing B4 standards in light of the fact that some of these statistics based pathways did not include a requirement to demonstrate proficiency in intermediate algebra prior to the award of B4 GE credit.

General Education Curricular standards are the province of the faculty and an expansion of the pilot has implications for CSU admissions and graduation standards and thus will rely on ASCSU action. The potential expansion of the GEAC pilot project on integrated statistical pathways for underprepared students generates a need to view the potential consequences of systemic changes to admissions standards and to EO 1100. Any potential changes will influence the minimum requirements for granting of a degree from the CSU.

Reducing achievement gaps and improving student success in meeting pre-baccalaureate and CSU GE mathematics/quantitative reasoning (B4) requirements are currently problematic. The traditional developmental pathway often constitutes a "leaky pipeline" in terms of success. As a result many students will never qualify for transfer because they cannot complete the prerequisites to CSU GE B4 requirements. Integrated statistical pathway programs such as the Statway pilot and the California Acceleration Project, were established to increase the number of community college students who would satisfy the CSU GE B4 requirement. There exists early work that illustrates the effectiveness of integrated statistical pathways (e.g., Carnegie Statway, California Acceleration Project, etc.) in reducing achievement gaps and improving student success as measured by pass rates. These efforts, however, do not achieve the levels of proficiency in intermediate algebra that are currently required for CSU freshman admission and thus introduce the specter of a "lesser degree" via lowering of academic standards.

The CSU Math Council, in their statement of April 2015, advocates that all students, at a minimum, attain knowledge of content as defined by the ELM requirements prior to the award of CSU GE mathematics/quantitative reasoning (B4) requirements. The statement reads in part:

> *We oppose the replacement of elementary or introductory statistics courses at CSU campuses by any program or pathway course lacking an explicit prerequisite or co-requisite* that subsumes the content of ELM. Such pathway courses include Statway. While the statistics content of Statway is totally aligned with the standard curriculum in elementary statistics, the pre-college mathematical content of Statway by itself does not meet the ELM standards and does not prepare students for college level courses. Hence Statway in its present form does not satisfactorily accomplish remediation and GE QR [quantitative reasoning/B4] in a single track, thereby pointing to the need of having all ELM content in a prerequisite or co-requisite*.*

There are unresolved discrepancies among the prerequisite B4 requirement (currently "Intermediate Algebra," per EO 1100); the potential use of ELM content (per the Math Council Statement); and the absence of any such pre/co-requisites for the CSU-approved Statway pilot project (and potentially other CSU-approved projects). This resolution attempts to address these concerns.

On the question of whether or not the pre-requisite knowledge could be achieved concurrently with the other B4 requirements, the answer is likely "yes" given the existence of "stretch" courses in which the content of a single course is stretched over multiple terms to allow inclusion of pre-baccalaureate material. It remains an open question whether or not the current pre-requisite (possible co-requisite) content should be Intermediate Algebra (per EO 1100), the material covered by the ELM exam (per the Math Council statement), or another standard (per "just in time" delivery of algebra via Statway).

A related issue of whether CSU GE B4 standards themselves could be satisfied by meeting one of two pathways (possibly Science, Technology, Engineering & Mathematics – STEM - vs. non-STEM; quantitative-based vs. statistically-based; etc.) should also be addressed once the issues touched on by this task force have been resolved.

Useful Definitions and Contextualization:

Title 5 requires "inquiry into mathematical concepts and quantitative reasoning and their applications." (CCR § 40405.1).

EO 1100 further explicates "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."

> ***§ 40402.1. Entry-Level Learning Skills.***
>
> *Each student admitted to The California State University is expected to possess basic competence in the English language and mathematical computation to a degree reasonably expected of entering college students. Students admitted who cannot demonstrate such basic competence should be identified as quickly as possible and be required to take steps to overcome the deficiencies. Any coursework completed primarily for this purpose shall not be applicable to the baccalaureate degree.*

Note: Authority cited: Section 89030, Education Code. Reference: Section 89030, Education Code.

***Attachments**: Math Council Statement; GE Guiding Notes excerpts on B4*

Approved Unanimously – September 4, 2015

California State University Council of Math Chairs' Statement on Entry Level Mathematics and Statway

30 April 2015

1. We support the Entry Level Mathematics (ELM) standards as the best measure of competency for entry to the CSU system. Students have multiple chances to meet these standards while in high school.
2. We request that the CSU Chancellor's Office revise Executive Order 1065 (and 1100) so that all General Education Quantitative Reasoning courses have the content of ELM as an explicit prerequisite or co-requisite* and have explicit learning objectives that extend beyond ELM competency.
3. We encourage the CSU to focus on developing efforts such as Early Start (system-wide bridge courses for developmental math students that give them an extra preparation for their college level work). Our experience so far is that Early Start has the potential for substantially cutting the math remediation budget.
4. We oppose the exemption of Statway from Executive Order 1065. In order for Statway courses to meet the standards for transfer articulation with the CSU, they must have an explicit prerequisite or co-requisite* that subsumes the content of ELM, and the students' ELM competency must be verified by proctored examinations.
5. We oppose the replacement of elementary or introductory statistics courses at CSU campuses by any program or pathway course lacking an explicit prerequisite or co-requisite* that subsumes the content of ELM. Such pathway courses include Statway. While the statistics content of Statway is totally aligned with the standard curriculum in elementary statistics, the pre-college mathematical content of Statway by itself does not meet the ELM standards and does not prepare students for college level courses. Hence Statway in its present form does not satisfactorily accomplish remediation and GE QR in a single track, thereby pointing to the need of having all ELM content in a prerequisite or co-requisite*.

In any course with ELM content as a co-requisite, the students must meet preset competency levels on **both the course's measurable learning outcomes and on **all** the ELM topics, and these two sets of competencies must be **separately** assessed by proctored examinations. **Students who pass the course proper but not its ELM co-requisite must undergo further remediation until their ELM competency reaches the preset level. At CSU campuses, Executive Order 665 must NOT be used to lift the ELM holds on such students.**

Entry Level Mathematics (ELM): The standards and the exam

According to the CSU publication *Focus on Math*, the ELM placement exam has been used since 2002 to establish a student's readiness for entry to the CSU system. The list of topics and example problems in *Focus on Math* and materials at several websites* establish specific competencies that a student should acquire before entering college level courses. These ELM standards have successfully served as the guidelines for Quantitative Reasoning readiness for the California Community Colleges, the CSU and the UC. The ELM standards are more accountable than the terms "intermediate algebra," "remedial math" or "developmental math" since the meaning of these terms varies substantially. We find it useful to distinguish among the ELM *requirement* (which may be satisfied in several ways), the ELM *exam* (which is applied when a student has not met ELM requirements by other means), and the ELM *standards* (which state core topics and competencies).

*Websites related to the ELM requirement, ELM exam, and ELM standards:
https://www.csumathsuccess.org/elm_requirement
http://study.com/academy/course/elm-test.html
https://www.ets.org/csu/about/elm/elm_topics

ELM is Important for a Well Informed Citizenry

The ELM standards set a foundation for understanding today's world that is as relevant as standards for critical reading and writing. ELM competency --- including sound evaluation of graphs, statistics and numerical information --- is vital to an informed citizenry. The ability to understand graphs, translate socially relevant challenges into mathematical models, manipulate formulas to perform calculations, and restate the outcomes as solutions to the said challenges, are considered basic requirements in almost all entry-level positions for college graduates. CSU developmental math courses teach to the ELM standards. Students learn how to read graphs, build math models, manage unknowns, solve linear & quadratic equations, and justify answers. The courses aim to cultivate fluency in navigating among the tabular, graphical, algebraic, and contextualized representations of data. While the immediate value of ELM competency is its role in preparing students for GE level and upper-division Quantitative Reasoning courses, its full value is probably not assessable during their tenure on campus. Students will be tapping into that literacy for life and throughout their careers.

The following table links several topics from the ELM standards with practical issues.

Content areas	Topics	Social relevance
Data & Numbers (~ 35%)	Representation of data (tables, pie charts, histograms, graphs, etc.); basic probability (mean, median, variance); estimates and predictions. Arithmetic; percentages, fractions, decimals; ratios & proportions. Estimation (of square roots, etc.).	Making responsible decisions. Analyzing various scientific & financial situations. Understanding graphs in social science. Navigating through tax forms. Figuring out insurance premiums. Adjusting cooking recipes and mixing up compound products (drugs, food mixes). Prioritizing the use of multiple discount coupons to one's best advantage. Developing a good sense about orders of magnitude.
Algebra (~ 35%)	Linear equations & inequalities (single unknown or systems with two unknowns); slopes & intercepts. Quadratic* functions. Average rates and rational expressions. Arithmetic for simplifying algebraic expressions. Equations & inequalities with absolute values. Properties of exponents.**	Choosing wisely among several vacation packages or job offers. Performing simple revenue-profit analyses when the number of sales depends linearly on the price. Appreciating the effects of key parameters behind projectile motion. Calculating the amount of land needed for a preset crop-yield. Navigation in the presence of currents. Understanding basic models in physics. Arm-chair astronomy. Finding the sample size needed for any specific margin of error. Average costs. Elasticity of demand (comparing the percentage change of demand to that of price). Basic spreadsheet analysis skills such as supply & demand projections.***
Geometry (~ 30%)	Perimeter, area, volume of various geometrical objects; how the ratio between perimeters transforms to ratios between areas and between volumes. Properties of congruent /similar shapes. Pythagoras's Theorem. Concept of angles. Intersecting, parallel, or perpendicular lines. Plotting points on the number line and in the coordinate plane. Length & midpoint of line segments. Graphing linear, quadratic, and algebraic functions; relating the geometrical features of the graphs to the formulae of the functions.	Evaluating designs & the aesthetics of symmetry. Developing a good sense about proportions and similarity. Reading blueprints and interpreting architectural drawings, and applying those to carpentry. Exploiting the scaling properties of areas and volumes in making cost-efficient decisions. Ability to navigate fluently among four manifestations of data: graphs, tables or charts, formulae, and socially relevant contexts.

*****For details about the socially relevance of quadratic functions cited in this article, see: plus.math.org/content/101-uses-quadratic-equation; plus.math.org/content/101-uses-quadratic-equation-part-ii; mathsisfun.com/algebra/quadratic-equation-real-world.html.

******Some developmental math curricula include exponential functions in order to distinguish them from powers of x, thereby leading naturally to logarithms. This literacy is important for everyday life and many GE Science courses. It concerns mortgages (the magic of extra principal reduction, choosing among refinance options, etc.), compound interest issues (such as the approximate number of years it takes to double one's investment, present & future values, inflation), decibels in acoustics, pitch in music, the Richter scale, pH in chemistry, human perception graphs in psychology, spectrometry, noise, image compression, growth models, fractal dimension, complexity, chaos and entropy, etc.

*** An example of basic supply & demand projections: Estimating the number of seats needed in a course, based on the attrition rate of students taking the course, and the success rates at which students are fulfilling the prerequisites for that course.

Remediation and Innovative Approaches at CSU campuses

Throughout the system, approximately 50% of entering freshman have satisfied the ELM requirement. As for the rest, over 70% complete remediation within their first year. Some campuses such as Channel Islands, Dominguez Hills, and Los Angeles, have even higher pass rates. By the end of their first year, well over 85% of entering freshman are ELM compliant/exempt. Early Start Mathematics and periodic curriculum enrichments have further improved the pass rates.

The math departments of many CSU campuses have already been working as a group towards redesigns of the traditional pathway (consisting of remediation followed by GE Quantitative Reasoning courses) that can be shared across all campuses. The Math Council embraces pedagogical innovations that maintain the ELM content as well as its contextualized approach. The Math Chairs, on behalf of their departments, welcome the opportunity to work with the Chancellors Office to continue these innovations and develop methods to efficiently **scale** them for broader use in the system.

Applications just-in-time	At CSU campuses, ELM content is being taught with immediate applications to socially relevant contexts. We do not subscribe to the model of teaching only theory and telling the students that they will encounter applications in later courses. Furthermore, once the tools have been introduced and exemplified, students are being asked to practice, practice, and more practice. This is one reason the pass rates are so high.
Harnessing the potential of ESM (Early Start Math)	Brick & mortar ESM classes have impressive pass rates, so most students get to move up to the next remedial math course or into GE QR during the first term of their freshman year. Alternatively, one could invest serious effort in online ESM and then strongly encourage the hard-working students to retake the ELM exam in August.
Humboldt's 5-unit fast track	The traditional pathway towards completing GE QR, for students needing only 1 semester of remediation, is MATH 44, 103, in succession, for a total of 6 units over 2 semesters. As an alternative, students with majors outside of the College of Natural Resources & Sciences can take 2 units of MATH 43 concurrently with 3 units of MATH 103i, for a total of 5 units in 1 semester. The pass rate for the 5-unit 1-semester pathway is superior to that for the traditional 6-unit 2-semester pathway.
Statpath at Northridge	For students needing only one semester of remediation, namely those with ELM scores 34-48, Statpath provides an alternative: 5 units of developmental math with a special curriculum, followed by 3 units of traditional GE stats. In that special curriculum, all material is presented in context and some time is spent on pre-stats content instead of rational expressions. Though there is no savings in total units or semesters compared to the traditional pathway, Statpath aims to provide a better bridge from ELM to GE stats, thereby reducing the number of D or F or W grades in the latter.
Enriched curriculum for developmental math at CSU campuses	The developmental math programs at many (as of this writing, at least 9) CSU campuses have undergone substantial overhaul & enrichment, in order to better align with Common Core. At some campuses such as SF State, the redesign was carried out with an eye towards a smoother transition into GE QR courses. For example, pre-stats content eases the transition into elementary stats, and a solid introduction of exponentials & logarithms helps students who will be taking pre-calculus.
Supplementary workshops or labs	These are optional 1-unit classes that are run by students (graduate and/or undergraduate). Currently, such workshops are companion to pre-calculus & calculus classes. There are structured activities to engage the students, and the latter do get one-on-one help. Statistics have shown that veterans of such workshops have better study skills and better track records throughout their undergraduate careers than the typical students. This paradigm helped CSU Monterey Bay improve its developmental math program and is being used at several community colleges in the Los Angeles area.

What is Statway?

Statway is a proprietary curriculum for elementary statistics, designed by the Carnegie Foundation. It is inquiry based, and is intended for small classes of 20-30 students due to its reliance on group work. The syllabus for a standard one-term elementary statistics course is stretched to two terms. The first term typically covers combinatorics & probability, leading to a statement of the Central Limit Theorem. The second term covers confidence intervals & hypothesis testing, with the option of including goodness-of-fit at the end. Statway does not require intermediate algebra or ELM competency as a prerequisite, and limits its coverage of Entry Level Math to arithmetic and straight lines (& the option of covering a bit of exponential functions), with the latter done in the context of regression.

Proponents of Statway say that traditional intermediate algebra goes way beyond the minimal level of mathematical competency for college readiness. They feel that many topics in intermediate algebra are primarily about the mechanics of manipulating polynomials, rational functions, exponentials & logarithms, and as such are only relevant to STEM-bound students. These proponents also claim that Statway sufficiently covers mathematics that is aligned with the Common Core State Standards.

CSU Council of Math Chairs' Position on Statway

ELM competency should be the standard for college readiness and lifelong numeracy. Enriched curricula that teach the ELM standards should contain only a small amount of polynomial mechanics, and (except for the absence of rudimentary probability) should be completely aligned with the topics stipulated in the Common Core State Standards for Mathematics. As such, they lay a quantitative foundation for most of the college curriculum. In contrast, the current version of Statway, though well aligned with the standard curriculum in elementary statistics, only covers the very limited amount of ELM content that is necessary for learning statistics; hence Statway's coverage of the Common Core State Standards in Math is insufficient for the subsequent coursework needs of its veterans. Students who took Statway at community colleges and transfer to CSU may have to be remediated on-the-fly in order to meet their subsequent needs at CSU campuses, incurring hidden costs and lengthening their time to graduation.

Regardless of where Statway is taught, as a GE Quantitative Reasoning course, at the community colleges or on CSU campuses, the Math Council insists that the ELM topics should comprise a prerequisite or a co-requisite, and the students' ELM competency should be verified by proctored examinations. Independent tracking needs to be carried out for Statway veterans' performance in subsequent CSU courses. The onus is on the Carnegie Foundation to prove to the CSU that Statway does work; namely, that Statway veterans are ELM competent and do as well in subsequent courses as their counterparts in the traditional pathway.

Since its inquiry-based curriculum is designed for small classes (20-30 students), ***Statway doesn't scale.*** *Due to budgetary reasons, elementary statistics at some CSU campuses are taught in large sections of 100 or more students. Many university students called to ask why they were not allowed to enroll in the small Statway sections and some students have protested that it is discriminatory to limit those sections to a select few (e.g. at San Francisco State, there were 75 Statway students among a total of 1200 students in elementary statistics).*

CSU's experience with Statway

The Chancellors Office persuaded five CSU campuses to offer Statway. The following table summarizes their experiences.

Pilot campuses	East Bay (EB), Northridge, Sacramento (SAC), San Francisco (SF), and San Jose (SJ). Northridge opted out from the get-go; SF has opted out as of AY 2014-15; EB will follow suit in AY 2015-16.
Paradigms	**EB**, **SAC**, **SF**, have piloted enriched Statway, in which most of the missing ELM content has been restored via a parallel track. **SJ** teaches essentially plain Statway. Students at East Bay and San Francisco State were required to sign up for additional units. All of the instructors reported anxiety and frustration stemming from the challenges of teaching two parallel tracks, and the compensation was not commensurate with the amount of effort invested.
ELM score ranges and restrictions of students in the pilots	30-40 at **EB**; 44-48 non-STEM & non-BUS at **SAC**; 0-40 Metro Health Academy cohort at **SF**; 0-42 with EPT higher than 139 at **SJ**, taught out of Undergrad Studies instead.
ELM competency of SW veterans	**EB**: On a developmental math common final, traditional students averaged 23% points higher than Statway students. 51% of traditional students scored at least 60/100, versus 5% of Statway students. As for course grades in elementary statistics, 61% of traditional students received a course grade of C or higher, while 95% of Statway students received at least a B.
	SAC: Since SW veterans at SAC State begin with ELM scores 44-48, their ELM competency after completing Statway is less of a concern than that at the other three CSU campuses (EB 30-40, SF 0-40, SJ 0-42). A simple diagnostic would be to have these Statway veterans retake the ELM exam or some equivalent test (such as the Intermediate Algebra Diagnostic).
	SF: Statway veterans have weaker fluency among the graphical, tabular, algebraic, and contextualised manifestations of quantitative data, even though the three instructors invested thrice as much effort! What if the ELM content were not taught in a parallel track at SFSU? Consider, say, linear equations. Veterans of ELM would have been holistically drilled on those four manifestations. On the other hand, the Statway curriculum without ELM retrofit only covers linear relationships in the context of regression analysis, with most of the mechanics done by the computer. The latter exposure, being much narrower, would exacerbate the said weakness.
	SJ: Instructors lauded the merits of Statway and the approach of supplementing the basic algebra & arithmetic when needed. But one instructor candidly lamented that "the algebra instruction is not even good enough for the statistics we need to do".

After piloting Statway at several CSU campuses, we conclude that the pre-college mathematical content of Statway by itself does not meet the ELM standards and does not prepare students for college level courses, hence it is necessary to impose on Statway an explicit prerequisite or co-requisite that subsumes the content of ELM.

THE CALIFORNIA STATE UNIVERSITY

UNIVERSITY OF CALIFORNIA

Guiding Notes
For
General Education Course Reviewers

March 2015

March 2015

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.

The Guiding Notes are in three parts:

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. 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 v.1.5 www.ccctransfer.org
CSU General Education Breadth	any CSU	CSU Executive Order 1100 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	5C	
	B4	Mathematics	2	
AREA C	C1	Arts	3A	AREA 3
	C2	Humanities	3B	
AREA D (subareas to be retired in 2016)	D1	Anthropology & Archeology	4A	AREA 4 (subareas to be retired in 2016)
	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 for courses other than four which require a C or better: written communication , oral communication, critical thinking, and quantitative reasoning	⇒ only grades of C or better will count for any courses
⇒ 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

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 1061: American Institutions

CSU Executive Order 1061 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. Typically students take courses that count for both AI and GE.

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

Each fall, community college articulation officers submit courses by entering their new or substantially revised course outlines into the online database at assist.org. (These course submission screens aren't visible to public users.)

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.

After the course outline data has been submitted, ASSIST forwards the information to the CSU Office of the Chancellor and the UC Office of the President.

1st Level Review

Every submitted course undergoes a 1st-level review conducted by at least three readers. Each 1st-level review ends with a preliminary recommendation.

2nd Level Review

For a minority of submitted courses, first-level reviewers are unable to agree on whether to recommend approval. These courses are referred to 2nd level review by additional staff or by faculty in the disciplines. 2nd-level reviewers may also contact liaisons to the authors of the course outlines to get clarification or additional details.

Reconciliation

Reviewer recommendations for courses in GE Breadth and American Institutions are reconciled in the CSU Office of the Chancellor. Determinations of IGETC congruence are made in discussions with the UC Office of the President.

Notification

By early April, the system offices forward their decisions to articulation officers at participating institutions throughout California. Soon afterward the review decisions are communicated to ASSIST, so the public can see which community college courses bear GE transfer credit at four-year institutions.

PART TWO: REVIEW CRITERIA BY AREA

Criteria Applying to All Areas

From the IGETC Standards 1.5:

> 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.

⇒ **Courses should carry an appropriate number of units.** In the IGETC pattern, any course must carry at least three semester-units or four quarter-units of credit. In the GE Breadth pattern, any unit level is acceptable as a matter of policy, but in practice courses below two units seldom meet the criteria for breadth, depth, and rigor expected of general education courses.

Both patterns make exception for science laboratories, when offered separately from the accompanying lecture.

⇒ **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 D). 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 at least one 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. Including additional reading is a good way to demonstrate that multiple points of view will be evaluated, as a means of developing critical thinking.

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 2008 for course outlines submitted fall, 2015). 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 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 seven years old may be rejected if more recently published texts are appropriate and readily available."

"This course is accepted in Area D to maintain consistency with IGETC, as well as Area 4."

"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 probably not be suitable for Written Communication.

From the IGETC Standards 1.5:

> 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 1.5:

> 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.

Courses approved for IGETC Area 1B must have a stated prerequisite of a college-level course in English composition.

> **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. 1100 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."

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)

Most courses must include faculty-supervised, faculty-evaluated practice in communicating orally *in the physical presence of other listeners*. 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).

However, beginning with the 2013-14 Academic Year, the CSU has authorized a limited number of oral communication courses delivered entirely on-line, to learn whether such courses can meet the expected learning outcomes. Details are available at calstate.edu.

In either delivery mode, rhetorical principles must be covered (study of effective communication in formal speeches or social interaction is appropriate, for example).

To qualify in CSU GE Area A1, students must speak their own words, not recite words written by others.

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 IGETC pattern so that evaluators can see whether students transferring into the CSU have met this requirement for transfer admission, 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 1100:

> 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 1.5:

> 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 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)
- ⇒ courses without a stated prerequisite of intermediate algebra, or from institutions that don't have intermediate algebra among their criteria for admission

In recent years faculty from both the UC and CSU systems have paid additional attention to GE math requirements, and how they relate to community college innovations in accelerated or compressed remediation, and longstanding disciplinary debate on the relative importance of calculus and statistics.

Questions of GE applicability are further complicated by the importance of math in preparation for majors in engineering, science, and health.

In asking whether a proposed course could satisfy GE criteria for math, reviewers ask whether a student will learn broadly transferable quantitative literacy – will attain the "numeracy" expected of an educated adult. If the answer is yes – even for advanced courses like differential calculus – then the course may be approved for GE.

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.

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.e.*, 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 1.5:

> 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 1100:

> 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
- ⇒ design
- ⇒ music
- ⇒ dance
- ⇒ theater
- ⇒ film

Studio and performance classes that develop technique or skills alone don't meet the standards established for this area. Skills development is permitted, but only when it contributes to a broader contextual understanding of the arts, such as helping students make connections between the arts and cultural and social issues, and serving as an introduction to the arts as an aesthetic and creative endeavor.

Approved courses don't ordinarily carry prerequisites or advisories suggesting the student should have prior experience in the same art.

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.

In 2011, CSU faculty addressed the problem of these grandfathered courses in Area C1 by removing those offered at below two units. In the other areas of GE Breadth, courses of any unit value may still appear grandfathered in.

To determine the degree of emphasis on skills acquisition in new submissions, 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. In the review conducted in Academic Year 2014-15, readers identified a handful of courses that seemed to satisfy the criteria both for the major and for general education.

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 1.5:

> 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 language 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.

⇒ **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.

⇒ **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 seldom 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 D Social Sciences, 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 typically reviewed in Humanities, not as Art or any of the social sciences in Areas D or 4.

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 1100:

> 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 1.5

> 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 leads to a broad understanding of social science, and not just the discipline within it.
- ⇒ 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.

Special case:

> **Research Methods**: A growing number of colleges propose courses like "Research Methods in Psychology" or "Research Methods in Sociology" to satisfy both GE transfer requirements in social science, and major requirements for Associate Degrees for Transfer. Reviewers have found that for such courses to meet GE criteria, the challenge is often to "rise above technique," to develop the student's analytical capacity and understanding of social science in ways that would be useful to any educated citizen and transferable to many walks of life in addition to those of professional social scientists. Such courses often cover disciplinary fundamentals in addition to statistical techniques, but unless the course outline says so explicitly, it's unlikely to be approved for Area 4 or D.

Until fall 2016, some statewide policy documents and the ASSIST online articulation database may continue to group the social science disciplines into ten subareas:

4A Anthropology & Archaeology	GE Breadth Area D1
4B Economics	GE Breadth Area D2
4C Ethnic Studies	GE Breadth Area D3
4D Gender Studies	GE Breadth Area D4
4E Geography	GE Breadth Area D5
4F History	GE Breadth Area D6
4G Interdisciplinary Social or Behavioral Science	GE Breadth Area D7
4H Political Science, Government, and Legal Institutions	GE Breadth Area D8
4I Psychology	GE Breadth Area D9
4J Sociology and Criminology	GE Breadth Area D0

During this time, colleges that submit courses and the reviewers who read them will continue to place courses into particular subareas in the social sciences. However, approval will depend on whether the course is a fit for social science *overall*, rather than whether it also meets the criteria of any proposed subarea.

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."

"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."

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 1.5:

> 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 1100:

> 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 1100 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 D.)

⇒ **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 4."

"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. The same is true for the corresponding areas in IGETC: reviewers will add the lab designation (Area 5C) if it seems appropriate, whether or not the submission requests it.

Stand-alone lab courses are designated B3 or 5C 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 Areas B3 and 5C

"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 1100:

> 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.

Physical Activity

Physical activity courses (except for special-topics or directed studies courses) are acceptable in Area E, and are approved without review.

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

"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 1.5:

> 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 1061, separately from the areas of GE Breadth. EO 1061 implements 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 calstate.edu.

The documents cited in these Guiding Notes are those in effect as of March, 2015. 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 1.5
  ccctransfer.org

- ⇒ CSU Executive Order 1100: General Education Breadth
  calstate.edu

- ⇒ CSU Executive Order 1061: American Institutions
  calstate.edu

- ⇒ Guiding Notes for General Education Course Reviewers
  calstate.edu/app/general-ed-transfer.shtml

Courses and Articulation in California

- ⇒ ASSIST
  assist.org

- ⇒ College Catalogs
  collegesource.org

- ⇒ California Community Colleges and Districts
  cccco.edu

Transferability of Baccalaureate-Level Coursework

- ⇒ CSU Executive Order 167: Transfer of Credit
  calstate.edu/eo/EO-167.pdf

- ⇒ Working Definition of Baccalaureate Credit (Faculty Senate Resolution of 1987)
  www.calstate.edu/app/general-ed-transfer.shtml