UNIVERSITY OF CALIFORNIA ACADEMIC SENATE - Merced Division

Ad Hoc Committee on General Education

FINAL REPORT: MAY 22, 2009

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Executive Summary

The Senate ad hoc Committee on General Education strongly urges the Academic Senate and the Administration to act immediately on the following recommendations of this committee. In view of the pending accreditation review and the time required to develop and implement alternatives for GE, this task is of the upmost urgency.

The ad hoc Committee on General Education (GE) established by the Divisional Council of the UCM Academic Senate developed this report during spring semester 2009. The committee considered both short-term demands, i.e., how to deliver current university GE requirements in the form of the Core 1 and 100 courses given upcoming WASC accreditation review, and long-term options for evolving GE requirements in a sustainable way with enrollment growth. The committee report summarizes general alternative modes of GE course delivery employed at other universities. Although there are significant merits to the Core courses as elements of GE, there are also considerable challenges to delivery and long-term sustainability, such that other models for the delivery of GE should be considered for future implementation. Going forward, the evolution of GE requirements and their mode of delivery need to be viewed as an ongoing process at UCM (as it is at other campuses), with adjustments made on the order of every five years. However, the committee recognizes that a significant limitation of this report is the lack of a thorough fiscal analysis that must be made in conjunction with considerations of academic merit in developing future alternatives.

Given the pressing need to deliver existing required Core courses while options for the long-term evolution of campus GE requirements are developed, the committee recommends the following immediate actions:

1. The Office of the Vice-Provost for Undergraduate Education (VPUE) be immediately designated as the central administration for coordination of the Core courses (or other

potential GE courses in the future). This could be accomplished in our current structure by appointing the VPUE as Dean of College One (in addition to VPUE). The responsibilities for GE course coordination would be:

-- Work with faculty and College One curriculum committee to ensure sufficient staffing of Core courses for the next two years
-- Work with Deans of other schools to balance faculty workload
-- Work with the Writing Program to assign and coordinate Writing Instructors
-- Hire and coordinate teaching assistants
-- Coordinate course scheduling and course evaluation
-- Serve as the central administration for any matters relating to course support
-- Work with the College One curriculum committee to evolve and update GE requirements over the long term.

2. The duties of College One be redefined such that College One is the academic unit responsible for oversight and delivery of Core courses (and of other potential GE courses in the future). The responsibilities of College One would be:

-- Immediately appoint a College One curriculum committee charged with curriculum approval authority and oversight of course delivery and evaluation
-- Work with the VPUE/Dean to identify faculty interested in teaching Core courses, and develop a plan for cycling faculty that ensures continuity, roll-over, and a sufficient number of faculty for multiple years
-- Develop guidelines and/or format for delivery of Core 100 or equivalent course(s) with faculty interested in teaching it; develop an implementation plan
-- Develop a plan for evolving and updating Core and/or other GE options commensurate with enrollment growth
-- Provide academic oversight for Core and other future GE courses.

3. In order to deliver the Core courses (or other future GE courses) faculty must be given credit for teaching these courses (potentially on a proportional basis for team-teaching). Other ways in which to ensure sufficient faculty for GE course delivery may include:

-- Faculty contributions to Core or GE courses could be taken into account when considering the allocation of new FTEs in their degree or graduate program areas.
-- Depending on level of involvement or teaching FTE accrual, faculty could be awarded incentives such as: supplemental discretionary research funds; a graduate student fee waiver; supplemental support for post-doctoral scholars or research technicians; partial summer salary; teaching release in a subsequent semester.
-- Faculty with administrative appointments (Deans, Provost, Chancellor, Vice-Chancellor, Vice-Provost) could be assigned teaching responsibilities in Core or GE courses.

I. Introduction and Committee Charge

At the October 27, 2008 Divisional Council meeting, members agreed that an ad hoc committee on general education should be established to determine how to evolve the CORE 1 and CORE 100 course requirements. The charge to the committee was:

- *For CORE 1 the committee should determine ways to involve ladder-ranked faculty in the development and delivery of a CORE 1 module (or perhaps many modules).*

- *For CORE 100 the committee should determine how to phase in a permanent solution over the next two years, with the potential to offer a limited-enrollment version(s) of CORE 100 beginning in spring 2009.*

Specific considerations should include:

1. *Long-term planning. Are CORE 1 and CORE 100 sustainable when we reach 5,000 students and freshman classes are larger than 1,000 students?*
2. *Identify human resources needed for course delivery.*
3. *Determine appropriate space needs.*
4. *CORE 1 delivery options (e.g. ratio of live vs. taped lectures, ratio of ladder faculty/lectures, etc.).*
5. *Teaching load credit for participating ladder faculty.*
6. *The role of specific disciplines in course delivery (FTE resources may be associated with this, please see the attached CAPRA memo).*
7. *Alternatives to CORE 100 (please see the attached UGC report and CAPRA memo).*
8. *Meeting WASC accreditation needs*

In June 2008, Undergraduate Council delivered a report to Divisional Council that reviewed General Education (GE) requirements at UCM and made a number of recommendations regarding GE. In addition to prior UCM documents, the committee reviewed GE at the other UC campus and the 2007 University of California report "General Education in the 21st Century: A Report of the University of California Commission on General Education." The 2008 UGC memo summarizes current UCM GE requirements. In formulating this report, the committee consulted with current and former Core 1 and Core 100 faculty, the Core I Course Planning Committee, and the faculty chair of the WASC committee. Drafts of committee recommendations were reviewed by UGC, CAPRA, and School Committees.

The report is structured as follows. First, we review three alternative models for general education, including the menu system, the core system, and the common read. Second, we focus in more depth on CORE 1 and 100 as current GE requirements. Third, we conclude with recommendations for next steps.

II. General Education Requirements and Alternatives

At UC Merced, students complete about 45 units of general education, including UC-system requirements in writing and American history; campus requirements for Core, writing, and math;

and School requirements for "breadth" that are typically fulfilled outside the major. Our campus has no official policy that defines breadth as completion of non-major courses, but School practices establish a tacit principle for that definition of breadth. Schools set their own GE requirements for breadth.

Current GE requirements at UCM are:

UNIVERSITY REQUIREMENTS
• University of California Entry Level Writing Requirement (formerly, Subject A Requirement)
• American History and Institutions Requirement."

These can be completed by testing out or coursework at UCM.

CAMPUS REQUIREMENTS (16 units)
• Two-Semester Core Course sequence
• Lower division writing course
• College-Level mathematics/quantitative reasoning course

For students entering as freshman, these are completed by coursework at UCM, including Core 1 and Core 100, which are designed to reflect the Guiding Principles of General Education. Transfer students are required to take Core 100 after transfer.

SCHOOL REQUIREMENTS[1]
The Schools of Engineering, Natural Sciences, and Social Sciences, Humanities and Arts each have a set of general education requirements to be completed as part of degree programs offered by that school. These include both requirements within the school and requirements for courses outside of the school.

Three alternative approaches to delivery of GE are summarized below. See Appendix A for background information about alternative modes of GE delivery and a summary of GE approaches used at other UC campuses.

A. Menu System

Most universities offer some variant of the menu system for general education, a practice that implies its enduring utility. The pedagogical value of a menu system is typically attributed to its emphasis on breadth of exposure to different disciplines. In this respect, it allows students maximum opportunity to choose courses of interest outside their major.

[1] Within school GE requirements, some courses may count for more than one requirement (i.e., "double-counting"), which is done at other UC campuses and elsewhere. For example, at UC Irvine, Senate Regulation 520 governing its General Education Requirement allows that GE courses in science and technology, social and behavioral sciences, and arts and humanities "may satisfy the requirements of the major as well as the GE requirements…[but typically] should not be restricted to majors." As a different example of double counting, UC Santa Barbara Senate Regulation 205 governing general education provides that "Some courses taken to satisfy the General Education Requirements may also be applied simultaneously to the American History and Institutions Requirement." IGETC transfer requirements also allow some courses to be double-counted. Based on these examples, there is flexibility in determining the minimum number of courses needed to satisfy GE requirements for accreditation.

Nevertheless, in the last quarter century, and most recently in Derek Bok's *Our Underachieving Colleges (2005)*, the menu system has been criticized as a key failing of higher education. This criticism focuses on the lack of curricular cohesion in a menu system, particularly if "breadth" of exposure is defined solely as a list of required courses to be taken in general disciplinary categories such as sciences, social sciences, arts or humanities. WASC Criteria for Review 2.2 also discourages any curriculum that is based on a "mere accumulation of courses and credits."

Less often noted but equally problematic, the menu system has hidden costs when general education courses are used to generate FTE for majors that would not otherwise be viable. In this latter respect, enrollment in general education courses supports or offsets low enrollment in some majors, making any effort to revise the general education curriculum difficult if the continuation of several majors depends on this symbiotic relationship. As one consequence, dependency on general education FTE creates curricular inertia that ensures the longevity of the menu system.

Another consequence of the menu system is the incentive for these majors that depend on general education enrollment to develop graduate programs despite limited employment opportunities for their graduates. Like undergraduate majors with low enrollments, these graduate programs can justify recruitment of teaching assistants to staff required general education courses or related discussion sections with relatively high enrollment. Without the menu-based range of required general education courses and sections, TA resources would be allocated elsewhere.

A relatively new cost of the menu system will emerge as broad clusters of general education courses undergo program assessment. Faculty within disciplinary clusters (e.g., sciences, social sciences, etc.) will need to affirm that specific learning outcomes are addressed in their category of courses, and then a higher level of integration must follow as representatives from these different groupings convene to review institutional compliance with general education goals. At our campus those goals are expressed as the eight guiding principles. A menu-system of general education that attends to all eight guiding principles is likely to be the most labor-intensive model for assessment purposes.

While some economy may be found in allowing courses to count for both general education requirements and for requirements in a major, it is important to recognize that any system of GE courses must contain a minimum number and variety of courses that demonstrate instruction in fundamentals (writing, critical thinking, quantitative analysis) and breadth of exposure to different subjects[2]. Furthermore, the WASC rubric for evaluating GE (draft June 7, 2008) does not set a strict rule for the minimum number of courses, but makes it clear that the GE program as a whole must have an identified set of learning outcomes based on knowledge, skills, and values learned in GE courses, and that GE courses are not simply subsets of a disciplinary major.

[2] For a discussion of general education definitions and perspective, see "2007 University of California report "General Education in the 21st Century: A Report of the University of California Commission on General Education."

B. Core System

In contrast, a "core" model makes assessment more efficient because only a few general education courses, e.g., Core 1 and Core 100, are designated to fulfill the eight guiding principles. This model can also accommodate interdisciplinary and cross-disciplinary course designs that result in a pedagogically coherent curriculum. Breadth can be satisfied separately by having students complete general education courses that each School requires.

The main drawback of a core system of general education as currently implemented is that faculty have little or no obvious incentive to teach a core course, especially when staffing needs in their undergraduate or graduate program have higher priority. Providing incentives such as accrued release from teaching after doing several core courses introduces some of the same problems that undermine the viability of a menu system. For instance, there is a higher cost due to the course-release incentive, and a disincentive to revise the system if core FTE is being reallocated to support major programs with low enrollment. Similarly, the higher workload demands of team-taught core courses can deter faculty from participating since team teaching, if done well, requires significant planning and collaboration.

There is a presumed pedagogical value in a having faculty from different disciplines share responsibility for teaching a core course. In Core 1 that advantage can be readily demonstrated as students are introduced to a broad range of disciplinary perspectives, thus providing them a foundational basis for selecting majors and perhaps careers. At the upper-division level, however, most students have already selected a major program and are beginning to complete the requirements for that major. For upper-division students, the "core" general education principle of interdisciplinarity may have a different function than it does for freshmen. For these students, a disciplinary foundation for contributing to team projects is likely to be quite thin and not a reliable basis for meaningful interdisciplinary collaboration. If team-taught interdisciplinary versions of Core 100 (or its alternative) enroll students from all majors, the instructors might need to ignore fundamental differences in the knowledge and related skill-sets of some students, or frame the curriculum as something like an introductory (freshman-level) course. As discussed in the section on the Core courses below, there are both advantages and challenges to an upper division GE requirement that involves elements of interdisciplinarity.

C. Thematic System: Common Read Courses

This model of general education typically supplements a menu or possibly a core system in order to add coherence. It can, however, function independently as a third option for general education, with potential to incorporate some of the better features of the other two systems.

To provide thematic focus for upper-division general education, the university could require all juniors to enroll in a designated "common read" course. The book selected each year for the common read would become a required part of the curriculum for the designated course. That course would also be designed to fulfill all eight guiding principles of general education. The course would be a required item in the menu of general education courses. In that sense, there would be a "menu" of course fulfilling the roles of Core 1 and/or Core 100, with specific courses designated for different majors. The common read approach need not result in development of

many new courses. In many cases, different major programs could share a required common read course. In this sense, the common read approach to general education is a relatively minor variation on the menu system.

There are some minimal workload issues associated with the common read approach. Selection of a suitable common read would require broad consensus and some routine participation of faculty across the university. Faculty teaching the designated course would need to read the book. Since the selected book would change each year, the designated course would require some curricular adjustments too. However, since the designated course would also continue to serve its function as a major requirement, these changes related to the common read would be relatively minor (e.g., adjusting some assignments, restructuring some questions on quizzes and exams, etc.).

It is important to stress that Core 1 would continue to be offered as a signature general education course for freshmen, and as a point of reference for upper-division students who shift from the interdisciplinary perspective of Core 1 to the disciplinary perspective of the designated general education course in their major. The common read would also provide a link to Core 1 for transfer students who would otherwise have no broadly shared experience of general education at our campus.

D. Summary

Although a number of models for general education exist, investigating the nature and costs of these alternatives would take significant time and effort, perhaps as much as two years if done well. Such an investigation would involve fact-finding communication with other universities that do an exemplary job with models other than the model used now at UC Merced. It would also involve extensive consultation with faculty at UC Merced to estimate the resources that would be needed to implement alternatives like the common read or menu systems, and to identify the obstacles to such implementation.

Unfortunately, accreditation considerations are more pressing than such a time frame allows. In order to maximize the chances of receiving accreditation, UC Merced would benefit from presenting a coherent and already-implemented general education system to WASC over the next two years. Hence, the remainder of this report is largely devoted to presenting various models under which the Core courses might continue to function until such time as viable alternatives might be identified. However, this focus on the Core courses does not mean that the committee advocates continuing the Core course system indefinitely. To the contrary, for reasons outlined later in this report, the committee believes that the Core course system as currently delivered will not be sustainable for many more years, although an evolved version of core system may continue to be viable. Consequently, the report revisits the issue of alternative systems after the following consideration of the existing Core system.

III. Academic Considerations and General Principles

A. General Education at UCM

The ad hoc committee re-affirms previous support of the Guiding Principles for General Education and the approach to delivery of General Education at UCM articulated in the prior UGC report (June, 2008), in particular:

- It is essential that a high quality GE program be delivered at UCM or our ability to achieve accreditation will suffer.
- General Education should have integrity and value on its own rather than simply supporting undergraduate degree programs.
- The Guiding Principles for General Education provide a sound basis and assessment framework for designing GE courses, but should be considered a starting point, rather than an endpoint or directive, for the actual design and implementation of course content.
- General Education is a part of every undergraduate degree program on campus; therefore, we adopt the premise that:
    - Every degree program should contribute to GE in some way;
    - Administration must allocate resources to GE in proportion to student enrollment.
- General Education at UCM should strive to be unique and innovative; excellence in GE can set UCM apart from other campuses.
- Sufficient faculty participation in GE, in both the design and delivery of courses, is essential, and thus, it is balance of faculty, instructors, and TAs contributing to GE.

Regarding the Core Courses as a component of GE delivery:

- Core courses are only one component of the GE curriculum, but by design include all eight of guiding principles; other courses that fulfill specific GE are expected to address specific elements, but not all, of the guiding principles.
- Core courses are meant to be integrative courses, and are not substitutes for GE courses addressing specific elements (e.g., self and society, leadership and teamwork or ethics and responsibility).
- Core courses are inherently interdisciplinary, and thus expose students to interdisciplinary thinking that may not be part of other GE or degree program courses.
- The core courses take a unique approach to delivery of GE that is as good or better than forms of GE delivery at other UC campuses.

B. Core 1 and Core 100 as Vehicles for General Education Delivery

In reviewing current and prior Core 1 and Core 100 courses, the committee identified a number of specific strengths associated with their goals and formats, but also several important challenges that must be addressed if Core 1 is to be continued, and Core 100 restarted, as vehicles for GE delivery.

Strengths

- The themes associated with the Core courses -- interdisciplinary connections between science, technology, society, and culture and how they impact decision-making – are ideal for GE because they not typically taught as part of disciplinary courses.
- Distribution of GE between freshman (Core 1) and junior (Core 100) years are a unique strength:
    - The recursive aspect is unique and important; e.g., concepts introduced in freshman year can be revisited at higher level in junior year;
    - Allows implementation of progressive learning and building of skills;
    - Exposes students to individual and team work at different levels of inquiry;
    - Offering Core 100 at the junior level integrates transfer students to UCM culture and guiding principles
- The Core course approach helps build a cohort of students in freshman year with a sense of campus identity and culture, which may help student retention.
- Student benefit from an interdisciplinary approach to problem analysis and cross-cultural communication.
- Core Fridays, which are very popular, allow integration of arts and creative learning, and help generate outreach and connection to the community.
- Students benefit from participation of ranked faculty in instruction, particularly for Core 100 as an upper division course.
- In their current form, the Core courses have elements of assessment built into the curriculum; non-Core GE courses could employ similar assessment tools.
- The format used in Core courses allows direct feedback into course improvement, which can build information over time to increase assessment payback.

Challenges for Implementation

- The biggest challenge for the Core courses is scaling with increasing student numbers while involving a sufficient number of faculty.
- In order to scale courses, there must be either an increase in resources devoted to the Core courses, or a major change in how the courses are conceptualized and delivered such that fewer resources are needed. Examples of increased resources include:
    - Adequate incentive system for faculty to participate over multiple years;
    - Sufficient administrative coordination and resource support (instructors, TAs) to continue.
- Faculty must be able to balance between GE delivery and delivery of courses in their degree program(s).
- Delivery of Core courses requires coordination across the university, rather than only within schools or degree programs.
- Some students (and perhaps some faculty) currently have a negative view of Core courses that needs to be repaired in order for the courses to be accepted and successful.

Here we assume that the exigencies of WASC accreditation make an increase in resources to Core courses more viable than a decrease. We present below an analysis of, and options for, Core 1 and Core 100 course delivery, scaled by student numbers for the next five years. The analysis includes a recommendation for administrative organization to address resource and

cross-school considerations. Because faculty participation is a key component of success of the Core courses, faculty workload must be established from the onset.

C. Faculty and Instructor Workload

The committee recognizes that faculty teaching load per academic year may vary among schools and degree programs. In order to assign faculty workload credit for participation in teaching Core courses across the university, we suggest a workload standard based on the assumption that 50% of faculty time (on average for the semester) devoted to teaching fulfills the teaching workload expectation (= 1 teaching FTE). This is based on the expectation that regular faculty contribute equally to teaching and research. Faculty and administration can modify this workload metric to their specific schools and programs. Below, the following assumptions are used:

-- A regular semester is 15 weeks total
-- 1 student FTE = 15 semester credit hours

We also recognize that team teaching courses is labor intensive if there is to be coherency in the course over the semester. Thus, the faculty workload estimate takes into account faculty participation, communication among faculty, and contact time with students over the entire semester.

<u>Faculty FTE Workload Expectations (example):</u>
-- 1 teaching FTE corresponds to a total of 300 hours (average of 20 hrs/week) accrued over the course of the semester, including all lectures, student contact hours, preparation time, grading, administrative meetings, etc.
-- Fractional FTE are assessed based on the 300 hour semester total:

Teaching FTE	Total hrs/semester	Ave hrs/week
1	300	20
0.5	150	10
0.25	75	5
0.167	50	4
0.125	37.5	2.5

<u>Instructor FTE Workload Expectations:</u>
Instructors are currently an important component of the Core 1 course, and will be needed to contribute to Core 100 if Graduate Teaching Assistants are not available. Based on contract agreements:
-- A full-time instructor for a 15-week semester is 2.5 courses per semester (5 courses per year) for a writing-intensive, 4-credit course (max. 20 students).
-- For Core 1, full-time instructor would be assigned 2.5 discussion sections (plus lecture and Core Friday attendance) per semester.
-- Instructor time includes attendance at lectures, running discussion sections, preparation time, office hours, grading, administrative meetings, and assessment of learning outcomes.

Graduate Student Teaching Assistants FTE Workload Expectations:
By union agreements, graduate student teaching assistants are assigned up to 49.9% FTE during a regular semester.
-- A regular graduate TA assignment is 20 hrs/week, or 300 hours for a 15-week semester
-- Instructor time includes attendance at lectures, running discussion sections, preparation time, office hours, grading, and administrative meetings.
-- Depending on the size of a discussion section and non-contact workload, one GTA would supervise 2 discussion sections per semester if not writing-intensive.

IV. Core 1 Example Models

Core 1 currently uses a large lecture format limited by the maximum room size (350), with discussion sections taught by Writing Instructors. Other than the lead faculty, faculty are responsible for delivering lectures, but are not usually involved in discussion sections, grading assignments, or interacting with students outside of their lectures. **The committee thinks that the large lecture format with discussion sections works for Core 1 and should be continued. However, the committee feels strongly that two lectures per week should be required for each Core 1 lecture section.** In a version of the current model (Model 1 below), faculty delivering lectures do not receive any teaching credit for their participation. Continuation of this model requires that sufficient faculty are willing to participate without teaching compensation, which the committee thinks is not sustainable over the long term. For any model, some economy of scale is obtained by replication of the same material in each lecture (and therefore, discussion) section.

Model 1: (original format, writing intensive)
Model 1 is a version of the current Core 1 format, but returned to two lecture sections per week (original format). Given the room size limitation, this will accommodate up to 700 students total per semester and 1400 student per year (assuming enrollment is distributed approximately evenly). Model 1 continues to rely on "guest" faculty lecturing; each faculty gives the same lecture twice:

-- Lead faculty receive 1 FTE credit per lecture section (350 students).
-- Other faculty "guest" lecture; they receive no FTE credit but count Core 1 as an "extra" teaching activity.
-- Lecture faculty give the same lecture twice (once to each section)
-- Assignments, grading, student contact, by instructors and lead faculty; lecture faculty not expected to contribute other than lecture delivery.
-- All lecture sections share the same Core Friday activities.
-- Discussion sections run by Writing Instructors; each Instructor attends lecture once per week, and is assigned 2.5 discussion sections.
-- TAs are not used

Core 1: Model 1 (original format, writing intensive[1])

Year	2009-10	2010-11	2011-12	2012-13	2013-14
Freshman enrollment (total)	1100	1100	1150	1200	1300
# Students / semester	550	550	575	600	650
# Lecture sections (room = 350)	2	2	2	2	2
# Discussion sections (20 students max)	28	28	29	30	33
# Lead Faculty / semester (= 1 FTE / section)	2	2	2	2	2
# Lecture Faculty / semester (no FTE)[2]	25	25	25	25	25
Total FTE Faculty / semester (lead+lecture)	2.0	2.0	2.0	2.0	2.0
FTE Instructors / semester (1 FTE / 2.5 discussion sections)	11.0	11.0	11.5	12.0	13.0
Student credit hours / semester	2200	2200	2300	2400	2600
FTE Student / semester (1 FTE = 15 credit hours)	146.7	146.7	153.3	160.0	173.3
FTE Student / FTE Faculty	73.3	73.3	76.7	80.0	86.7
FTE Student / FTE Instructor	13.3	13.3	13.3	13.3	13.3

[1] Note that in Spring 2009 only half of the lectures were given than in previous years (see Core 1 Committee memo to UGC, Nov. 4, 2008).
[2]Support faculty are "guest" lecturers and receive no formal teaching credit.

<u>Model 2: Lecture faculty receive teaching FTE credit</u>
In this model, lecture faculty receive 0.25 FTE for participating in the course. They are expected to have more involvement in the course than in the current format, both in delivering more lectures, in organization and running the course, and in student contact and grade assignment during the semester. Because more faculty are involved in actual course delivery, the lead faculty FTE is reduced from 1 to 0.5 for a 350 student section. The features of this model are:

-- Lead faculty receive 0.5 FTE credit per lecture section (350 students), or 1 faculty FTE for 2 lecture sections.
-- Lecture faculty receive 0.25 FTE, and are expected to contribute 75 hours to the course over the semester (see example faculty workload spreadsheet in Appendix B).
-- Lecture faculty responsible for 2 weeks of the course, and give 2 lectures twice.
-- Assignments, grading, student contact, proportionally by lead and lecture faculty (see spreadsheet)
-- All lecture sections share the same Core Friday activities
-- Discussion sections are run by Writing Instructors, but faculty are expected to work with instructors on assignments and grading; each Instructor attends lecture once per week and is assigned 2.5 discussion sections. There is a reduction in workload for Instructors from three hours to two hours per week because faculty are expected to participate in Core Fridays and in student evaluations and contact.

Core 1: Model 2 (lead+support faculty, writing intensive)

Year	2009-10	2010-11	2011-12	2012-13	2013-14
Freshman enrollment (total)	1100	1100	1150	1200	1300
# Students / semester	550	550	575	600	650
# Lecture sections (room = 350)	2	2	2	2	2
# Discussion sections (20 students max)	28	28	29	30	33
# Lead Faculty / semester (= 1 FTE / 2 section)	1	1	1	1	1
# Lecture Faculty / semester (0.25 FTE)*	6	6	6	6	6
Total FTE Faculty / semester (lead+lecture)	2.5	2.5	2.5	2.5	2.5
FTE Instructors or TAs/ semester (1 FTE / 2.5 discussion sections)	11.0	11.0	11.5	12.0	13.0
Student credit hours / semester	2200	2200	2300	2400	2600
FTE Student / semester (1 FTE = 15 credit hours)	146.7	146.7	153.3	160.0	173.3
FTE Student / FTE Faculty	58.7	58.7	61.3	64.0	69.3
FTE Student / FTE Instructor	16.0	16.0	16.0	16.0	16.0

*Support faculty receive 0.25 FTE teaching credit.

Core 1: Model 3 (not writing intensive)

A third alternative to this model is to designate Core 1 as a "not writing intensive" course and use a combination of instructors and teaching assistants to support the course. Allocation of some TAs could help with workload and provide an incentive for faculty to participate.

Core 1: Model 3 (not writing intensive)

Year	2009-10	2010-11	2011-12	2012-13	2013-14
Freshman enrollment (total)	1100	1100	1150	1200	1300
# Students / semester	550	550	575	600	650
# Lecture sections (room = 350)	2	2	2	2	2
# Discussion sections (20 students max)	28	28	29	30	33
# Lead Faculty / semester (= 1 FTE / 2 sections)	1	1	1	1	1
# Lecture Faculty / semester (0.25 FTE)	6	6	6	6	6
Total FTE Faculty / semester (lead+lecture)	2.5	2.5	2.5	2.5	2.5
FTE Instructors or TAs/ semester (1 FTE / 3 discussion sections)	9.2	9.2	9.6	10.0	10.8
Student credit hours / semester	2200	2200	2300	2400	2600
FTE Student / semester (1 FTE = 15 credit hours)	146.7	146.7	153.3	160.0	173.3
FTE Student / FTE Faculty	58.7	58.7	61.3	64.0	69.3
FTE Student / FTE Instructor	16.0	16.0	16.0	16.0	16.0

Costs Associated with Core 1

The committee did not undertake a comprehensive fiscal analysis of costs associated with delivery of Core courses, or of GE courses delivered by any other format. One example of a cost analysis (presented in Appendix C) suggests that Core 1 may cost about 75% more (about $700,000 more) than it generates through student enrollment. We emphasize these estimates depend on uncertain assumption, and encourage readers to use different assumptions than those used in Appendix C to calculate other cost estimates.

Core 1 costs could be reduced in several ways. Dropping the writing-intensive requirement (Model 3) that Core 1 fulfills would allow non-Writing Program (WP) instructors to teach discussion sections. So, instead of five sections per lecturer, each lecturer could teach six sections; and sections might be larger than 20. On the other hand, this would require changing the College One Handbook (where Core 1 is described as writing intensive), and an entirely new administrative infrastructure would be needed to hire and train instructors who would also presumably conduct Core 1 assessment of general education. Those matters are currently handled by the WP as "instructional workload credits" that comprise the "sixth" course for WP lecturer appointments. Non-WP lecturers would need to be paid to do this additional work, or someone else would have to do it. In addition, some cost savings could be achieved if a very large auditorium were built on campus so that these courses could be delivered in one section. Adding all these savings together, however, it is still likely that Core 1 costs would exceed revenues if continued without modification.

Of more concern for sustainability, the gap between resources generated and resources needed to deliver the course as it is currently taught will increase over time. The committee recommends identifying changes in the course such that the gap will be minimized or eliminated over time. Given the current budget situation, the committee is concerned that resources are likely to be taken from existing majors. This is a key reason why the committee believes the Core courses may not be scalable in their present form. The ultimate cost of GE will depend on the number of faculty, instructors, and TAs associated with course delivery for a given number of students, whether it is delivered by a Core model, a menu system, or some hybrid of alternative models. A thorough fiscal analysis must be made in conjunction with considerations of academic merit in developing cost-effective models for course delivery.

Other Considerations:
The models above strengthen Core 1 by engaging supporting faculty in the delivery of the course. In order to sustain continuity, it is desirable to have faculty committed to teaching the course over multiple semesters and years. However, faculty must also be able to balance Core course delivery with delivery of degree program courses.

-- A rotating cadre of faculty should be identified to support Core 1.
-- Faculty should commit to participate in at least 2 out of 4 semesters.

In order for any model to be successful, an approximately even distribution of students is required between fall and spring semesters, and students must complete Core 1 during their

freshman year. Historically at UCM, only ~40% of freshman students pass the writing exam and thus qualify to take Core 1 in fall semester. The committee recommends:

-- Require freshman who qualify for Core 1 (i.e., pass writing exam) to enroll in fall semester; all other freshman students are required to take Writing 1 in fall and Core 1 in spring
-- Automatically enroll students in Writing 1 and Core 1 during their freshman year (no voluntary deferral to the sophomore year or later).
-- Place registration holds on second-year students who fail to take Core 1, or who fail Core 1, and require an advisor's signature to re-take Core 1 and enroll in any other courses.

V. Core 100

Unlike Core 1, Core 100 is currently not being taught (it was taught in Spring 06 and 07). As discussed in the 2008 UGC report to Division Council and prior documents, scaling the prior format of Core 100 to larger class size proved problematic, partly because the course relied on having more faculty teaching the course than Core 1. With no formal teaching credit, Core 100 did not have sufficient faculty interested in continuing the course in its prior format. For AY2008-09 and 2009-10, UGC approved the interim substitution of writing courses in place of Core 100. It should be noted, however, that this was approved as a temporary measure through AY 2009-10 and Core 100 remains a GE requirement for a UCM undergraduate degree.

The prior format of Core 100 involved teaching students problem-solving skills through the experience of working on a multidisciplinary team that was charged with formulating a solution to a societal problem. Previously, all students were enrolled in one lecture section led by several faculty, who participated in discussion sections and supervision of group projects. Students were divided into teams that selected a "real-life" problem to solve. There were a limited number of formal lectures and most of the course time was spent on group projects. Based on comments from previous faculty who taught the course and on student evaluations, the committee recommends that revision of the format and implementation of Core 100 be undertaken. The committee discussed possible alternatives but recognized that wholesale revision should be undertaken by faculty who intend to teach the course (see below).

One aim in Core 100 is to have ranked faculty teaching the course rather than a reliance on instructors as in Core 1. As an example of resource demands, the Example Model below gives student numbers and required resources for a model of two faculty per lecture section (= 80 students), each faculty receiving 0.5 FTE teaching credit, and TAs supporting discussion sections.

<u>Example Model</u>
-- Two faculty from different disciplines team teaching one lecture section
-- One lecture section = 80 students total: 20 students / discussion section; 4 discussion sections / lecture section.
-- Each faculty receives 0.5 FTE for co-teaching one section
-- 1 TA per 2 discussion sections = 2 TAs per lecture section

Core 100: Example Model

Year	2009-10	2010-11	2011-12	2012-13	2013-14
Freshman enrollment	1100	1100	1150	1200	1300
Junior enrollment (freshmen - 25%)*	825	825	863	900	975
# Students per semester	413	413	431	450	488
# Lecture sections (80 students / section)	5	5	5	6	6
# Discussion sections (20 students each)	21	21	22	23	24
# Lecture Faculty / semester (total)	10	10	10	12	12
Total FTE Faculty / semester (0.5 FTE/section)	5.0	5.0	5.0	6.0	6.0
# FTE TA / semester (1 TA/ 2 disc)	10	10	11	11	12
Student credit hours / semester	1650	1650	1725	1800	1950
FTE Student / semester (1 FTE = 15 credit hours)	110.0	110.0	115.0	120.0	130.0
FTE Student / FTE Faculty	22.0	22.0	23.0	20.0	21.7
FTE Student / FTE Instructor or TA	10.7	10.7	10.7	10.7	10.7

*Model assumes a 25% attrition from freshman enrollment based on prior history.

If a sufficient number of teaching assistants were not available, then instructors would be needed for discussion sections. Note that lecture and discussion student numbers in this model are limited primarily by the size of available rooms. The current inventory of large lecture rooms (including Kolligian is):

Capacity	Number
377	1
170-176	2
120	1
80	1
60	2

Smaller rooms for discussion sections range in size from 20-30; however, the largest number of small rooms in COB is 20-person capacity.

One can imagine a continuum of models that distribute workload among faculty, instructors, and teaching assistants. Regardless of the exact format, resources for instructional personnel must be allocated to deliver a course or set of courses that fulfills the role Core 100 currently plays in our overall plan for GE requirements. The lack of delivery of Core 100 is an immediate and significant problem for accreditation, as is the termination of a temporary alternative to Core 100 in Fall 2010.

Cost Estimate for Core 100

Similarly to Core 1, the committee did not undertake a comprehensive fiscal analysis of costs associated with Core 100. One example of a cost analysis (presented in Appendix C) suggests that the "Core 100: Example Model" table would require about 50% more resources (about $350,000) than the course generates through its enrollment. This model also assumes that 10 faculty per semester will teach a Core 100 section for half course credit, a number that will increase as the size of the student body increases. Those faculty would have to teach it as an overload, or they would stop teaching a course in their own discipline which would then have to be replaced. The estimates from Appendix C do not take account of those additional costs. And like the costs of Core 1, the gap between resources generated and resources required for Core 100 will also increase over time given the model assumptions. It should be emphasized that faculty are currently not teaching the courses temporarily substituted for Core 100 for AY2008-10, which are being taught by writing instructors. Thus, involving faculty in delivery of GE courses by any model will most likely incur additional costs. As with Core 1, a complete fiscal analysis is needed in conjunction with consideration of Core 100 alternatives.

Alternative Approaches for Core 100 Delivery

The committee recognizes that revision and future evolution of Core 100 is required, but the details of the revised format should be in the hands of the faculty who are interested in teaching the course. Some suggestions and ideas that were discussed include:

-- Rather than a single Core 100 course, an alternative approach is to have multiple sections of Core 100 that, within broad course guidelines, faculty design themselves and students can choose from (a "menu" of Core 100 courses).
-- One approach to retaining interdisciplinary aspects of the course is to pair faculty from two different disciplines for one lecture section and choose a topic that intersects their expertise and interests.
-- Another possibility is to have one broad theme, and faculty teaching different sections would select topics for student groups to work on within the theme.
-- Uniformity could also be introduced across multiple courses through mechanisms such as the "common read" approach described above.

Faculty coordination and oversight is required in order to ensure that there is a level of uniformity to delivery of Core 100 courses. We suggest that general guidelines for Core 100 be developed by a curriculum committee (see below), and faculty interested in participating be invited to help develop guidelines and potential approaches to delivery of Core 100. Some former elements of Core 100 that should be considered in new guidelines include:

-- Demonstration of how the course addresses all eight of the guiding principles
-- Emphasis on student problem-solving, with elements of quantitative, statistical, and analytical reasoning
-- Teamwork elements
-- Interdisciplinary elements, including aesthetic appreciation
-- Instruction in doing scholarly research and critically reviewing information
-- Applications to real life, future choices and decision-making

-- Course requirements included written and oral communication skills
-- Prerequisites limited to upper division standing and Core 1 (or equivalent)

Other Considerations:
Regardless of the exact format of delivery of Core 100, several other important considerations should be addressed. First, it is imperative that a faculty advisory committee for Core 100 be formed to identify interested faculty and determine the format of delivery in order for Core 100 to be offered in the near future. This advisory committee may be the same group of faculty that advises Core 1 (i.e., a Core Advisory committee for both courses). A faculty cohort needs to be identified that can rotate responsibility for Core 100 delivery over the next few years so courses can be scheduled.

As with Core 1, student enrollment needs to be distributed between Fall and Spring semesters, and that students take Core 100 in their junior year. Steps to ensure this may include:

-- Require transfer students to take Core 100 in their first semester, and/or automatically enroll them.
-- Automatically enroll students in Core 100; place holds on registration if they do not.
-- Place registration holds on senior students who fail to take Core 100, or who fail Core 100, and require an advisor's signature to re-take Core 100 and enroll in any other courses.

VI. Meeting WASC Accreditation

The Core 1 and Core 100 approach provide an integrated overview of academic inquiry and thus are true general education survey courses which feature active cross-disciplinary learning (for students) and research (for faculty). However, they may be costly to implement and difficult to staff. In a menu-based approach (above), students absorb general education in isolation and are not required to connect them to the broader scope of learning. A thematic approach integrates general education within a student's major but at the cost of some breadth of exposure to other disciplines.

The Core 1 / 100 models are founded on principles with clearly defined learning objectives and outcomes which provide faculty with easy and uniform access to information for assessments, and thereby continuing improvements, of student learning:

Learning Objectives (instructors will):
- Introduce students to the spectrum of scholarly inquiry
- Cultivate intellectual curiosity and exchange of complex ideas
- Survey real-world issues from a variety of interconnected interdisciplinary perspectives
- Draw parallels between the sciences and the humanities
- Promote information literacy for managing and representing evidence
- Demonstrate interdisciplinary analytical thinking, problem-solving, and decision-making
- Examine epistemological bases of knowledge in academic disciplines
- Review effective strategies for learning, reading, writing, and computation

Learning Outcomes (students will be able to):

- Manage and assess information by refining study skills and cultivating scholarly habits
- Collaborate in sharing expertise, making connections, and assembling knowledge
- Demonstrate scholarly processes characteristic of creative/critical problem-solving
- Critique diverse perspectives from scientific, historical, artistic, and personal standpoints
- Apply appropriate qualitative and quantitative methods in analyzing information
- Craft written arguments that draw connections between the arts and sciences
- Appreciate ethical considerations and decision-making in local and global contexts
- Elaborate an enhanced sense of educational purpose in a broader intellectual context

One could conceive of a Core 1 model such that it would no longer serve as a writing intensive course. That change would lower the cost of offering this course somewhat, but it would also raise accreditation concerns:

1) We would no longer be in compliance with section E of the College One Handbook (Core Course Support of Writing and Quantitative Skills): "Because the UC Merced faculty have decided that "The World at Home" course will partially satisfy UCM General Education requirements in college-level writing, the Core Course Sequence will be writing-intensive".

2) We would no longer have a comprehensive assessment of Core 1 general education because currently this is conducted by the Writing Program.

VII. Academic Oversight, Administration, and Implementation

Delivery of GE at UCM with Core 1 and Core 100 as key components requires effective centralized coordination. If faculty, instructors, and teaching assistants from across campus are going to be used to deliver these courses, responsibility for coordination should be left to the three schools. Effective delivery of the Core courses requires two components: an Administrative component responsible for resource support, and an Academic entity responsible for course content and delivery. Since College One already exists in UCM Division bylaws as an academic unit, it could be used, with redefinition of its responsibilities, as the structural vehicle for delivery of the Core courses. This would avoid creation of any new units or administrative offices.

The committee recommends:

1. The Office of the Vice-Provost for Undergraduate Education (VPUE) be immediately designated as the central administration for coordination of the Core courses (or other potential GE courses in the future). From an administrative standpoint, this could be accomplished in our current structure by appointing the VPUE as Dean of College One (in addition to VPUE) without any change in College One bylaws. The responsibilities for GE course coordination would be:

-- Work with faculty and College One curriculum committee to ensure sufficient staffing of Core courses for the next two years
-- Work with Deans of other schools to balance faculty workload

-- Work with the Writing Program to assign and coordinate Writing Instructors
-- Hire and coordinate teaching assistants
-- Coordinate course scheduling and course evaluations
-- Serve as the central administration for any matters relating to course support
-- Work with the College One curriculum committee to evolve and update GE requirements over the long term.

2. The duties of College One be redefined such that College One is the academic unit responsible for oversight and delivery of Core courses (and of other potential GE courses in the future). The responsibilities of College One would be:

-- Immediately appoint a College One curriculum committee charged with curriculum approval authority and oversight of course delivery
-- Work with the VPUE/Dean to identify faculty interested in teaching Core courses, and develop a plan for cycling faculty through, ensuring continuity, roll-over, and a sufficient number of faculty for multiple years
-- Develop guidelines and/or format for delivery of Core 100 or equivalent course(s) with faculty interested in teaching it; develop an implementation plan
-- Develop a plan for evolving and updating Core and/or other GE options commensurate with enrollment growth
-- Provide academic oversight for Core and other future GE courses.

3. In order to deliver the Core courses (or other future GE courses) faculty must be given credit for teaching these courses (potentially on a proportional basis). Other ways in which to ensure sufficient faculty for GE course delivery may include:

-- Faculty contributions to Core or GE courses could be taken into account when considering the allocation of new FTEs in their degree or graduate program areas.
-- Depending on level of involvement or teaching FTE accrual, faculty could be awarded incentives such as: supplemental discretionary research funds; a graduate student fee waiver; supplemental support for post-doctoral scholars or research technicians; partial summer salary; teaching release in a subsequent semester.
-- Faculty with administrative appointments (Deans, Provost, Chancellor, Vice-Chancellors, Vice-Provost) could be assigned teaching responsibilities in Core or GE courses.

VIII. Next Steps and Timetable

Given the investment UC Merced has made in the Core courses, the committee recommends that the Academic Senate and the Administration determine whether the resources for delivery of the Core courses that are recommended in this report will be allocated. If GE at UCM will continue to include delivery of the Core courses for the next several years (with potential modifications as describe above), the committee recommends the following immediate actions:

1. Administrative actions:
-- Appoint the VPUE as Dean of College One

-- Have the VPUE prepare a budget for administrative support of Core course delivery based on models above and with consultation of the faculty curriculum committee
-- VPUE should consult with the faculty curriculum committee to prepare a multi-year budget as course delivery options are refined, including a thorough fiscal analysis associated with alternative models.

2. Academic actions:
-- Establish a faculty curriculum committee within College One for oversight of Core 1 and Core 100 courses (and whatever future alternatives emerge)
-- Revise College One bylaws to charge with Core course delivery and oversight of GE

Immediate actions to be taken on Core 100 to:
-- Identify faculty interested in participating in course delivery
-- Write guidelines delineating the form and format of Core 100 with interested faculty
-- Develop a plan to phase in teaching of Core 100 (or appropriate alternatives), potentially starting in spring 2010
-- Develop a faculty rotation plan for the next 3-5 years
-- Work with interested faculty to evolve Core 100 to a sustainable model aligned with student growth.

Immediate actions to be taken on Core 1:
-- Identify faculty interested in participating in course delivery
-- Format and faculty participation need to be finalized immediately for Fall 2009
-- Ensure sufficient faculty participation in Core 1, and develop faculty rotation plan for the next 3-5 years
-- Work with interested faculty to evolve Core 1 to a sustainable model aligned with student growth.

If the Academic Senate and the Administration decide now that resources are not available for the delivery of Core courses as a component of GE, alternative models would need to be pursued quickly in order to fulfill requirements of WASC accreditation. The committee thinks that, with modification, the Core courses could be delivered by the scenarios outlined above for the next five years. Beyond that timeframe, delivery of GE to a larger student body should be reassessed.

APPENDIX

A. AACU Report and Selected GE Requirements from Other UC Campuses
B. Example workload calculations for Faculty
C. Cost Estimate of Core Courses

Appendix A.
Background Information: AACU Report and Selected GE Requirements from Other UC Campuses

In April 2009 the American Association of Colleges and Universities issued a report, "Trends in Learning Outcomes, General Education, and Assessment," that summarizes survey data from 433 colleges and universities. The report identifies six common forms of general education curricula:

1. Distribution model (82%)
2. Intellectual experiences (42%)
3. Thematic required courses (36%)
4. Upper-level requirements (33%)
5. Core curriculum (30%)
6. Learning communities (24%)

Most colleges and universities (64%) integrate two or more of the six models above; the report also notes that institutions combining approaches "are more likely to report greater integration of the general education and major requirements…." [p.21]

http://www.aacu.org/membership/documents/2009MemberSurvey_Part1.pdf

Selected GE Requirements from Other UC Campuses

Summarized below are selected GE requirements from other UC Campuses. Not all details of School or College requirements are included. Note that GE requirements at other UC campuses are revised regularly, with UC Santa Cruz currently undertaking a major set of revisions

UC Berkeley

http://academic-senate.berkeley.edu/resources/regulations_doc.html
Title IX College of Letters & Science

Regulation 300. AMERICAN CULTURES BREADTH REQUIREMENT

A. Satisfaction of the American Cultures Breadth Requirement is a prerequisite for every Bachelor's Degree awarded to students who begin their studies at Berkeley in lower-division standing in Fall 1991 or thereafter, or upper-division standing in Fall 1993 or thereafter.
B. The American Cultures Breadth Requirement is satisfied by passing, with a grade not lower than C- or P, a course expressly approved for that purpose by the appropriate committee of the Berkeley Division.
C. The courses that satisfy this requirement must be integrative and comparative and address theoretical and analytical issues relevant to understanding race, culture, and ethnicity in American history and society. Each course will take substantial account of groups drawn

from at least three of the following: African Americans, indigenous peoples of the United States, Asian Americans, Chicano/Latinos, and European Americans. (Am. 4.4.94)

D. The courses satisfying this requirement are not precluded from satisfying other requirements.

Regulation 807. Bachelor of Arts Degree (Am. 10.25.94)
D. General Requirements. The candidate must have satisfied the:

1. General University requirements of SR 630, 634, 636, 638; and Berkeley Regulation 300. (CC. 4.89)

2. Breadth requirements specified by the Faculty of the College.

* Any student who has completed all of the Letters and Science breadth requirements, or the general education requirements, or the equivalent of either, at the University of California campus from which he or she transfers, may, upon petition, be credited with having completed the breadth requirements of this College.

3. Requirements of a major program described in Regulations 809-812 (eff. Fall 1987). (Am. 4.87)

other colleges have similar GE or breadth requirements but vary depending on major difficulty and work load

UC Davis
http://academicsenate.ucdavis.edu/cerj/manual.htm

College of Letters & Science Regulations
Section 1. Requirements for the Bachelor's Degree

50. General Requirements: The degree of BA or BS will be granted upon the fulfillment of the following conditions:

(A) The candidate shall have satisfied:
(1) The unit requirements described in 51;
(2) The English composition requirement described in 52;
(3) The foreign language and the area requirements described in 56 and 59, respectively; (Am. 6/1/78)

(B) The candidate shall have complied with the limit on the number of units graded P that may be counted toward the degree described in 76 and DD Reg A545(B)

(C) The candidate shall have satisfied the University requirements stated in AS Reg. 630, 634, 636, and 638 (senior residence, grade point average, Subject A, American History and Institutions, respectively).

UC Irvine
http://www.senate.uci.edu/senateweb/default2.asp?active_page_id=121

Regulation 520. General Education Requirement (Am 13 April 89) (Am 3 June 03) (Am 7 Jun 07)

(A) General

A candidate for the Bachelor's degree must satisfy a general education requirement of courses approved by the Council on Educational Policy (CEP) in each of the following categories:

I. Writing (3 courses);
II. Science and technology (3 courses);
III. Social and behavioral sciences (3 courses);
IV. Arts and humanities (3 courses);
V. Quantitative, symbolic, and computational reasoning (3 courses);
VI. A language other than English (3 courses in the same language)
VII. Multicultural studies (1 course);
VIII. International/global issues (1 course); and
IX. Laboratory or performance (1 course).

UCLA

Academic Senate Manual: http://www.senate.ucla.edu/SenateLinks/formsDocsPage.htm
Division Regulations Link: http://www.senate.ucla.edu/FormsDocs/regs/toc.htm

458. The degree of Bachelor of Arts or Bachelor of Science will be granted upon the following conditions:

(A) A minimum of 180 course units are required for a Bachelor's degree of which at least 60 units shall be from upper division courses (numbered 100-199) … [Am 23 May 79; 31 Oct 81; 27 May 86; 12 Nov 96; 5 Jun 01]

(B) Except as provided in SR 630(B), (C) and (D), and (E) and 614, 35 of the final 45 units completed by each candidate for the Bachelor's degree must be earned in residence in the College of Letters and Science on this campus. [Variance to SR 630.] [Am 6 June 79; 2 Dec 81; 3 Jun 03]

(C) The candidate must complete the following general University and College requirements. [Am 11 Feb 02]

(1) University of California Entry-Level Writing Requirement ...
(2) American History and Institutions ...
(3) College Writing Requirement ...
(4) Quantitative Reasoning ...
(5) Foreign Language ...

(D) The candidate must complete the College general education requirements, which consist of 10 courses (a minimum of 48 units) in the following three foundational areas. One of these 10 courses must be either an approved lower division seminar or second Writing II course in an appropriate foundational area. The College will publish a list of approved courses that fulfill these requirements. [Am 11 Feb 02]

(1) Foundations of Arts and Humanities...
(2) Foundations of Society and Culture

(3) Foundations of Scientific Inquiry

(4) Students will be exempt from the College general education requirements in the following instances: [Am 11 Feb 02}

(a) Students who transfer to UCLA from other UC campuses and have met all general education requirements at the campus from which they transferred will be exempt. [Am 11 Feb 02]

(b) Student who transfer to UCLA from a California community college and have satisfied IGETC as set forth in Statewide SR 478 prior to enrolling in the College. [Am 11 Feb 02]

(c) Any transfer student who has not satisfied (a) or (b) above must complete the College's general education requirements. [Am 11 Feb 02]

UC Riverside

http://www.senate.ucr.edu/senate_site/cms.php?action=list_bylaws

Regulation 6 Campus Graduation Requirements (En 5 May 81)

R6.1 English composition.

R6.2 Natural sciences and Mathematics: five courses.

R6.3 Humanities: for the A.B. Degree: five courses for the B.S. Degree: three courses.

R6.4 Social Sciences: for the A.B. Degree: four courses. for the B.S. Degree: three courses.

R6.5 Ethnicity: one course (En 25 May 89)*

R6.6 Courses taken in a student's major discipline (including courses cross-listed with the major discipline) may not be applied toward satisfaction of R6.2 to R6.5 (except for History majors in connection with R6.3.1 and for Biology and Psychobiology majors in connection with R6.2.2). However, courses outside the major discipline, but required for the major, may be applied toward satisfaction of these requirements. (Am 2 Jun 83; 25 May 89) (Am 30 May 96) (Am 29 May 97)

R6.7 In R6.2, R6.3, and R6.4 any one course may be used to meet only one campus graduation requirement. (Am 25 May 89)

R6.8 In R6.2, R6.3, R6.4 and R6.5, a course is defined to be a block of instruction which carries four or more units of credit. (Am 25 May 89)

R6.9 The Committee on Educational Policy, in consultation with appropriate Academic Senate committees, departments, programs, and administrative officers, will regularly review the classifications of courses in interdisciplinary departments and programs, and will report its findings to the Academic Senate.

UC San Diego

Bylaws & Regulations Division Link: http://www-senate.ucsd.edu/Manual.htm

R 600: Campuswide Graduation Requirements

A. Majors

B. Unit Requirement

C. Maximum Unit Limitation

(1) An undergraduate student may register for no more than 200 course units. An exception is permitted for candidates for B.S. degrees in engineering, for whom the limit is 240 units in Revelle and Eleanor Roosevelt Colleges and 230 units in all other colleges. Other exceptions will

be granted only for compelling academic reasons and only with the approval of the college provost and the concurrence of the Committee on Educational Policy.
(2) Transfer units applicable toward general education requirements or major requirements are to be included in the maximum unit calculation; all other transfer units are to be excluded. Advanced Placement and International Baccalaureate units are to be excluded.

D. Special Study
E. Minors
F. American History and Institutions Requirement
G. Residence
H. Part-Time Study
I. Honors at Graduation
J. Subject A Requirement

UC Santa Barbara
https://senate.ucsb.edu/about/bylaws.and.regulations/
Section 5: Requirements for the Degree of Bachelor of Arts

R185. General Education Requirements for the Degree of Bachelor of Arts, College of Letters and Science

The General Education program provides a body of knowledge and skills of general intellectual value that gives the undergraduate student a broad educational experience. The program emphasizes an appreciation of the humanities, the fine arts, the natural and social sciences, and the cultural traditions and diversity of the modern world.

The candidate shall satisfy the General Education requirements in both Special and General Subject Areas. A list of General Education courses will be approved annually by the Divisional Committee on General Education. Students may petition the Committee on General Education to receive General Education credit for courses not on the approved course list.

All courses acceptable in satisfaction of the requirements must have a value of at least 3 units.

Special Subject Area Requirements
All Special Subject Area courses may simultaneously fulfill General Subject Area Requirements.

* Writing Requirements: Students must take a minimum of six courses that require the writing of one or more papers, totaling at least 1,800 words.
* World Cultures Requirement: Students must take at least one course that focuses on a culture outside the European Traditions.
* European Traditions: Students must take at least one course that focuses on European cultures or on cultures in the European Traditions.
* Ethnicity Requirement: Students must take one course which concentrates on the intellectual, social and cultural experience and history of one of the following: Native-Americans, Afro-Americans, Chicanos/Latinos, Asian-Americans, or a course that

provides a comparative and integrative context for understanding the experiences of oppressed and excluded racial minorities in the United States. Courses satisfying this requirement may also be used in satisfaction of the University American History and Institutions Requirement.

* Quantitative Relationships Requirement: Students must take at least one course emphasizing quantitative relationships.

General Subject Area Requirements

Any given General Education course can be applied to only one of the General Subject Area Requirements. Students may also petition the Committee on General Education to construct an "Individualized GE Program" under guidelines determined by the Committee.

Area A: English Reading and Composition
The student must complete two courses designed to develop skills in English reading and composition.

Area B: Foreign Language
This requirement may be satisfied in one of the following three ways:

1. The completion of Language 3 (third quarter) or the equivalent in one language.
2. The completion with an average of at least C of the third year of one language in high school.
3. The passing of the appropriate level of the placement examination recommended by the Foreign Language Department concerned and approved by the Executive Committee of the College and the Committee on General Education. This examination can be taken before admission to UCSB.

Area C: Science, Mathematics and Technology. The student must complete three courses.
Area D: Social Science. The students must complete three courses.
Area E: Culture and Thought. The student must complete three courses.
Area F: Arts. The student must complete two courses.
Area G: Literature. The student must complete two courses.
[Adopted 4 Mar 94; AM 27 May 04]

UC Santa Cruz
http://senate.ucsc.edu/manual.htm

10.2.2 General Education Requirements. (En 13 Mar 1986)

10.2.2.1 Students who enter the University of California, Santa Cruz, as candidates for the degree of Bachelor of Arts, Science, or Music either: (1) in fall quarter 1986 or thereafter, or (2) between fall quarter 1984 and spring quarter 1986 with fewer than 45 quarter units of transfer credit, are required to fulfill the following campus general education requirements. The courses used to satisfy these requirements must be chosen from the lists of approved courses (SCR 10.2.2.6)... (Am 29 May 96, effective 1 Sept 97, 23 Feb 00; 9 Nov 00; CC 10 June 87, 31 Aug 98)

a. Introductions to disciplines. Two five-credit hour courses or the equivalent ... (Am 12 Feb 92; EC 12 May 97, 31 Aug 06)
b. Topical courses. Three five-credit hour courses or the equivalent (Am 12 Feb 92)
c. Quantitative course.
d. Composition courses. (Am 21 May 04)
e. Writing-intensive course. (Am 12 Feb 92, 21 May 04)
Regulations of the Academic Senate, Santa Cruz Division (8/07 Edition)
f. Arts course. (Am 12 Feb 92; CC 21 May 04))
g. Ethnic studies course. (Am 12 Feb 92; CC 21 May 04)
h. A given course may apply toward as many as three of the requirements above. However, no single course may satisfy both the Disciplinary Introduction and the Topical requirement. (CC 21 May 04)

10.2.2.3 Transfer or advanced standing credit may apply toward all of the requirements in SCR 10.2.2.1 except the Writing-intensive courses. Writing-intensive courses must be taken at UCSC. An eligible transferred course of 4.0 quarter units or 3.0 semester units may be considered one course with respect to campus general education requirements.

Santa Cruz is currently discussing revisions to its General Education requirements:

UCSC Proposed general education requirements
Committee on Educational Policy – February 2009

"Design" principles
Our requirements should…
• be easy to understand
• be less burdensome than current requirements, if possible
• reflect faculty and student feedback
• reflect our campus's principles and identity

High level objectives

Highest level: to encourage lifelong learning, and to prepare people to handle the complex and unexpected problems of the future with wisdom and resourcefulness.

More concretely:
1) To provide students with a base of knowledge and skills that future learning can build on.
2) To expose students to a broad range of disciplines and methodologies, to better prepare them for a world of complex problems and rapid change.
3) To enhance the abilities of students to approach problems in appropriately analytical ways.
4) To prepare students to function as responsible and informed participants in civic life, considering pressing societal issues (such as the environment, the economy) productively and from a variety of perspectives.

Proposal

Code		Distinct Courses	Possibly Overlapping	
Cross-Cultural Analysis		CC	1	
Ethnicity & Race		ER	1	
Interpreting Media		IM	1	
Mathematical & Formal Reasoning		MF	1	
Scientific Inquiry		SI	1	
Statistical Reasoning		SR	1	
Textual Analysis & Interpretation		TA	1	
Perspectives (Choose 1)	Environmental Awareness Human Behavior Technology & Society	PE-E PE-H PE-T	1	
Practice (2-credit) (Choose 1)	Creative Process Collaborative Work Service Learning	PR-CP PR-CW PR-SL	+ (2cr)	
Writing	Composition	C1&C2	1	1
	Disciplinary Communication	DC	*	

Appendix B. Example of Faculty Course Workload Estimate

Course #:	Core 1	
Course type:	Example of 1/4 effort = 75 hours total for 15 week semester = 300 hour total	
Instructor FTE	0.25	
# Students:	350	
# Discussion sections	5	
Faculty Contact hours:	***(Number of hours of faculty effort for semester)***	
Lecture	8	***Faculty responsible for 2 weeks of the courseand give 4 lectures 2 times***
Labs	0	
Field trips	0	
Office hours	0	
Unscheduled interaction time	12	***over entire semester***
Discussion sections	0	
Total:	20	
Faculty preparation hours:		***(Number of hours of faculty effort for semester)***
Lecture	15	***Prep time for 4 lectures given 2 times***
Labs	0	
Tests / Assignments	6	***Faculty have input to assigments for their 2 week section***
Innovations	4	***Faculty collaborate on course innovations***
Total:	25	
Faculty grading hours:		***(Number of hours of faculty effort for semester, not including TA or instructor grading)***
Grading Admin	4	***Faculty involved in assignment of final grades***
Grading	12	***Faculty involved in reviewing grading in their 2 week section***
Total:	16	
Faculty admin hours:		***(Number of hours of faculty effort for semester, not including TA or instructor time)***
Organization/admin meetings	10	***Faculty attend initial organization meeting and intermittent meetings during the semester***
Student admin	4	
Total:	14	
Total effort:	**75**	

Appendix C. Cost Estimate of Core Courses

The committee does not have sufficient data to estimate the costs of the Core courses with a great deal of accuracy. Here we present one example of a cost analysis given the relationship between student credit hour production and resource generation:

- 1 Student FTE = 30 credits per year
- 1 TA FTE (2*50%) = 44 Student FTE
- 1 Faculty FTE = 18.7 Student FTEs

If so, we can estimate the costs of the Core courses by comparing the resources generated with the resources required under various models. To do so we need an estimate of the costs of faculty, lecturer, and teaching assistants. One estimate is data presented to the SSHA faculty about these costs within SSHA:

- One FTE faculty salary and benefits $99,700[3]
- One FTE TA total costs $56,028
- One FTE lecturer costs $50,063

If these costs were estimated using costs of these resources in the Schools of Engineering or Natural Science, costs might well be higher.

The report estimates that Core 1 enrolls 4400 student credit hours over one year, equivalent to 147 FTE students. This generates 7.8 FTE faculty ($781,961) and 3.34 FTE TAs ($93,592), for total revenue of $875,553.

- In the Committee report, Core 1 Model 1 (the current model) requires 4 FTE faculty ($398,800) and 22 FTE instructors ($1,101,386), for a total of $1,500,186. This model also relies on faculty continuing to volunteer to guest lecture at least twice during the semester.
- Core 1 Model 2 requires 2 FTE lead faculty ($199,400), 3 FTE lecture faculty ($299,100), and 18.4 FTE TAs ($1,030,914) or instructors ($921,159), for a total cost of $1,529,414 to $1,419,659.
- Core 1 Model 3 requires approximately 20% fewer resources than Model 2 for instruction, but that savings might be offset by expenses of hiring, training, and supervising a Core 1 cohort of instructors, and compensating them for assessment work.

That is, Core 1 may cost 70-75% more than it generates depending on the assumptions used and on whether instructors must be used instead of TAs if sufficient numbers of the latter are not available, something that seems likely to be the case.

The report estimates that Core 100 enrolls 110 student FTEs, generating 6.36 FTE faculty lines and 2.5 FTE Teaching Assistants. Then Core 100 generates $704,127. Resources needed may be 50% higher than this. The "Core 100: Example Model" table suggests allocating 5 FTE faculty ($498,500) and 10 FTE Teaching Assistants ($560,280), so Core 100 requires $1,058,780. If, as seems likely, the disciplines, majors, and graduate groups are unwilling to give up 10 FTE teaching assistants (i.e., teaching assistants that could be used in as many as 20 courses), lecturers could be substituted for about the same costs.

[3] Estimates obtained from SSHA Interim Dean Hans Bjornsson.