California Polytechnic State University

General Education Program Review

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Introduction

Cal Poly San Luis Obispo has a very ambitious vision for its general education (GE) program. Given the academic focus of so many Cal Poly students on preparation for the professions, it is notable that the GE requirements specify substantive work at both lower and upper division levels, and that every GE course is intended to introduce or develop writing skills. Students are exposed to a wide range of areas of knowledge through GE at Cal Poly, and a wide range of courses is offered in many of those areas.

Cal Poly’s last GE Program Review was conducted in 2006, and we note several areas of progress in line with the recommendations of that review. Appropriate Program Learning Objectives (PLOs) for GE have been developed and adopted; a systematic process of program assessment has been put into place; Cal Poly faculty are active in submitting GE course proposals. Some other areas identified in the 2006 review have seen less progress, such as improving perceptions of GE among faculty and students and implementing a process to ensure the integrity of GE courses after their adoption.

Cal Poly’s GE PLOs reflect a contemporary and sophisticated view of liberal education, and emphasize the application of knowledge and skills in multiple settings. The faculty we met with were clearly committed to achieving those PLOs. Perhaps more significantly, the students we met with — admittedly a small sample — convincingly articulated an impressive understanding and appreciation of the larger purposes of GE — at least in its ideal, aspirational form. As the PLOs and the ways in which they intersect with and reinforce the University Learning Objectives (ULOs) become more widely known by faculty and students, greater appreciation for and commitment to achieving the objectives of GE may result.

The Self-Study that was prepared for this review reflects a thoughtful and thorough approach to program assessment. The approaches to assessing student progress toward the PLOs are commendable, particularly in challenging areas such as the assessment of writing progress, critical thinking, metacognition, and reflection, and the results identify clear opportunities for focusing on certain learning objectives. It was impressive to see engaged representation from a wide range of academic areas on the Assessment Council. The five-year cycle that the Council has adopted for its assessment process appears effective and sustainable. Overall, Cal Poly appears to be making progress in building a healthy culture of assessment and evidence-based decision making.

Cal Poly has certain strengths it can build on in achieving its vision for GE. The institutional motto of “Learn-by-Doing” aligns well with many of the GE PLOs and provides an opportunity to explore greater use of high-impact practices such as service learning, undergraduate research, study abroad, learning communities, and first-year seminars in the context of GE, thereby making more evident the transferability of GE skills to authentic problems, as well as connecting GE more clearly to Cal Poly’s mission. In addition, the Center for Teaching, Learning, and Technology (CTLT) and the Kennedy Library are excellent resources to support GE at Cal Poly. Representatives from those support offices demonstrated an impressive understanding of the purposes and challenges of GE, and described ways in which they are able to effectively support faculty and students in GE.

Finally, we note some exemplary work being done around campus as faculty experiment with models that integrate GE with work in the majors, or link courses together in interdisciplinary combinations. These
could serve as models for more engaging forms of GE that help students make connections between GE requirements, major area studies, and preparation for a life of work and citizenship.

In this report, we discuss the national and state contexts that inform this review. We then describe what we perceive to be the primary challenges and constraints that Cal Poly faces in achieving its GE vision. We also identify opportunities that we believe can be leveraged toward achieving the goals of GE at Cal Poly, as well as resources that we believe will be helpful in those efforts. Finally, we recommend some next steps.

National and State Context

National Context
Cal Poly is undertaking this review of its GE program at a time of considerable education reform across the nation. Based on research the Association of American Colleges and Universities (AAC&U) has conducted with member Chief Academic Officers (CAOs) from institutions of all sorts, it is clear that many institutions are re-examining their GE programs and seeking to make them more integrative, learning outcomes-driven, and effective for all students. AAC&U’s recently launched and continuing initiatives, General Education Maps and Markers and the LEAP Challenge family of projects reflect these trends and are developing resources and new models that should be able to support Cal Poly and others as they revise their GE programs. AAC&U’s research reveals that nearly all colleges and universities across the country now have clearly articulated learning outcomes for all their students. Reviewing the most commonly cited outcomes across institutions, one finds significant agreement about the most important outcomes. Cal Poly’s ULOs, indeed, reflect the outcomes most commonly cited by other institutions around the country.

While nearly all institutions now have stated learning outcomes and significant numbers believe that their own GE programs have requirements linked to those outcomes, many institutions report that their programs still lack coherence in terms of students’ pathways through GE and more than two-thirds of CAOs across the country report placing more emphasis on “integration of knowledge, skills, and application” within GE. Sixty-one percent report placing more emphasis on applied learning experiences. Far fewer are focused on simply providing broad knowledge acquisition as a key goal for GE than was true in the past.

Cal Poly’s process and its specific GE PLO’s are very consistent with broader national trends and align well with recent research on workforce demands including demands within high-tech fields where many Cal Poly graduates will work. The one area where Cal Poly and other institutions may need to improve is in the area of “integrative learning” or “contextual real-world problem solving.” To address this labor market demand, Cal Poly may be able to encourage more integrative, interdisciplinary courses and more intentional connections across GE and majors courses (see below for specific recommendations).

Cal Poly’s approach to assessment also reflects the frontiers of assessment work nationally. Many institutions are assessing learning outcomes across the curriculum with more doing so in departments than in GE. However, 67 percent of CAOs do report assessing learning outcomes in GE—up from 52 percent
who reported doing so in 2008. Of those assessing GE learning outcomes, the vast majority (87 percent) report using rubrics applied to samples of student work.

Cal Poly’s approach to assessment and its work to ensure that its GE program is advancing important university learning objectives is squarely in line with where many other institutions are moving. As noted above, Cal Poly’s goals for its GE program are ambitious and the program is complex in its design to advance those goals. That complexity can present challenges related to implementation, sustained quality, and communications. Others face similar challenges with robust GE programs. For example, many CAOs report that they need to improve how well their GE programs are integrated with students’ major programs. Moreover, the one area where very little improvement seems to be happening is in students’ understanding of the aims of GE and of how requirements can advance clear goals. In the national AAC&U survey, only 9 percent of CAOs indicate that almost all their students understand their institution’s intended learning outcomes. Far more work is needed on all campuses to make clear to students how requirements relate to stated learning goals and to ensure that students’ own curricular pathways are coherent and provide clear ways for students to demonstrate their achievement of intended learning outcomes.

During our visit, faculty and administrators frequently referred to Cal Poly’s curriculum as “upside-down” because of the emphasis on majors in the first two years. They expressed mixed views on whether or not it’s better for students to spread out their lower division GE courses beyond the first two years. We see spreading it out as a strength, suggesting that learning outside one’s major is developmental and that GE is not something to “get over” in order to focus on more important work. AAC&U’s national survey also indicates that requiring at least some GE courses at the upper levels is increasing in frequency. Nearly half of all institutions now report requiring upper division GE. As noted elsewhere in this report, however, collaboration among faculty members teaching primarily courses in majors and those teaching primarily GE courses is essential to truly leverage the potential for students to benefit from upper division GE and to see connections between what they are learning in GE and what they are learning in their majors.

**State context**

As the self-study report states, Title 5 of the California Education Code (5 CA ADC § 40405) regulates GE for all California State University (CSU) campuses and sets credit hour and subject area distribution requirements. More detailed directives for implementing those requirements are provided by the CSU Chancellor through an Executive Order (E.O. 1100). Cal Poly’s GE program is consistent with those policies. It is a series of 18 discrete 4-unit courses, including 15 lower division courses and 3 upper division courses.

Cal Poly’s GE program is generally similar to programs at the other 22 CSU campuses. Its upper division Area F (Technology) is distinctive. The specificity of subareas in Area C (Arts and Humanities) and Area D (Social Sciences, called Society and the Individual at Cal Poly) is greater than at most campuses. Like other CSU campuses, Cal Poly has aligned its GE program and its ULOs with at least some of the AAC&U Liberal Education and America’s Promise (LEAP) Essential Learning Outcomes.
Several CSU campuses that have recently revised their GE programs have adopted innovative approaches. For example, CSU Chico has adopted a “GE Pathways” model ([http://www.csuchico.edu/ge/students/pathways](http://www.csuchico.edu/ge/students/pathways)). Most lower division courses are organized as part of ten themes and all three upper division courses must be taken in a single pathway, including a GE capstone. Some majors are permitted to use their own senior projects instead of a GE capstone.

The new GE program at CSU Bakersfield (effective Fall 2016) incorporates three themes and three integrative “guidepost series” courses, one each in the first, junior, and senior years. Upper division GE courses must reinforce at least two foundational skills. CSU Bakersfield’s program also requires GE faculty to participate in a “faculty interest group” or “skills reinforcement group” each semester. ([http://www.csub.edu/senate/_files/RES%201314047%20Structure%20of%20the%20GE%20Program%20at%20CSUB.PDF](http://www.csub.edu/senate/_files/RES%201314047%20Structure%20of%20the%20GE%20Program%20at%20CSUB.PDF)). Students at both Chico and Bakersfield may choose to earn a minor in one of the thematic areas.

At least two CSU campuses are incorporating thematic GE pathways without making significant changes in their GE programs: CSU Northridge ([http://www.csun.edu/undergraduate-studies/ge-paths](http://www.csun.edu/undergraduate-studies/ge-paths)) and San José State (under development). The goal is to offer students the opportunity to focus their GE courses around a topic that interests them.

CSU Los Angeles has added an upper division civic learning/community engagement requirement and increased their diversity requirement from one to two courses ([http://ecatalog.calstatela.edu/preview_program.php?catoid=11&poid=3665](http://ecatalog.calstatela.edu/preview_program.php?catoid=11&poid=3665)). The service-learning requirement at CSU Monterey Bay has been part of both its GE and major programs since the campus was established in 1995 ([https://csumb.edu/catalog/university-requirements](https://csumb.edu/catalog/university-requirements)).

Many CSU campuses have a required or optional first-year seminar that meets a GE requirement, often (not always) in the Lifelong Learning area (D4 at Cal Poly). Perhaps the new “Reimagining the First Year of College” project from the American Association of State Colleges and Universities will provide an opportunity for Cal Poly to design a similar course.

The reviewers cite these examples for the GE Governance Board (GEB) to consider adapting locally. Cal Poly might also experiment with innovations that go beyond the boundaries of current policies, which allow the Chancellor to approve exceptions. In fact, he has authorized an “alternate GE program” on a pilot basis for purposes of transfer from a community college. The program is described as follows:

“Alternate GE embeds multiple high-impact practices into the lower division general education curriculum, to focus students on the value and purpose of college learning. It departs from the traditional transfer curriculum by de-emphasizing credit hours and distribution of units in favor of demonstrated, integrated learning outcomes ([http://www.calstate.edu/app/geac/documents/sbccproposaltocsugeac.pdf](http://www.calstate.edu/app/geac/documents/sbccproposaltocsugeac.pdf), p.25).”

Two other institutions outside the CSU system whose GE programs may be interesting to consult are the University of Nevada, Las Vegas and the University of Wisconsin, Oshkosh. In both cases, they have tried to maintain choice and breadth of course offerings while also designing to ensure more integrative
Learning. See http://www.aacu.org/toolkit/gened/mapping/unlv for a mapping of UNLV’s new GE design, including its relationship to university-wide outcomes developed in majors as well as in GE. See https://www.uwosh.edu/usp/about-the-usp for UW-Oshkosh’s thematically organized GE program.

Challenges and Constraints

Writing
Cal Poly has appropriately identified writing as a key skill area to be developed both at an introductory level and at more advanced levels through GE. Across multiple studies, one finds that employers are seeking college graduates with top-notch writing and speaking abilities. They also consistently report dissatisfaction with recent graduates’ communication skills. While Cal Poly’s goals are laudable, the institution may need to revisit the design of its GE program with regard to advancing written communication skills. It was clear in our interviews and in the self-study report that, while the program has a clear aspirational design for advancing writing skills, the capacity to deliver on these aspirations is limiting how successful the program currently is at achieving this goal. It seems clear that budget constraints have increased class sizes and that this development has negatively affected faculty members’ capacity and will to embed writing within all GE courses. For example, it is our understanding that the class size of ECON 303 (a D5 “emphasizing writing as an integral process of learning and discovery”) has grown over the years to a class size of 68. It is not clear how timely and meaningful feedback to integral writing assignments can be carried out in classes of this size, particularly when a single instructor may teach multiple sections of this course. The Modern Language Association and the Association of Departments of English suggest class sizes of no more than 25 for writing intensive courses as well as the use of qualified assistants when working with more than 35 students (See: https://ade.mla.org/Resources/Policy-Statements/ADE-Guidelines-for-Class-Size-and-Workload-for-College-and-University-Teachers-of-English-A-Statement-of-Policy).

The self-study reveals that writing is not, in fact, happening in all GE courses, and suggests that some writing-intensive courses do not support development of writing skills in substantive ways. It seems wise for the program to re-examine its goals for writing and the process by which it assures that courses identified as “writing intensive” at the upper levels are, indeed, designed to deliver a curriculum to advance students’ writing abilities. Faculty members also clearly need and deserve appropriate levels of professional development support to ensure that they have the capacity to advance students’ writing abilities both in GE courses and within major programs.

Lack of Flexibility
While 38% of students in the self-study survey identified “Variety/Diversity/Flexibility of Classes” as positive attributes of GE at Cal Poly, “More Variety/Flexibility” was cited by 14% of respondents as the area of GE in greatest need of improvement. While this may seem contradictory, the variety and diversity of GE courses offered is a very different matter than the flexibility of the GE requirement itself, a conflation that makes these findings difficult to interpret. Cal Poly’s GE requirements cover an extensive range of academic areas. Within some of those areas, choices for satisfying the requirement are limited. As a result, there may not be much flexibility for students who wish to explore a particular area in depth, nor for faculty who would like to experiment with interdisciplinary or integrative offerings that don’t
satisfy the existing disciplinary categories. Students with whom we met expressed desire for greater flexibility in the GE requirement.

In meetings with faculty, we heard about a number of worthy initiatives such as integrative learning, team-taught linked courses, and interdisciplinary courses linking GE to the major. These types of initiatives are considered “high-impact practices” and have been shown to lead to greater student engagement and better learning. Some of these initiatives had been piloted on a small scale, while others were seen to face barriers related to the GE requirements and the ways in which faculty are credited for teaching courses. Facilitating pilot offerings of such high-impact practices and considering ways they could be brought to scale represent exciting opportunities for Cal Poly.

Perceptions of GE

As is not uncommon at a university where many students are pursuing professionally-oriented courses of study, there is evidence that some Cal Poly students see GE as an impediment to their major-specific studies; 12% of students responding to the self-study survey identified “Lighter Workload/Less Demanding” as the best way to improve GE at Cal Poly. Students with whom we met complained that their major programs were so prescriptive as to relegate GE to the lowest scheduling priority, which often meant delaying lower-level GE requirements and taking whatever was available to “check off a box.” Students and faculty alike noted that GE offerings are often marginalized in scheduling and are pushed to early or late times of the day so that major-specific courses can be more often taught during the mid-day. Such scheduling may be a contributing factor to the perception problem by sending a message to both faculty and students that these courses are not as valuable as, nor related to, their major curriculum. Students in some majors claimed that the only way they can get through their major requirements in a timely way is to take GE courses over the summer at another institution. We got the sense that many of these students wanted to be intentional about GE, but felt that the major requirements made that impossible.

The student survey indicated that students value GE Areas A and B, with more than 75% of the responding students identifying these areas as at least moderately valuable. Because of the polytechnic nature of many of Cal Poly’s programs, it is not surprising that students can relate to and value these foundational skills developed in these courses. Attitudes towards Areas C and D were less favorable with only just more than half of the respondents indicating these areas as at least moderately valuable. Students focused our interview conversations on their dissatisfaction with Area C and D courses and remarked that large classes and traditional lecture delivery make their experience less personal and suggest less importance. They longed for more courses with interactive learning environments (e.g., discussion) and greater student engagement.

The student survey also indicated that Area F was poorly valued, with only about 40% finding the area at least moderately valuable. We discussed the uniqueness of the Area F requirement with former GE director John Harrington; he indicated that its historical inclusion was the result of an effort to include wider faculty participation in the GE program and to reflect the polytechnic nature of Cal Poly. It was evident from our discussions with students that they know which Area F courses require little work for

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1 This high percentage could be a result of a large number of students who have not yet satisfied the Area F requirement, but it is still noteworthy.
easy grades and therefore don’t regard this area as a serious requirement. Further, some advisors are concerned that Area F impedes transfer students both in and out of Cal Poly.

Not all faculty appear to promote GE as an essential element of Cal Poly’s curriculum. In a meeting with academic administrators from across the campus, we heard concerns that GE is perceived by some faculty groups as an “appendage” to be tolerated. Similarly, numerous faculty we met with cited a culture in which students expect GE courses to be less demanding and less important than studies in their major. Furthermore, in some areas of the university there is a perceived client/provider relationship between the major and GE in which the majors perceive GE as service.

Broader faculty perceptions were more difficult to assess as the GE faculty survey in Appendix P of the self-study only solicits feedback from GE faculty (primarily from the College of Science and Mathematics and the College of Liberal Arts) regarding attitudes about the existing GE paradigm and proposed changes, but perceptions from faculty who do not teach GE courses were not gathered. Since non-GE faculty make use of the foundational knowledge and critical thinking skills provided by the GE curriculum, their perceptions should be measured as these faculty are partners in creating (or destroying) a culture that values a GE curriculum.

**Resource Considerations**
The self-study makes clear that Cal Poly relies heavily on adjunct instruction to staff GE courses, particularly at the lower levels. It is also evident, as noted above, that course enrollments in GE courses can be inconsistent with goals related to writing, and more generally to high levels of student engagement and active learning. Certainly, Cal Poly is not alone in confronting challenges related to curriculum delivery under resource constraints. While we encourage Cal Poly to find ways to devote more instructional resources to GE, at the same time we also encourage the university to thoughtfully evaluate the extent to which the current GE structure is achievable and sustainable. Neither the university nor its students are served well when programs cannot achieve their stated goals. A more flexible set of GE requirements might be achieved with a higher level of quality control and more consistent achievement of student learning objectives.

**Opportunities and Leverage Points**

**Learn-by-Doing**
The polytechnic tradition and identity of Cal Poly attract students who pursue their major studies with intentionality and focus, and Cal Poly’s motto of “Learn-by-Doing” contributes to a campus culture that values the application of knowledge in real-world settings. This provides an opportunity to motivate student learning in GE by helping students see connections between GE PLOs and the abilities needed for professional success. In particular, GE PLOs related to solving real-world problems, communicating effectively, collaborating with others, and understanding social and global context are highly relevant to applied work in the majors, and provide a clear opportunity to connect GE in evident ways to the mission of Cal Poly.

Cal Poly could encourage more “Learn-by-Doing” within GE courses. Building on the research behind a set of more engaged, active “high-impact practices” (see: [http://www.aacu.org/resources/high-impact-](http://www.aacu.org/resources/high-impact-)}
practices), faculty who are teaching GE courses could be provided professional development to incorporate more active learning approaches into their existing or proposed new courses. While some of the proven “high-impact practices” are stand-alone experiential learning opportunities that require significant resources and smaller class sizes, the research behind these practices suggest that more modest changes can be implemented even within larger classes (e.g. flipped classes, etc.). Some examples from around the CSU system that could be useful to consider include lower-division service learning at CSU Monterey Bay and the upper division civic learning/community engagement requirement at CSU Los Angeles. Several CSU Chico GE courses primarily designed for first-year students (e.g., oral communication, American government) use “public sphere pedagogy,” a teaching approach that gives students a public audience and purpose for their work in many forms: a large-scale Town Hall, a Great Debate, a “Sense of Place” exhibit, and courses that incorporate civic projects (see http://www.csuchico.edu/fye/Public_Sphere_Work). Other active learning strategies, like team problem-solving activities and collaborative research, can also fit in GE courses. This may be particularly useful in improving student attitudes toward Areas C and D.

Coherence, Relevance, and Meaning Making

There was broad consensus among faculty and administrators that the GE program needs more coherence. They also agreed that it should help students with “meaning-making,” making sense of their professional and personal experiences. Students expressed a desire for courses to be more relevant to their lives and their majors. Several students criticized broad survey courses and multiple-choice tests, noting that they were likely to forget the content once the classes ended.

The GEGB has developed strategic program goals that show promise for increasing coherence and relevance, including connected interrelated courses, placing foundational knowledge in a larger context, helping students understand the value of disciplines and the relationship to their majors, and providing more support to faculty who teach GE. These goals are appropriate; the challenge is to identify realistic action steps to achieve them.

Connecting courses within and across GE and majors - We heard several ideas about how to connect courses, including two or more distinct courses focused on a common theme or “big question,” team-taught interdisciplinary courses, and pairing a major course with a foundational course in written or oral communication or critical thinking. Faculty also brought up concerns about structural barriers, such as scheduling and the additional time needed to plan with colleagues.

The simplest approach for connecting courses is to group distinct courses around a common theme. One way is to identify existing courses that already focus on a topic such as sustainability, health, global studies, visual media, or social justice, and to publish lists in schedules. Another strategy is to solicit faculty across departments who are interested in a shared theme to create series of related courses centered on common outcomes. It would be more ambitious to design coordinated thematic “pathways.” Board members and others are aware of models created at CSU Chico and CSU Northridge. CSU Stanislaus has connected GE courses and co-curricular events around a single theme, “Know Your Place.” As noted elsewhere, at least two other campuses in the system are currently creating GE thematic pathways - San José State and CSU Bakersfield.
Team-taught interdisciplinary courses are more complex, usually requiring more time for planning. It is also more difficult to sustain them over time as faculty availability changes, unless the home departments or colleges commit to staffing them on an ongoing basis. San José State has several long-established examples: Humanities Honors (http://www.sjsu.edu/hum/honors/), Introduction to American Civilization (http://www.sjsu.edu/americanstudies/courses/), and Community Action/Community Service (an upper-division “Self and Society” course cross-listed in five colleges, equivalent to Cal Poly’s D5).

The idea of pairing a major course with a foundational GE course is also possible, but has a significant downside: It would require limiting enrollment in the paired GE course to students in a single major. This conflicts with the goal of having students from diverse disciplines mix in GE courses. An alternative to direct course pairing might be for targeted major courses to require concurrent enrollment in certain GE courses (e.g., COMS 101) or course areas (e.g., A3), but not in a specific section.

**Placing foundational courses in larger context** – The participation of faculty who teach GE courses is essential for implementing this strategic goal. Our impression is that many current courses focus more narrowly, so course contextualization would involve some redesign. An incremental step that may help move in this direction is to require proposals for new and renewed courses to explain how they will address a larger context. It may also be useful to convene GE faculty in each area to discuss its relevance to broad educational goals, and to share ways that they can communicate that relevance to students through syllabi, classroom activities, and assignments. Members of the GEGB, faculty “champions” in each area, and/or faculty affiliated with CTLT could facilitate the discussions.

**Helping students understand the value of a discipline and relationship to majors** – The GE PLOs align well with the set of professional skills that many major programs seek to inculcate. While GE faculty understandably think of GE as complementing studies in the major, one can argue that GE can also supplement the major in fundamental and helpful ways. Employer surveys demonstrating the importance of GE PLOs for career success make evident some of these connections, and could be a useful starting point for conversations with faculty and students about potential synergies between GE and the majors. Indeed, it is not clear that students are aware of the GE PLOs. Raising awareness of these objectives could help students begin to see connections between GE and their professional and personal aspirations.

The broader issue of the value of disciplines and relevance to majors warrants conversations at a campus level and could lead to substantive curriculum changes. Faculty and students would recognize the importance of interdisciplinary collaboration and of GE if the majors had more of a stake in GE. For example, each major program might be expected to identify at least one major course that counts as writing intensive. Similarly, they could require and assess oral presentations that count toward grades and include at least one assignment where students are expected to demonstrate intercultural competence. This would reinforce students’ skills in the context of the major. Likewise, many GE courses could incorporate assignments that ask students to connect course material to their majors.

The upper division GE courses (C4, D5, and F) can provide additional opportunities for students to learn about the value of disciplines other than their own and to connect their disciplinary knowledge to complex issues. Some institutions require an upper division interdisciplinary GE capstone. One model to consider is the University Studies (GE) senior capstone at Portland State University, where students from various
majors and backgrounds work as a team, bringing together knowledge, skills, and interests from all aspects of their education to address community issues (see http://capstone.unst.pdx.edu/).

**Supporting faculty who teach GE courses** – GE is often considered less important than the major. At Cal Poly, the emphasis on the major reinforces this view. Also, many GE courses are taught by adjunct faculty, with over 90% of all AY 14-15 100-level GE courses and over 50% of all AY 14-15 200-level GE courses taught by lecturers or TAs. These factors make it especially important to provide support, including recognition and professional development opportunities for all who teach GE courses, and to schedule them at convenient times. Encouraging the Scholarship of Teaching and Learning (SoTL) through the evaluation process for both tenure-track and non-tenure track would also be valuable.

**Other ways to increase coherence, relevance, and meaning-making** – Many high-impact practices described in the “Learn-by-Doing” section above also help students understand the value of GE and make connections. Active learning approaches, like service-learning, team problem-solving activities, and collaborative research, can foster students’ appreciation of a discipline. However, it is important to include a strong reflection component with such activities. Reflection can also be used in more traditional class settings.

Some campuses use the required lifelong learning and self-development course (D4 at Cal Poly) to engage students in meaning-making about their educational experiences. They can be encouraged to take the course as part of a first-year experience program. Alternatively, it can be a “milestone” course in the sophomore or junior year to invite students to assess their progress and next steps.

Faculty and advisors both expressed the hope that the GE program could promote greater intentionality in students’ course choices. However, students told us that those choices are often constrained due to scheduling of major courses and lack of space in many courses that interest them. As noted in the section on the state context, Cal Poly’s GE program is more specific about courses required in Areas C (Arts and Humanities) and D (Social Sciences). Greater flexibility could make it simpler for students to select courses that they consider relevant.

One other way to increase relevance is to make the GE outcomes more transparent to students in multiple places and at various stages in their academic careers. The language of GE outcomes is not familiar to most undergraduates, and so might be “translated” into student-friendly terms with concrete examples of how outcomes can be applied in different contexts (academic, professional, and personal). Students can assist with this and suggest ways to reach their peers through social media and other formats.

Many institutions are working to develop far more prescriptive guided learning pathways through GE and majors programs (see http://www.aacu.org/campus-tools/leap-challenge). Others are less prescriptive but are using e-portfolios to guide students’ reflection on their learning as they accumulate experiences and student achievements in both GE and their major courses. Also, AAC&U has just launched a new phase of the LEAP initiative focused on providing all students--through both GE and their majors--the opportunity to do their own “signature work”--applied learning projects through which they can bring together the competencies and knowledge they have gained to tackle an unscripted problem of interest to them. Some institutions are implementing such projects in GE or Majors Capstones (see: http://www.aacu.org/signaturework).
Quality control
While programs including GE at Cal Poly undergo periodic review and assessment, individual courses do not. As such, course content and objectives may drift over time -- especially for courses that were approved long ago, or courses taught by a wide variety of faculty. The problem of drift is exacerbated by the lack of access to and promotion of Senate and GEGB approved course learning objectives at Cal Poly.

As a result of the 2010 WASC review, Cal Poly took some steps to promote and make public the learning objectives/outcomes to students via Academic Senate Resolution AS-739-12. This 2012 resolution resolved to publish course learning objectives in the catalog and resolved that faculty would communicate the objectives via course syllabi or other appropriate means. Unfortunately, the review team did not see evidence that these steps were widely adhered to. While newly proposed courses have learning objectives that are archived in the electronic Course Inventory Management system, only newly proposed courses display approved objectives. Further, these objectives are not easily accessed by students, nor do they appear to be promoted as a resource for faculty who have not taught a particular course.

In some cases objective drift (or the inability to address objectives) may occur due to enrollment changes made without consideration to the approved course objectives. For example, ECON 303 (D5), as noted above, was approved as a writing intensive course that has had class sizes drift upward over the years. Students are concerned with class size drift. Our student interviews revealed a growing frustration with large classes and students noted that the “large lecture is antithetical to learn-by-doing.”

The review team encourages Cal Poly to pursue a course renewal process as proposed in the self-study. This process has the potential to rein in drift and allow courses to evolve in manners consistent with GE objectives. Further, a formal process is useful for maintaining a central repository of approved objectives. We further recommend that these objectives be promoted and made readily accessible to students and faculty.

Diversity and Inclusion
The review team was asked to make recommendations about how GE can play a stronger role in addressing issues of diversity and inclusion on campus. The ULOs, GE PLOs, and several GE subareas in Area D – “Society and the Individual” explicitly mention diversity. There is also a graduation requirement to complete a course in United States Cultural Pluralism (USCP) with specific Diversity Learning Objectives (DLOs). While the USCP course does not need to meet a GE requirement, the majority of the available courses do so. In Area C – “Arts and Humanities” – issues of gender and diversity are “encouraged” in upper division courses, but not required.

Cal Poly has developed a strong commitment to diversity, evidenced by many relevant policies, an Office of University Diversity and Inclusivity, an Inclusive Excellence Council, and an Inclusive Excellence Instruction Specialist position in CTLT. Despite these resources, there does not appear to be clear ownership for translating that commitment into curricula and pedagogies. Faculty and administrators told us that there is no mechanism for assessing whether GE and/or UCSP courses actually cover the DLOs and whether they lead to achievement of the intended student learning outcomes. Students noted that diverse narratives, critical controversies, and issues of power are seldom addressed in their GE courses.
GE can potentially play a major role in promoting Cal Poly’s diversity and inclusive excellence goals. We suggest some strategies to consider:

- Revisit the DLOs and how they can be updated to reflect emerging ideas about equity, inclusion, and diversity. For example, recent events related to differences on campuses and beyond highlight the need for students to develop the ability to engage in difficult dialogues. The concept of intersectionality – the theory that identities, social categories, and power dynamics interact on multiple levels – could be added.

- Identify places in GE courses where diversity learning can be scaffolded. Ideally, it should be introduced in the first year and reinforced in several later courses. It could be a required outcome of at least one Area C and one Area D course. It should also be assessed regularly, on a schedule similar to assessment for the WASC core competencies.

- Provide faculty development opportunities, with a focus on active pedagogies and how to manage difficult dialogues in the classroom. Consider creating a year-long faculty learning community focused on inclusive excellence.

- Highlight the connection between diversity learning and the outcomes valued by employers, especially teamwork and intercultural knowledge and competence. This can improve student attitudes and motivation.

Diversity and inclusion in GE and USCP should be aligned to broader campus diversity goals in the major, co-curriculum, advising, enrollment, student success initiatives, etc. Students, including but not limited to underrepresented groups, should be invited to participate. AAC&U has resources that may help guide campus efforts (see www.aacu.org/diversity/publications).

**Communication with Faculty and Students**

Successful implementation of any program depends on forging a common understanding of goals and a commitment to sustained review of those goals. While it is clear that there is support across the campus among many faculty, advisers, and other professionals for the broad goals of GE, more communication and consensus building could significantly improve the program. Many faculty with whom we spoke expressed frustration about students’ own understanding of or commitment to GE. But, in order to generate broad understanding and support among students, there must be broad support across educators on campus, each of whom can reinforce the overall goals and importance of GE and can then be very clear with students about how the different parts of their educational experience interact and can add collectively to their portfolio of achievements.

It seems particularly important at this moment in Cal Poly’s curricular revisions to conduct more meetings both with those involved in teaching GE and with individual departments and faculty primarily responsible for teaching within their disciplines toward the goal of a shared understanding of the connections between GE and institutional mission. Now that Cal Poly has clearly articulated learning outcomes both for the university as a whole and for GE, it is especially appropriate to have conversations about how each program contributes to, and has a stake in, students’ achievement of key learning goals,
some of which are achieved through GE, others in majors, but most through a combination of GE and major courses.

Once a broader consensus is achieved, the GE committees can productively revisit the various ways in which students are introduced to the program and the materials--print, online, etc.--through which the program is described to students and which advisors use in helping students plan their programs of study. The current brochures include very relevant and useful messages, but also may include so much detail, students may be “missing the forest for the trees.”

Advisors clearly understand the importance of GE at Cal Poly, but the pressure to get students enrolled and through their major courses requirements is taking precedence over GE courses. Even as the institution works to build capacity to meet students’ expressed desires for specific GE course options, one other approach to advancing students’ understanding of GE is to re-examine the various introductory level courses and experiences students have in their first few quarters.

The most important communication goal should be to facilitate more cross-departmental and cross-divisional dialogue not just about the mechanics of GE design and implementation, but about the larger aims of the program, how it connects with learning in the major and the institution’s mission, and how it can work together with majors to ensure students’ post-graduation success in work and life.

The 2006 GE Program review recommended that faculty and students alike should “better understand the value of GE at Cal Poly, instead of regarding GE as a distraction from major courses.” In response, the GE office initiated a student communication plan which included brochures and flyers distributed at first-year student orientation programs as well as at campus events. GE staff also developed and distributed faculty brochures to all departments and new faculty. Unfortunately, despite this positive promotion efforts, there still appears to be a “perception problem” on campus, as acknowledged in the self-study. While the brochures are informative and highlight the requirements and motivation of the GE curriculum, students likely file these papers away with the bulk of other paperwork provided during orientation. Other mechanisms to reinforce the values and merits of a GE curriculum should be investigated.

Ultimately, the messages to students about the purpose of GE must be conveyed first in orientation sessions and courses, but then reinforced by faculty teaching both GE courses and majors. One avenue to this more comprehensive communications approach is to connect communications about GE to students’ own senior capstone projects. Faculty members advising students as they enter majors and those advising students on their capstone projects can reinforce that the competencies and knowledge gained in GE courses can and should be brought to bear on this more sophisticated and integrative capstone work.

**Recommendations**

We have offered many suggestions throughout the report, but here we summarize our key recommendations. We have organized several around the areas for growth and development identified in the conclusions section of the self-study. However, our first recommendation addresses the importance of involving faculty from all colleges and departments in conversations about GE at Cal Poly. The current program was designed in 2001. National and state views about the optimal purpose, structure, and
pedagogical models of GE in the larger context of undergraduate education have evolved considerably since then. We encourage campus leaders to think deeply about how to improve GE to better prepare students for their future professional, civic, and personal lives in a rapidly changing world of unscripted problems.

- To facilitate more campus-wide understanding and embrace of GE goals, we recommend **sponsorship of cross-campus and cross-departmental forums** in which faculty—including both those teaching GE courses and those teaching only or predominantly major courses—can discuss the broader learning outcomes for all students and ways in which different parts of the curriculum contribute to advancing those outcomes. The goals of the forums would be to inform the process of improving GE and to help advance a culture-shift away from a focus on courses and requirements and toward a cooperative focus on what students are learning and how they are demonstrating their learning across the curriculum, not only in individual, discrete courses.

- To strengthen the relation between GE and the major, we recommend **building connections into the structures of both GE and major programs**. This is especially important at Cal Poly, where majors are central to the mission and students declare a major as part of the application process. This report has suggested several ways to begin creating those connections, such as having each major identify a writing intensive course and other places in the curriculum where foundational skills and knowledge are reinforced and/or incorporating assignments focused on the major within selected GE courses like Area D4 or an upper division GE capstone.

- To encourage students to select GE courses with greater intentionality, we suggest **providing opportunities for students to explore big questions that interest them from multiple disciplinary perspectives** across several GE areas. While we did not sense much faculty support for adopting a comprehensive GE pathways model like at CSU Chico, we heard interest in connecting courses by themes, whether through simple lists drawn from existing courses, inviting faculty to shape existing or new courses around a common topic, or supporting the development of interdisciplinary, team-taught courses. It would be valuable to consult students about what questions appeal to them.

- Even when students want to be more selective in choosing GE courses, they face barriers such as a narrow range of options in some subareas, limited space in preferred courses, and scheduling conflicts with major courses. We encourage Cal Poly to **increase flexibility** in requirements and availability of popular courses, and reduce scheduling conflicts with major courses. Possible ways to make requirements more flexible include reducing the number of subcategories in Areas C and D and eliminating Area F. CSU guidelines for GE specify only two subcategories in Area C – Arts and Humanities and none in Area D. (Cal Poly’s Area D4 actually fulfills a CSU Area E requirement, so should not be eliminated.) There is no CSU Area F requirement. We heard from various sources that many majors already include extensive attention to technology. The technology learning objectives could be covered by having majors identify a technology-intensive course. Increasing flexibility through changes in course availability and scheduling would require more precise enrollment data analysis.
- We recommend encouraging faculty to incorporate more “Learn-by-Doing” pedagogies in GE courses. This can promote greater student engagement, better understanding of the relevance of course content, and increased awareness of connections between GE and their majors. Professional learning opportunities, stipends, and other incentives for experimentation can help to support course redesign.

- To increase students’ recognition of the value of GE, we recommend identifying ways to make the goals of GE more transparent. We learned that GE is discussed at student orientation, faculty are expected to make course learning objectives visible to students, and the PLOs have been posted on the campus website. These are useful, but a more comprehensive strategy should be developed, using student-friendly language and explicitly linking the goals with employer expectations. For example, they could also be communicated through a first-year experience course, Areas A1 or D4 courses and/or introductory courses in the major. The Student Affairs division can reinforce PLOs through the Career Center, advising, and co-curricular programs. Transparency within GE (and other) courses can also improve student learning, as demonstrated by the Transparency in Learning and Teaching Project at the University of Nevada, Las Vegas (https://www.unlv.edu/provost/transparency).

- We agree with the self-study goal to continue to assess GE learning outcomes. The current model seems clear and sustainable in core areas reviewed by WASC (except information literacy). It could be strengthened by obtaining more representative samples of student work artifacts. Cal Poly should also consider expanding the model to cover the DLOs. A more ambitious goal would be to identify a place in the curriculum – either in an upper division GE capstone course, the required senior project in the major, or an ePortfolio – to assess integrative and applied learning, the PLOs, and/or the ULOs. This would also be useful for accreditation purposes, responding to the WASC “Meaning, Quality, and Integrity of Degrees” standard.

- As proposed in the self-study, we encourage development and implementation of a “GE Course Renewal” process to ensure that approved GE courses address area and program objectives and meet other key criteria such as class size and writing. The self-study noted that the GE PLOs were recently developed and have not yet been incorporated into the course proposal process. The PLOs should also be included in the renewal process.

Many of our recommendations will require greater investment in terms of faculty and staff time and other resources. Curriculum change is sensitive because it affects faculty workloads, student enrollments and associated funding, and other vested interests. The GEGB and other academic leaders must decide which ideas are most realistic, given campus culture and resources. The Board has a key role in setting policy and approving courses and is to be commended for the thoughtfulness and thoroughness of the self-study. But it does not have sufficient capacity to act without broad participation by other faculty, administrators, and staff. The GE program is central to the Cal Poly’s mission and objectives, so we believe that it is important to make a commitment to meaningful change.