

Program Planning Self Study San Jose State University

General Education

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Date of Report: February 20, 2017

Date Due to PPC: Spring 2017

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Submissions: Reports are to be submitted electronically via email. Please email the program plan, request for external reviewer (if applicable), and external reviewer's report to programplanning@sjsu.edu. In addition, please cc the above email on all communications with the dean, external reviewer, Program Planning Committee, and UGS on matters pertaining to your program plan.

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1. Program Description

1a. Program Mission and Goals

The SJSU General Education Program incorporates the development of skills, the acquisition of knowledge, and the integration of knowledge through the study of facts, issues, and ideas. Regardless of major, all who earn undergraduate degrees should share a common educational experience as they become university scholars. In combination with major, minor, and elective courses, the General Education curriculum should help students attain those attributes found in an educated person. The 48 unit GE program adheres to [California Code of Regulations Title 5 \(CCR § 40405.1\)](#) and has been in existence in various forms since 1981. The GE Guidelines describe the program in detail and can be found at: <http://www.sjsu.edu/senate/docs/2014geguidelines.pdf>.

1b. Curricular Content of GE Program

The GE program at San Jose State comprises thirteen lower division and three upper division courses. The lower division 'core' GE courses provide a broad disciplinary liberal arts foundation, while the upper division, SJSU Studies, courses help students become integrated thinkers who can see connections between and among a variety of concepts and ideas.

Lower division courses (Core GE)

Lower division GE courses are grouped into two categories, Basic Skills and Basic Knowledge.

Basic Skills of an Educated Person

[Oral Communication (A1), Written Communication I (A2) Critical Thinking and Writing (A3), Mathematical Concepts (B4)]

These courses help build key skills for learning, communication and critical thinking. An educated person can communicate ideas effectively both verbally and in writing. Being able to organize and express ideas is a key part of learning. An educated person must also have strong reasoning powers in order to analyze critically all types of information. The skills courses within General Education provide an opportunity for students to gain and enhance critical communication and analytical skills.

Basic Knowledge of an Educated Person

[Physical Science (B1), Life Science (B2), Laboratory (B3), Arts (C1), Letters (C2), Human Behavior (D1), Comparative Systems, Cultures & Environments (D2), Social Issues (D3), Human Understanding & Development (E)].

These courses help students gain the fundamental knowledge of an educated person. Students have an opportunity to demonstrate an appreciation of the fundamentals of science, arts and letters, and the forces that shape the individual and modern society throughout the lifespan. This fundamental knowledge is crucial to understanding more advanced topics, including a major field of study.

Upper division courses (SJSU Studies)

[Earth and Environment (R), Self, Society & Equality in the U.S. (S), Culture, Civilization & Global Understanding (V)]

These courses help students become integrated thinkers who can see connections between and among a variety of concepts and ideas. An educated person will be able to apply concepts and foundations learned in one area to other areas as part of a lifelong learning process. These courses help students to live and work intelligently, responsibly, and cooperatively in a multicultural society and to develop abilities to address complex issues and problems using disciplined analytical skills and creative techniques.

Please refer to [Appendix B](#) for a detailed list of Area Objectives and Learning Outcomes.

1c. Service Courses

Not applicable

2. Summary of Progress, Changes, and Proposed Actions

2a. Progress on Action Plan of Previous Program Review

This is the first self-study for GE on the campus and there is no prior action plan.

2b. Significant Changes to the Program and Context

The GE program has undergone two changes of note in the last 10 years. The first dealt with assessment reporting and program governance. The second made changes to the academic structure of the program.

2009 Revision

Prior to 2008, GE courses were re-certified for the GE program every 2-4 years. The materials required for re-certification included 1) an extensive coordinator summary with assessment data and 2) course syllabi for the current semester and two most recent semesters from each instructor teaching the course. After reviewing the materials, the Board of General Studies voted to approve the course for continuing certification (usually a 4-year approval after the initial approval) or worked with the program to address concerns. In 2008, faculty members teaching GE courses felt that the workload involved in reviewing every GE learning outcome in every section of every GE course every time it was offered was overly burdensome. A faculty task forces were created to redesign campus policy around the re-certification process. In 2009, the Senate voted to adopt a new GE policy which included these three significant changes:

- 1) Just one GE learning outcome has to be assessed in any year, but every GE learning outcome for the area(s) the course satisfied must be assessed at least once during the departmental program planning cycle (typically 5 years).

When a new GE course is certified, and again at the beginning of each new program planning cycle, programs submit an assessment schedule for each GE course showing which GE learning outcome(s) will be assessed each year during the next program planning cycle.

2) Programs submit annual assessment reports for each GE course although the Board of General Studies reviews them only at the end of the program planning cycle.

3) The Board no longer decertifies GE courses, but may make a recommendation for de-certification to the Curriculum and Research Committee (C&R) which assumes responsibility for removing a course from the GE program.

Though primarily a symbolic change, “re-certification” was rebranded “continuing certification” to reflect the changes in the process by which courses already approved retained their status as GE courses.

2014 Revision

GE policy was amended again in 2014, in part to comply with an executive order from the Chancellor’s office (EO 1065). Area C3 (second semester writing) was eliminated as a GE area bringing the campus into line with the other CSU campuses. Students still take three arts and letters courses, but now choose three from Areas C1 and C2 instead of one from each of C1, C2, and C3. At the same time, the definition of critical thinking (Area A3) was broadened to bring it into line with other CSU campuses and its writing component was strengthened to assume, in part, the role of a second semester writing courses in place of the C3 courses.

2.c Proposed Actions

The actions suggested below were developed in discussions during the Board of General Studies meetings over the last 9 months, based on data from the student survey carried out in Spring 2016 (the results of which are presented in Appendix D), on the Board’s reviews of the courses that come to it for approval or continuing certification, and to some degree on more anecdotal information from faculty, administrators and students.

2.c.1 GE Advising

Students can receive advising for GE courses from several different entities at SJSU. Academic Advising and Retention Services (AARS) offers GE advising for students from all colleges and all majors. In addition, individual colleges offer centralized GE advising to their students through specific advising centers:

- The College of Applied Sciences and Arts offers GE advising through its [Student Success Center](#).
- The College of Business offers GE advising through the [Jack Holland Student Success Center \(JHSSC\)](#).
- The College of Engineering offers GE advising by a number of professors who staff the [Engineering Students Success Center \(ESSC\)](#).

- The College of Humanities and the Arts offers GE advising through [the H&A Student Success Center](#).
- The College of Science has one dedicated advisor for GE working out of the [College of Science Advising Center \(COSAC\)](#).
- The College of Social Science offers GE advising through the [Academic Counseling Center for Excellence in the Social Sciences \(ACCESS\)](#).
- The College of Education is currently in the process of opening a Student Success Center.

In reality, not all students will see advisors from [Academic Advising & Retention Services \(AARS\)](#) or their college advising centers. Some (those in Science, Engineering and with undeclared majors) have to see a major advisor once every semester to have their “advising hold”¹ removed so that they can register for classes. In other colleges (Social Sciences, Applied Sciences and Arts, and Humanities and Arts), students on probation are incentivized through a “probation hold” to see a major advisor. While some of the major advisors may also be willing and able to provide advice on how to select GE courses, some may only feel responsible for giving advice about which major courses to take. It is up to the student to decide whether to also see a separate GE advisor.

There are several possible ways in which GE advising could be made more uniform across departments and colleges and in which it could be made more meaningful and useful for students. If the major advisors were to receive training on how to help students select meaningful GE courses as opposed to picking courses by their degree of difficulty or schedule, then GE advising could be included in the advising sessions, some of which are mandatory, that take place every semester. However, since undergraduate faculty advisors are already required to see large numbers of students each semester in addition to their regular duties, they may not be inclined to spend extra time with each student to map out GE courses. If there were an incentive for students (such as a pathway certificate or a separate GE advising hold) to map out a specific set of GE courses to take, students might be more inclined to see advisors in their respective college advising centers or at AARS.

2.c.c.2 Greater Transparency in Assessment for Both Instructors and Students

Transparency for students: Syllabi for new GE courses, as well as existing courses, are required to include the GE learning outcomes (GELOs) for the area(s) in which the course is certified and to link each GELO to at least one form of assessment, such as a written assignment. Including the GELOs with links to assignments or other measures of assessment allows students to see what they should accomplish in the class as well as how their achievement will be assessed. This is one step toward increasing transparency for students. Some faculty reinforce this linkage when they provide assignment instructions, restating the outcomes that student are expected to demonstrate in that assignment and/or providing grading rubrics (that include addressing GELOs) to students before they complete their assignments. This helps students see the expected outcomes.

¹ A “hold” is an administrative flag set in the online registration system that prevents students from registering for classes.

Transparency for faculty: The proactive approach described above requires buy-in from faculty teaching GE courses. At times, existing courses or courses required in a major seek GE certification; however, the primary focus may be on the course-specific learning outcomes with little attention to the GE learning outcomes. Faculty teaching GE courses must see how their course relates to the GE area and focus on the GELOS, as well as the course-specific learning outcomes. Some ways to achieve this include workshops on integrating GE and course-specific content, as well as workshops on assessment. With increased expectations for assessment in the major, faculty members are becoming more familiar with this type of process. Workshops and in-service opportunities have the potential to help faculty see that assessment, including GE assessment, is not an additional burden that must be done, but is a way to see how well their students can demonstrate achievement of the course-specific and GE learning outcomes. Providing more timely feedback to faculty after annual assessment reports are submitted, rather than only providing feedback after the program plan has been submitted, may help to communicate and clarify how faculty can easily collect meaningful assessment data. Additionally, this will hopefully be viewed as a collaborative process between BOGS and faculty/departments rather than an evaluative process conducted every 5-7 years. Sharing with faculty the process BOGS uses when reviewing courses for continuing certification will enhance transparency. Additionally, when new courses are submitted for GE certification, if additional information is needed by BOGS, the chair and course coordinator are invited to the second BOGS meeting so the concerns can be addressed.

2.c.3 Course Coordinators and GE Learning Communities

The Course Coordinator Role

Coordinators ensure that:

1. course instructors understand how their course relates to area GELOS,
2. course instructors have an effective assessment plan for measuring student achievement of GELOS,
3. multiple sections remain clearly aligned with the area GELOS, and
4. previous reports/recommendations are taken into account while planning changes.

This may be done through meetings or workshops that bring GE instructors/coordinators together for the purpose of creating a greater sense of involvement, encouraging development/sharing of best practices, as well as making assessment more practical and pedagogically useful than merely burdensome or bureaucratic.

GE coordinators (who don't receive any release time for coordinating GE) might benefit from greater support from BOGS and Graduate and Undergraduate Programs (GUP) to carry out their responsibilities and assist BOGS in closing the loop. Providing more timely feedback on the Annual Assessment Reports instead of waiting for the 5-7-year Program Planning cycle could be a step that direction. This will allow BOGS to ascertain whether prior recommendations are being acted upon and alert chairs/coordinators to any possible consequences or actions BOGS might consider down the road. Expediting feedback on the GE portion of the Program Planning Report is also critical for closing the loop and keeping

departments/coordinators engaged in GE. In addition, BOGS might consider creating a more streamlined online template in order to standardize the annual reports generated by coordinators. An online “tutorial” for GE coordinators/instructors could also help to make assessment and reporting more transparent, pedagogically useful, and administratively efficient.

BOGS should keep chairs/coordinators informed of its policies and expectations, especially with regard to assessment reports. BOGS/GUP and CFD could organize meetings/workshops that bring area coordinators together to clarify GE goals and to share best practices. The faculty is still coming to grips with the new assessment regime, and BOGS, Program Planning and the University administration are still developing the systems and processes needed to ensure that assessment is being carried out in a meaningful, timely, and useful way. Current GE policy requires that courses and assessment outcomes are only reviewed at the end of the program planning cycle (typically 5-7 years). This has had two unintended consequences. First, course coordinators do not get timely feedback if the course or the assessment regime begins to go adrift, often making corrective action recommended at the end of the cycle more extensive. Second, it leaves faculty feeling as though they are doing a lot of work for no apparent reason. None of us would ask our students to write five reports during the semester and only provide feedback just before the final exam. A revision of current policy is therefore worth considering.

GE Course Coordinator Learning Communities

We propose establishing GE Course Coordinator Communities (GECCC), one for each GE area. These would meet once or twice a semester to discuss issues relating to their area. This might include sharing of approaches and best practice, agreeing on common or convergent assessment rubrics for the area’s learning outcomes, discussing assessment outcomes and closing-the-loop activities. The intent is that this might become a locus for innovation and continuous improvement. It might also help create a sense of belonging to the GE program rather than to degree program or department. This, in turn, might help in clearer, consistent and unified messaging to the students of the benefits of their general education courses. We suggest that the chair of each GECCC prepare an annual report on the issues addressed in the community and any progress made, for example in closing-the-loop activities and learning outcomes. These communities would help in establishing a consistent longitudinal assessment baseline (inter-temporal commensurability) and in creating consistency in assessment across all the courses within a GE area (intra-area commensurability).

1. Inter-temporal Commensurability

In order to understand whether any of the changes implemented have been effective, one needs to be able to compare current data with that from an earlier period (prior to the implementation of the change); this also requires that the measurement protocol be the same at both measurement points. The challenges here are 1) that the same or very similar exercise or activity be used for assessment and 2) that the standard by which these are assessed remains the same; the latter is in theory easier to solve with the use of the same grading rubric. The former is more problematic in situations in which the

assessment is done in different courses or in the same course in which the syllabus has changed (as might be the case when the course is taught by a different instructor).

2. Intra-area Commensurability

A similar problem exists when trying to make head or tail of student learning across different courses in a particular GE area. When every course uses an idiosyncratic assessment protocol (assignment and rubric), the meaning of the assessment results is hard to interpret, depending on each instructor's unique interpretation of outcomes. It also makes it hard for course coordinators in multi-section courses to ensure consistency across sections of a single GE course. Ideally, all sections of a multi-section course would use common assessment-related assignments or, at the very least, common assessment rubrics. Similarly, while courses in a given area are unlikely to be able to use a common assignment, they would ideally all use the same assessment rubric.

2.c.4 Making GE more Attractive to Students Through the "Pathways" Program

Anecdotal evidence suggests that students choose courses principally on the basis of scheduling convenience. This is understandable given that more than 60% of students are working full or part time. This was supported by a study of course-taking patterns that found almost no commonly taken course sequences. Additionally, there was a sense that GE was regarded by many students (not to mention some faculty) more as an unpleasant, though necessary, evil required for graduation.

Two years ago, the Provost established a number of task forces, one of which was to look into how to increase students' sense of coherence in the General Education courses they took with a goal of promoting student retention. A report from the Chancellor's Office, titled *Innovations in General Education: Giving California Students a Compass*, reported that students perceived GE courses as lacking in relevance to their educational goals and without a clear, discernable purpose. This was consistent with the survey carried out last spring on this campus. Hence, students had difficulty engaging with the learning. The task force decided to pursue a "pathways" approach; each GE pathway would have an organizing theme and comprise courses consistent with that theme. The goal of GE Pathways is (1) to simplify the choice set for students navigating GE, something it was felt students struggled with, and (2) to create a sense for students that their 48 units of GE had a clear educational purpose and benefit. The task-force, which concluded its work in Spring 2016, suggested providing a set of 3-themed GE courses (9 units), which would represent only a small portion of the overall GE program. Any proposal to develop a GE Pathway would need a support structure for advising "into" a pathway as well as incentives to follow a pathway.

In the Board's view, three significant challenges lie ahead:

1) Access to Pathways Information

In order for the pathways to be impactful, students need to know about them; two avenues, one 'push' (advising) the other 'pull' (web-based information and planning tools) need to be in place for the pathways to have an impact. While some colleges have dedicated advising personnel, others rely on active faculty members spread broadly throughout their college. The challenge is to get the latter group up to speed and on-

board. Some help may be available through IT with the MyProgress application though details of how this will work are still to be determined.

2) Resource Allocation and Course Scheduling

No amount of advising and information will make up for potential course bottlenecks and lack of availability. The challenge will be to ensure that sufficient numbers of course sections are offered for the pathway courses to avoid students prioritising their class scheduling over the draw of a particular pathway. Here there are two challenges. First, until students begin to buy into the pathways concept in relatively large numbers, the many sections required to deliver the scheduling flexibility will likely have fairly low enrollments; that will be costly. Second, finding enough faculty to teach these pathway courses will present a significant challenge. To reduce the need to offer multiple sections of a pathway course to provide scheduling flexibility, the offering days and times of courses in a pathway might be coordinated in GUP to ensure at a minimum that any conflicts within the pathway are eliminated.

3) Resource Redeployment

If the pathways concept takes off, a large number of students currently fairly evenly and randomly distributed across the GE program's 350 odd courses will be concentrated in a far smaller number of courses (though each pathways course may be multi-section). This will drastically reduce enrollment in non-pathways courses to the point that they may no longer be viable. Planning for this, in concert with the staffing challenges noted in point 2 above, will be critical.

2.c.5 Improving Perceptions of GE on Campus

The 48 units of General Education account for 40% of the courses students take in fulfillment of their degree requirements.

More than 43% of students surveyed (see [Appendix D](#)) consider GE a valuable part of their education. However, 33% of students surveyed did not feel that the core GE program at SJSU was a valuable part of their education, and an additional 24% were neutral, neither agreeing nor disagreeing with the statement. While it might be argued that current students don't yet realize the value of a liberal arts education and may come to appreciate it many years after graduating, we have no evidence to support this conjecture; it could equally be argued that most students will never look back fondly on their GE experience. Students may well see the GE portion of the degree through a lens of perfunctory compliance, reducing both intrinsic motivation and learning. This, in turn, impedes retention and tends to support the second hypothesis, that students will never really appreciate their liberal arts training.

On the positive side, 36% considered some of their best classes to have been GE classes, and 40% disagreed with the statement "GE courses at SJSU add very little to my education." An analysis of overall student satisfaction with the GE program (See Appendix E) shows several interesting results. First, (see Model 1) satisfaction is strongly related to grade point average; this is not particularly surprising, but it was important to establish this relationship before looking at other factors to ensure that GPA was not completely mediating the relationship between those factors and satisfaction. Model 2 shows that GPA in GE courses is related to a variety of factors including demographic variables and college affiliation. Model 3 shows the

influence of these factors alone, and Model 4 adds GPA as a control. The addition of GPA in Model 4 does not materially affect the significance of any of the relationships of interest in Model 3, suggesting that they are not mediated by GPA. Also noteworthy, the proportion of courses students take that were taught by lecturers has no significant effect on grades or satisfaction.

The data show that sex is related to overall satisfaction with the GE program, with women being happier with the program than men. While GPA is unrelated to age, satisfaction with GE declines for older students. This is unrelated to grade level (frosh, sophomore, junior, or senior) which, though omitted from the table for clarity, is entirely unrelated to satisfaction. Transfer students are more satisfied than four year students, and part-time students are happier than full time students. While both science and engineering students don't earn quite as high grades in GE courses as their peers, even controlling for this, students from these two colleges, particularly science majors, are much less enthusiastic about GE than students from other colleges. This, of course, fits with the popular stereotypes of engineers and scientists. Slightly surprising is that Business students, often thought of as being single-mindedly uninterested in the liberal arts, were no less satisfied than the students across the campus in general. Geography plays almost no role, though Santa Clara County residents did seem to be slightly more satisfied; one possibility is that this may have something to do with commuting times. Finally, there are no ethnicity effects whatsoever. While events in recent years suggest that the campus is not yet free from racial bias, it is encouraging that students from different ethnic backgrounds do not show systematic differences in their satisfaction with the program, suggesting that the GE content is not viewed poorly by one or more ethnic groups.

The faculty survey ([Appendix E](#)) suggest that the faculty are broadly more positive about the GE program's ability to deliver on its mission writ large than they are on its ability to meet the learning goals on an areas by areas basis. Figure 5 suggest that faculty members who teach in GE are more positive towards the program than those who don't and that among those who teach only lower or upper division courses, each thinks the other less effective in meeting the programs goals.

In summary, the principal challenges are to improve the perception of GE in general, and to try to improve the brand in the eyes of engineers and scientists in particular.

3. Assessment of Student Learning

Course coordinators are required to report annually the results of an assessment of one GE learning outcome and how they plan to change the course in light of the data (closing the loop). These annual assessment reports are collected by the Office of Graduate and Undergraduate Programs (GUP).

Every 5-7, years (depending on the program), departments prepare a program plan. Part of that plan is devoted to the program's GE courses and includes a summary reflection on how their courses contribute to the relevant GE Area Goals and to the larger General

Education Program Outcomes, a sample syllabus, copies of the annual assessment reports, and the next assessment schedule. These materials are reviewed by the Board of General Studies to ensure first, that the course is still consistent with the GE Guidelines, and second that assessment is supporting improvements in instruction.

3a. GE Program Learning Objectives (PLO)

1. Knowledge of Human Cultures and the Physical and Natural World
(Through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts - focused by engagement with big questions, both contemporary and enduring)
2. Intellectual and Practical Skills
(Practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance)
3. Personal and Social Responsibility
(Anchored through active involvement with diverse communities and real-world challenges)
4. Integrative Learning
(Demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems)

3b. Map of PLOs to University Learning Goals (ULG)

| | | GE Program Learning Objectives | | | |
|---------------------------------|------------------------------------|--|-----------------------------------|------------------------------------|----------------------|
| | | Knowledge of Human Cultures and the Physical and Natural World | Intellectual and Practical Skills | Personal and Social Responsibility | Integrative Learning |
| University Learning Goals (ULG) | Specialized Knowledge | ✓ | | | |
| | Broad Integrative Knowledge | | | | ✓ |
| | Intellectual Skills | | ✓ | | |
| | Applied Knowledge | | ✓ | | |
| | Social and Global Responsibilities | | | ✓ | |

3c. Map of PLOs to GE Areas

| | | GE Program Learning Objectives | | | | | |
|----------------|-----------|--------------------------------|---|---------------------|------------------|------------------------------------|----------------------|
| | | Knowledge of Human Cultures | Knowledge of the Physical and Natural World | Intellectual Skills | Practical Skills | Personal and Social Responsibility | Integrative Learning |
| GE Area | A1 | | | | ✓ | | |
| | A2 | | | | ✓ | | |
| | A3 | | | ✓ | ✓ | | |
| | B1 | | ✓ | | | | |
| | B2 | | ✓ | | | | |
| | B3 | | ✓ | | ✓ | | |
| | B4 | | | | ✓ | | |
| | C1 | ✓ | | | | | |
| | C2 | ✓ | | | | | |
| | D1 | ✓ | | | | | |
| | D2 | ✓ | | | | | |
| | D3 | | | | | ✓ | |
| | E | | | | ✓ | ✓ | ✓ |
| | R | | ✓ | ✓ | | | ✓ |
| | S | ✓ | | ✓ | | ✓ | ✓ |
| | V | ✓ | | ✓ | | | ✓ |

3d. Assessment Data

The GE Guidelines ([see page 10](#)) stipulate that each GE course carry out an assessment of one GE learning outcome every year. All learning outcomes for a course's GE area are to be assessed at least once in the program planning cycle (typically 5 years).

Of the 156 GE courses that were due to be reviewed by the Board of General Studies in 2015/16 (including those due the previous academic year), 62 submitted materials needed for a continuing certification review by BOGS. Of those, 16 were judged consistent with the guidelines and faculty members responsible for the course were using assessment to support improvements in instruction, 29 were felt to require relatively small changes to their syllabi, and 17 were deemed to have significant issues, either with curricular drift or lack of assessment data and evidence of closing-the-loop activities. The 29 requiring small changes were asked to make the requested modification and resubmit within 6 months for review by the chair of the Board of General Studies. The 17 courses with major issues were contacted and asked to propose a plan to get the course back on target either by the next program action plan meeting or the end of their next program planning cycle, whichever was sooner.

3e. Assessment Results and Interpretation

From the assessment reports associated with the 62 complete submissions noted above, 225 annual assessment reports were submitted. Of these, 154 (69%) provided a clear indication of adequate student performance, 25 (11%) provided evidence that was open to wide interpretation and 46 (20%) provided no useful indication of student performance.

Table 1, Appendix B summarizes the data by GE area from the 154 with clear performance data. Relatively few courses, 7 in total, reported that only 50-70% of students performed at an adequate level. Over half reported that more than 70% of students performed adequately while 45% of courses reported that over 90% of their students met this level. This distribution of outcomes is similar in both upper and lower division courses.

With respect to the reporting of student performance, 75 assessment reports provided clear data, 11 provided ambiguous information, and 139 provided no indication. The results for lower division courses are shown in Table 2 and Figure 2 in Appendix B. One surprise in the data is the high proportion (47%) of upper division courses reporting that over 70% of students performed at an excellent level. In a similar vein, 3 lower division courses reported that over 90% of students performed excellently. This may have more to do with inconsistency in assessment than a reflection of actual accomplishment.

It should be noted that some faculty, while clearly passionate about what they teach, do not believe that any assessment that involves attributing numeric scores is appropriate to their discipline. While understanding that some subjects may appear to lend themselves to quantification more easily than others, the use of assessment rubrics needs to be encouraged as a means of overcoming this issue.

3f. Placement of Graduates

Not applicable

4. Program Metrics and Required Data

Since GE is not a program in the sense that it has no single department to coordinate it, no closely defined course of study, nor an outcome metric like graduation rates that can be thought of as causally related to program content and choices, the required data elements (RDEs) used in typical program reviews are not particularly illuminating for this self-study.

The Required Data Elements discussed in this section are in a PFD document linked to from [Appendix A](#) of this report.

4a. Enrollment, Retention, Graduation Rates, and Graduates

Since enrollment, retention, graduation rates, and graduates are not relevant metrics for GE, this section will cover academic bottlenecks, under-represented minorities (URM), transfers and native frosh, and first generation students.

4.a.1 Academic bottlenecks (Page 13 of the linked report, Figure 4a)

The GE area that causes students the greatest problem is B4 (Mathematical Concepts). The drop-fail-withdraw (DFW) rate for B4 is 24% of the roughly six thousand students in the data set who took courses in this area. While there are other areas with relative high DFW rates, none are as high and importantly, none that are almost as high (the nearest being D2, 17% of around 500 student course taking attempts) affect nearly as many students.

4.a.2 Under-represented minorities (URM) (Page 24 of the linked report, Table 4a)

GPA differences between URM and non-URM students were significant in 31 courses out of 143 (22%). URM grades were lower in all but two (POLS 20 and SPAN 25B) of the 31 in which GPA differences were significant. Upper division courses (N=150) showed a similar pattern, with 27 courses exhibiting significant differences in GPA. Of these 27, URM GPA was lower in all but three courses, HIST 188, AMS 159, SOCS 100W.

At a more aggregate level ([Page 31 of the linked report, Table 5a](#)), overall, URM GPA is significantly lower than non-URM GPA in 15 of the 20 GE areas, and is not significantly higher in any.

4.a.3 First generation students (Page 27 of the linked report, Figure 4b)

In data from 141 lower division courses, first generation students performed at a lower level than second generation students in 18 of the 20 courses in which there were significant performance differences, the exceptions being SPAN 25B and SOCI 05. In data from 149 upper division courses, there are as many (7) in which first generation students do significantly better than second generation students as those in which the reverse is true. This might be interpreted as an indication of the effectiveness of the educational experience in compensating for some of the difficulties that students entering the University from family backgrounds with no experience of higher education have to overcome.

By area ([Page 31 of the linked report, Tables 5b](#)), first generation students' GPA is significantly lower in five GE areas and higher in none. This is not as stark a difference as in the case of under-represented minorities.

4.a.4 Transfers and native frosh (Page 30 of the linked report, Figure 4c)

In the 154 GE courses for which data were available, native freshmen do better than transfer students in eighteen courses, and worse in nine.

4.a.5 Conclusion

While first generations students seem to be well served by current practice, the same is not yet true for minority students. Work therefore remains to be done to ensure that URM student achievement matches that of other students on our campus.

4b. Head-count in Sections

Areas A1 (Oral Communication), A2 (Written Communication), B1 (Physical Sciences), B2 (Life Sciences), B3 (Laboratory) and C1 (Arts) have offered fairly consistent numbers of sections between 2012 and 2016 (Page 4 of the linked report, Figure 1b). The rise in A3 (Critical Thinking) and C2 (Letters) may be attributable to the change in campus GE policy in 2014 in which area C3 (Written Communication) was discontinued. Students who would previously have taken a C3 course would likely now be taking either a second C1 or C2 course. Because many of the old A3 courses enrolled more than 60 students while the new writing-intensive A3 courses are smaller (restricted to 25 students per section) the new GE Guidelines also caused a rise in the number of A3 courses and sections offered. The number of sections of B4 (Mathematical Concepts) has increased noticeably from around 50 in 2012 to about 80 in 2017 and there have been declines in the number of sections offered in D1 (Social Sciences: Human Behavior) and E (Human Understanding and Development); the reason for this is unclear.

The number of sections meeting multiple GE areas has risen from around 70 in 2012 to over 160 in 2016. The increase is largely driven by the need to bring all high-unit majors in the CSU down to 120 units. Many new courses and course packages have been approved that combine progress in the majors with GE learning goal. For example several engineering departments are trying to meet the learning outcomes of Areas S and V with two one unit courses integrated with a redesigned two semester senior project. This raises the question as to whether learning outcomes have been met as effectively in these multi-area courses as they were in single GE area courses. At the same time, class size in courses meeting multiple GE areas has fallen; whether this is a function of an across-the board reduction or a shift in enrollment from large to smaller classes is unclear; whatever the cause, the reduction should be beneficial to student learning.

4c. FTES, Induced Load Matrix

Not applicable

4d. FTEF, SFR, Percentage T/TT Faculty

Not applicable

5. Program Resources

5a. Faculty

BOGS (Board of General Studies):

The Board of General Studies comprises one voting faculty member from each college, a student representative, the AVP of Graduate and Undergraduate Studies (or designee), and the Director of Assessment ([F15-13](#)). Each college representative receives 0.2 release time to serve on BOGS and is appointed after a college-wide vote every three years. The committee chair is elected by the committee and receives an additional 0.2 release time. The release time allows the faculty to review, approve new GE courses, and assess existing GE courses. While not specifically required, most BOGS members have taught and assessed GE classes in their own college.

GE Faculty:

Lecturers and professors who teach GE classes are considered GE faculty. To help ensure that only qualified faculty teach GE classes, the guidelines state the minimum qualifications needed to teach in a particular GE area.

5b. Support Staff

While there are no full time dedicated support staff for BOGS, the following administrative positions support the BOGS mission:

The Associate Dean of Undergraduate Studies generally acts as the AVP for GUP's designee. This is a non-voting member of the committee and the role provides insight into any administrative issues in implementing new courses and in the continuing certification of existing ones.

The Director of Assessment is a non-voting member of BOGS and provides expertise relating to assessment on the campus.

5c. Facilities

None

6. Strengths, Challenges and Opportunities of the Program

6.a Statway Initiative

“Statway is designed as a one academic year course that allows students to simultaneously complete their developmental mathematics requirements as well as attain college credit in statistics. The course concentrates on statistical content with requisite algebraic concepts taught and applied in the context of statistics.”

(Source: <https://pathways.carnegiehub.org/pathways-glossary/>)

[Statway \(SW\)](#) is a project of the Carnegie Foundation for the Advancement of Teaching. It was launched nationally in AY 2011-12 to address the significant barrier posed by developmental and general education math requirements nationwide. The California State University (CSU) Chancellor's Office invited selected campuses to participate alongside other (primarily community college) campuses in the development and implementation of SW. The CSU General Education Advisory Committee (GEAC) provisionally approved SW to satisfy remedial math and meet the GE Area B4 basic skills requirement (equivalent to elementary statistics). This provisional approval applies to all California Community College

(CCC) transfers to the CSU and has since been extended system-wide until 2019 based on successful outcomes reported in Fall 2015. At SJSU, the Board of General Studies (BOGS) approved SW to meet the GE Area B4 requirement, beginning in AY 2011-12.

It is worth noting that SW was not designed to teach intermediate algebra and introduces algebra primarily on a need-to-know basis. The executive orders defining GE math in the CSU explicitly require that Area B4 courses have an intermediate algebra prerequisite, and thus completion of traditional remedial math instruction has been one and the same as successfully completing an intermediate algebra course. The provisional approval granted to SW by GEAC was due to the fact that intermediate algebra is not “covered.”

Although implementation varies somewhat from campus to campus, SJSU followed the national model quite closely. Enrollment was restricted to non-STEM, non-Business majors whose Entry Level Math (ELM) scores placed them in the lowest level of remediation (MATH 3A/3B; now renumbered as MATH 1003A/1003B but referred to by their old course numbers below). Students whose English Placement Test (EPT) scores placed them in the lowest level of remediation were excluded from SW as the cooperative group learning and contextual word-problem based content was judged to be a possible problem.

Nationally, [SW has proven incredibly successful](#), especially with underrepresented minorities, with three times as many students eligible to transfer from a community college to a 4-year institution in half the time. Success rates for the MATH 3A/3B sequence at SJSU were already significantly above the rates at typical community colleges (~80%). Nonetheless, SW students were even more successful (varied by section, but typically 85-90% with the final course in the sequence passed with a grade of C or better). Note that this comparison is really between apples and oranges because SW clears remedial status and meets Area B4 in two semesters (11 units total); whereas, MATH 3A/3B satisfy remediation in two semesters (8 units); students still must pass an Area B4 course (3 units). The overall success rate (C or better) of SJSU students in our range of Area B4 Statistics courses is ~76%, but students who began their careers with MATH 3A have a much lower success rate of ~61%. Merging these data permits the calculation of sequential success of students through the traditional three semesters of MATH 3A/3B, then an Area B4 statistics course of just over 50%.

One could certainly argue that grades in these lower division courses do not truly assess Area B4 learning in the SW course sequence. Perhaps the SW curriculum is just easier and that is responsible for the higher success rates. If this were true, then one would expect that the performance of successful SW students in upper division courses with an Area B4 statistics prerequisite would be worse than students who were successful in the traditional 3-semester sequence of MATH 3A/3B, then an Area B4 statistics course. In fact, the opposite is true. In upper division intermediate statistics or research methods courses, SW graduates performed on par with students who entered SJSU in non-remedial status and well above the performance level of those remedial students who completed the traditional route through elementary statistics.

Although approval of courses for the purpose of meeting major degree requirements is not the responsibility of BOGS or the GE Program, it is worth noting that every SJSU

department requiring an Area B4 statistics course has approved SW as an equivalent course for the major (e.g., Psychology majors required to take STAT 95 may substitute UNVS 15C, the final course in the SW sequence). That is true whether SW was taken at SJSU or at a community college. There have been no complaints nor any requests to remove this course-to-course equivalency from the degree programs that accept SW in lieu of a more usual Area B4 statistics course.

6.b Redesign of Remedial and Lower Division GE Basic Skills Areas

In AY 2016-17, GE Area A1 Written Communication was redesigned into a one or two semester Directed Self Placement (DSP) English course. Stretch composition courses are part of a nationwide trend in English writing courses where students are enrolled in classes that provide more time to think, write, and revise their writing (Glau, 2007). More importantly, the basis of placement in these courses are not simply by standardized tests, but by self-placement, in which the student decides the type of course they will take after completing an online DSP protocol. For the first time this year, students chose whether they would take a one semester ENGL 1A OR a 2-semester ENGL 1AF-1AS. Both of the courses provide degree granting baccalaureate credit. While it is too early to see the long term results of the different course placements, placing remedial composition and non-remedial composition into the current format has streamlined the English composition and written communication program.

6.c Lower Division and Upper Division Integrated GE Programs

In an effort to provide GE course options, several programs have worked to develop integrated GE packages. In these courses, students take a set of sequenced courses (1-2 semester or 4 semester) in which they meet a combination of GE areas.

| Courses | Title | GE Areas |
|--|---|--|
| AAS 33A/B AFAM 2A/2B MAS 10A/10B HIST/POLS 15A HIST/POLS 15B | Asian Americans in U.S. History African Americans and the Development of American Hist & Government Mexican Americans and the Development of U.S. History & Government Essentials of U.S. History Essentials of U.S. Politics & Government | American Institutions US 1-2-3, D2, D3 (students must complete the entire 6 unit series) American Institutions US 1, D2 American Institutions US 2-3, D3 |
| AMS 1A/1B (12 units) | American Civilization | American Institutions US 1-2-3 C1, C2, D2, D3, |
| HUM 1A/1B (12 units) HUM 2A/2B (12 units) | Humanities Honors | A1, A2, A3 C1, C2, additional C D2, D3 American Institutions US 1-2-3 |

| | | |
|---------------------------------------|--|----------------------|
| COMM/ENVS/GEOL /HUM/METR 168A/B | Global Climate Change | SJSU Studies R, S, V |
| HUM 177A/B (6 units) | Advanced Honors in Integrated Science, Social Science and Humanities | SJSU Studies R, S, V |
| ENGR 195A/B (2 units) | Senior Design Project | SJSU Studies S, V |

Several of the programs (those in the lower division that combine American Institutions with Social Science Area D GE) have been in existence for almost 20 years. Several of these course overlay into Ethnic Studies programs (African American, Asian American, and Mexican American Studies). Another notable feature of the lower division Humanities and American Studies sequences is that they have team teaching faculty from different colleges and provide a cohort experience for students as they take sequenced classes.

More recently, the upper division GE sequences have developed across college and departmental curricula and have involved multiple faculty in team teaching arrangement (Advanced Humanities, Global Climate Change, and Engineering Senior Projects). In the two most recent efforts to provide integrated upper division GE, the College of Engineering piloted two 1-unit classes focusing on social sciences and the humanities from an engineering perspective that students took in conjunction with their senior project classes. The Humanities Program developed an upper division integrated sequence that parallels the Global Climate Change 2-semester course and provides a “cohort” experience for upper division students taking GE courses.

While we have made innovative course arrangements in upper and lower division GE combinations, our next step might consider how these students fare in relationship to those who take GE courses from the “menu” option. We have not done comparative assessments of these groups of students.

7. Program Action Plan

Appendix A - Required Data Elements

[Link to RDE data prepared by the Office of Institutional Effectiveness and Analytics](#)

Appendix B - Assessment outcomes

Table 1 - 'Adequate' student achievement by GE area

Based on the 154 assessment reports with quantifiable data, this table shows the number of reports (and thus GE learning outcomes) which reported proportions for adequate student performance, divided into three categories, (50%-70%, 70-70% and > 90%).

| GE Area | 50% to 70% | 70% to 90% | > 90% | Total |
|-----------------------|---------------|-----------------|-----------------|------------|
| A3 | | 1 | 2 | 3 |
| B2+B3 | | 3 | 1 | 4 |
| B4 | 1 | 1 | 1 | 3 |
| C1 | | 7 | 7 | 14 |
| C2 | 1 | 5 | 4 | 10 |
| D1 | 1 | 10 | 4 | 15 |
| E | | 4 | 6 | 10 |
| D2 + US2 | 1 | 1 | 1 | 3 |
| Lower division | 4 (6%) | 32 (52%) | 26 (42%) | 62 |
| R | | 3 | 3 | 6 |
| S | 1 | 10 | 21 | 32 |
| V | 2 | 21 | 8 | 31 |
| Z | | 12 | 11 | 23 |
| Upper division | 3 (3%) | 46 (50%) | 43 (47%) | 92 |
| Total | 7 (5%) | 78 (51%) | 69 (45%) | 154 |

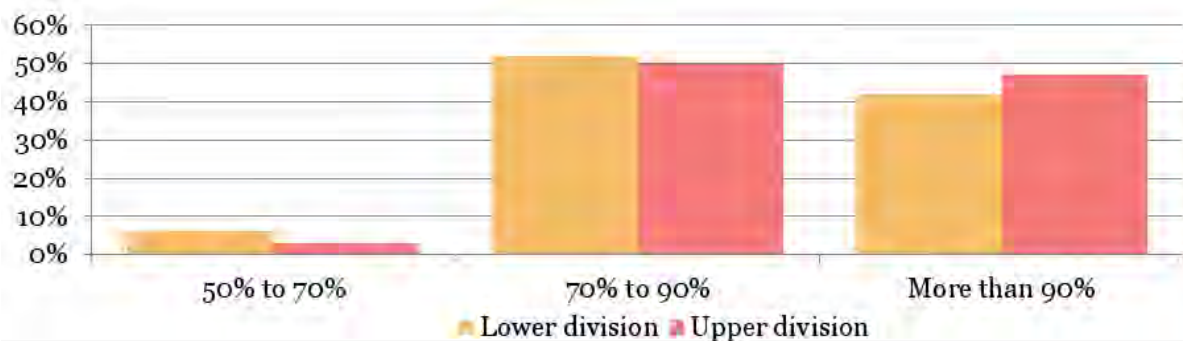


Table 2 - 'Excellent' student achievement by GE area

Based on the 75 assessment reports with quantifiable data, this table shows the number of reports (and thus GE learning outcomes) which reported proportions for excellent student performance, divided into five categories, (10%-30%, 30-50%, 50-70% , 70-90% and > 90%).

| GE Area | 10%-30% | 30%-50% | 50%-70% | 70%-90% | > 90% | Total |
|----------------|----------|----------|----------|----------|--------|-------|
| B2+B3 | | 3 | | | | 3 |
| B4 | 1 | | 2 | | | 3 |
| C1 | | 3 | 3 | 2 | 2 | 10 |
| C2 | 1 | | 1 | 2 | | 4 |
| D1 | 5 | 1 | 3 | 2 | | 11 |
| E | | 1 | 2 | 1 | 1 | 5 |
| Lower division | 7 (19%) | 8 (22%) | 11 (31%) | 7 (19%) | 3 (8%) | 36 |
| R | | 3 | | 2 | | 5 |
| S | | 2 | 1 | 6 | | 9 |
| V | 2 | | 1 | 6 | | 9 |
| Z | 2 | 11 | | 3 | | 16 |
| Upper division | 4 (11%) | 16 (44%) | 2 (6%) | 17 (47%) | 0 (0%) | 39 |
| Total | 11 (15%) | 24 (32%) | 13 (17%) | 24 (32%) | 3 (4%) | 75 |

Figure 2 - Student 'excellent' achievement by division

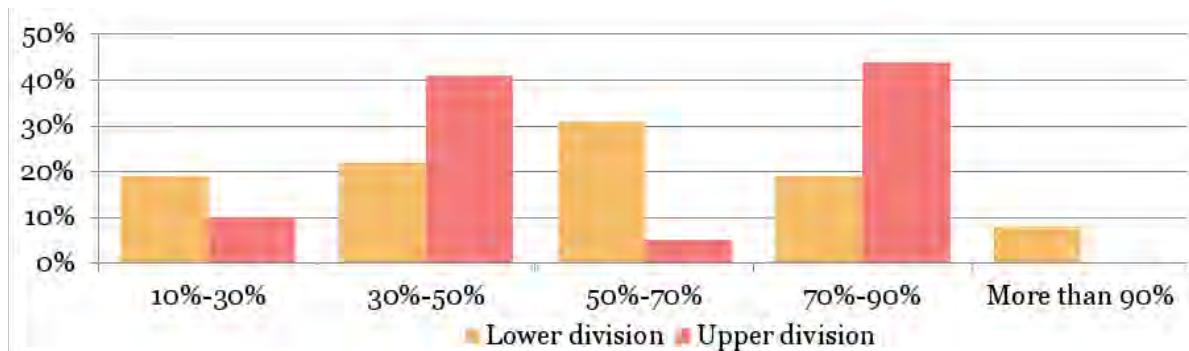


Table 3 - Assessment reporting by GE area

Number of Annual Assessment Reports submitted in each GE area from 2009-2015.

| | 09 / 10 | 10 / 11 | 11 / 12 | 12 / 13 | 13 / 14 | 14 / 15 | Total |
|--------|---------|---------|---------|---------|---------|---------|-------|
| A3 | 2 | 2 | 2 | | | 1 | 7 |
| B2 | 1 | 1 | | | | | 2 |
| B2+B3 | 1 | 1 | 1 | 1 | | | 4 |
| B4 | 1 | 2 | 2 | 1 | 2 | | 8 |
| C1 | 5 | 4 | 2 | 4 | 2 | 2 | 19 |
| C2 | 4 | 3 | 4 | 4 | 3 | | 18 |
| D1 | 2 | 4 | 4 | 3 | 3 | 2 | 18 |
| E | 5 | 3 | 1 | | 2 | 2 | 13 |
| D1+US2 | 1 | 1 | 1 | | | | 3 |
| R | 3 | 2 | 3 | 2 | 1 | 1 | 12 |
| S | 8 | 8 | 9 | 6 | 6 | 1 | 38 |
| V | 6 | 8 | 9 | 9 | 9 | 2 | 43 |
| Z | 5 | 9 | 5 | 4 | 11 | 3 | 37 |
| Total | 44 | 48 | 43 | 34 | 39 | 14 | 225 |

Appendix C - List of Goals and GELOs

Area A

Area A1

Courses shall cultivate an understanding of the social, psychological, political and practical significance of communication, with special emphasis on the roles of public communication in a free society. Students will give oral presentations and be encouraged to develop their sense of voice, which means speaking with confidence in public forums in ways that reflect their unique perspective and identity. Students will learn and appreciate a range of public speaking styles and forms of eloquence, while respecting the freedom of expression of all members of the community.

Students shall be able to:

1. identify and assess socially significant and intellectual topics, then compose and deliver extemporaneous oral presentations on these topics;
2. engage in critical and analytical listening;
3. analyze audiences, adapt oral presentations to audiences and use that information to accomplish the purpose of the speech; and
4. assume the ethical responsibilities of the public speaker, including basic understanding of the economic, legal, and social issues surrounding the access and use of information.

Area A2

Courses should cultivate an understanding of the writing process and the goals, dynamics, and genres of written communication, with special attention to the nature of writing at the university. Students will develop college-level reading abilities, rhetorical sophistication, and writing styles that give form and coherence to complex ideas and feelings.

Students shall:

1. demonstrate the ability to read actively and rhetorically;
2. demonstrate the ability to perform the essential steps in the writing process (prewriting, organizing, composing, revising, and editing) and demonstrate an awareness of said performance;
3. articulate an awareness of and write according to the rhetorical features of texts, such as purpose, audience, context, and rhetorical appeals;
4. demonstrate the ability to integrate their ideas and those of others by explaining, analyzing, developing, and criticizing ideas effectively in several genres;
5. demonstrate college-level language use, clarity, and grammatical proficiency in writing.

Area A3

In Critical Thinking courses, students will understand logic and its relationship to language: courses include a series of integrated reading, writing, oral, and research assignments that engage students in complex issues requiring critical thinking and effective argumentation. Students will develop language that distinguishes fact and judgment; articulates elementary inductive and deductive processes; parses fact, assumption and conclusion; integrates rebuttal and qualification as appropriate. Students will develop the ability to analyze, criticize, and advocate complex ideas, reason inductively and deductively, research and rebut information and arguments, and reach well-supported factual conclusions and judgments.

Students will demonstrate, orally and in writing, proficiency in the Area A3 Learning Outcomes. Students will be able to:

1. locate and evaluate sources, through library research, and integrate research through appropriate citation and quotation.
2. present effective arguments that use a full range of legitimate rhetorical and logical strategies to articulate and explain their positions on complex issues in dialogue with other points of view.
3. effectively locate, interpret, evaluate, and synthesize evidence in a comprehensive way in support of one's ideas.
4. identify and critically evaluate the assumptions in and the context of an argument.
5. effectively distinguish and convey inductive and deductive patterns as appropriate, sequencing arguments and evidence logically to draw valid conclusions and articulate related outcomes (implications and consequences).

Area B

Area B1, B2, B3

Science is a continuous and adaptive process through which we discover and communicate how the natural world works, separate fact from inference, and establish testable hypotheses. All students should sufficiently master essential quantitative and qualitative skills that are necessary to understand scientific knowledge and methods. Students should be able to incorporate scientific knowledge into the workplace and everyday life experiences.

Students should be able to:

1. use the methods of science and knowledge derived from current scientific inquiry in life or physical science to question existing explanations;
2. demonstrate ways in which science influences and is influenced by complex societies, including political and moral issues; and
3. recognize methods of science, in which quantitative, analytical reasoning techniques are used.

Physical Science (B1) courses focus on:

- a. laws of thermodynamics;
- b. structure of matter;
- c. interaction of matter and energy;

- d. behavior of physical systems through time;
- e. systems of classification; and
- f. physical processes of the natural environment.

Life Science (B2) courses focus on:

- a. structures and functions of living organisms;
- b. levels of organization of living systems, from atom to planet;
- c. strategies for survival and reproduction;
- d. patterns of evolution;
- e. principles of genetics, including the basis for variation; and
- f. interaction of organisms and their natural environment.

Area B4

The major goal is to enable the student to use numerical and graphical data in personal and professional judgments and in coping with public issues.

The mathematical concepts course should prepare the student to:

1. use mathematical methods to solve quantitative problems, including those presented in verbal form;
2. use mathematics to solve real life problems; and
3. arrive at conclusions based on numerical and graphical data.

Area C1, C2

Courses in Arts and Letters should give students knowledge and understanding of significant works of the human intellect and imagination. Students will examine the interaction of analytical and creative processes in the production and perception of such works, and the significance of the historical and cultural contexts in which the works are created and interpreted. Courses should enable students to participate in social and cultural communities associated with artistic and literary endeavors, enriching their personal and professional lives. Lower division courses that teach foreign language (usually called “elementary” and “intermediate”) may also satisfy these goals and are eligible for this category.

Area C1

Arts courses will enable students to:

1. recognize aesthetic qualities and processes that characterize works of the human intellect and imagination;
2. respond to works of art both analytically (in writing) and affectively (in writing or through other forms of personal and artistic expression); and

3. write clearly and effectively.

Area C2

Letters courses will enable students to:

1. recognize how significant works illuminate enduring human concerns;
2. respond to such works by writing both research-based critical analyses and personal responses; and
3. write clearly and effectively.

Area D

Social Science courses should increase the student's understanding of human behavior and social interaction in the context of value systems, economic structures, political institutions, social groups, and natural environments.

Students shall be able to identify and analyze the social dimension of society as a context for human life, the processes of social change and social continuity, the role of human agency in those social processes, and the forces that engender social cohesion and fragmentation.

In all three Area D sub-categories, students will be able to:

1. place contemporary developments in cultural, historical, environmental, and spatial contexts;
2. identify the dynamics of ethnic, cultural, gender/sexual, age-based, class, regional, national, transnational, and global identities and the similarities, differences, linkages, and interactions between them; and
3. evaluate social science information, draw on different points of view, and formulate applications appropriate to contemporary social issues.

Area D1 (Human Behavior)

4. Recognize the interaction of social institutions, culture, and environment with the behavior of individuals.

Area D2 (Comparative Systems, Cultures and Environments)

4. Compare and contrast two or more ethnic groups, cultures, regions, nations, or social systems.

Area D3 (Social Issues)

4. Apply multidisciplinary material to a topic relevant to policy and social action at the local, national, and/or international levels.

Area E

Students will understand themselves as integrated physiological, social, and psychological entities that are able to formulate strategies for lifelong personal development. Courses shall address challenges confronting students who are entering the complex social system of the university, so that students can employ available university resources to support academic and personal development.

Students shall:

1. recognize the physiological, social/cultural, and psychological influences on their well-being;
2. recognize the interrelation of the physiological, social/cultural, and psychological factors on their development across the lifespan;
3. use appropriate social skills to enhance learning and develop positive interpersonal relationships with diverse groups and individuals; and
4. recognize themselves as individuals undergoing a particular stage of human development, how their well-being is affected by the university's academic and social systems, and how they can facilitate their development within the university environment.

Area R

Students will cultivate knowledge of the scientific study of the physical universe or its life forms. Students will understand and appreciate the interrelationship of science and human beings to each other.

Within the particular scientific content of the course, a student should be able to:

1. demonstrate an understanding of the methods and limits of scientific investigation;
2. distinguish science from pseudo-science; and
3. apply a scientific approach to answer questions about the earth and environment.

Area S

Students will study the interrelationship of individuals, racial groups, and cultural groups to understand and appreciate issues of diversity, equality, and structured inequality in the U.S., its institutions, and its cultures.

Students shall be able to:

1. describe how identities (i.e. religious, gender, ethnic, racial, class, sexual orientation, disability, and/or age) are shaped by cultural and societal influences within contexts of equality and inequality;
2. describe historical, social, political, and economic processes producing diversity, equality, and structured inequalities in the U.S.;

3. describe social actions which have led to greater equality and social justice in the U.S. (i.e. religious, gender, ethnic, racial, class, sexual orientation, disability, and/or age).; and
4. recognize and appreciate constructive interactions between people from different cultural, racial, and ethnic groups within the U.S.

Area V

Courses in Culture, Civilization, and Global Understanding should give students an appreciation for human expression in cultures outside the U.S. and an understanding of how that expression has developed over time. These courses should also increase students' understanding of how traditions of cultures outside the U.S. have influenced American culture and society, as well as how cultures in general both develop distinctive features and interact with other cultures. Upper division courses that teach advanced foreign language and culture are eligible for this category.

Students shall be able to:

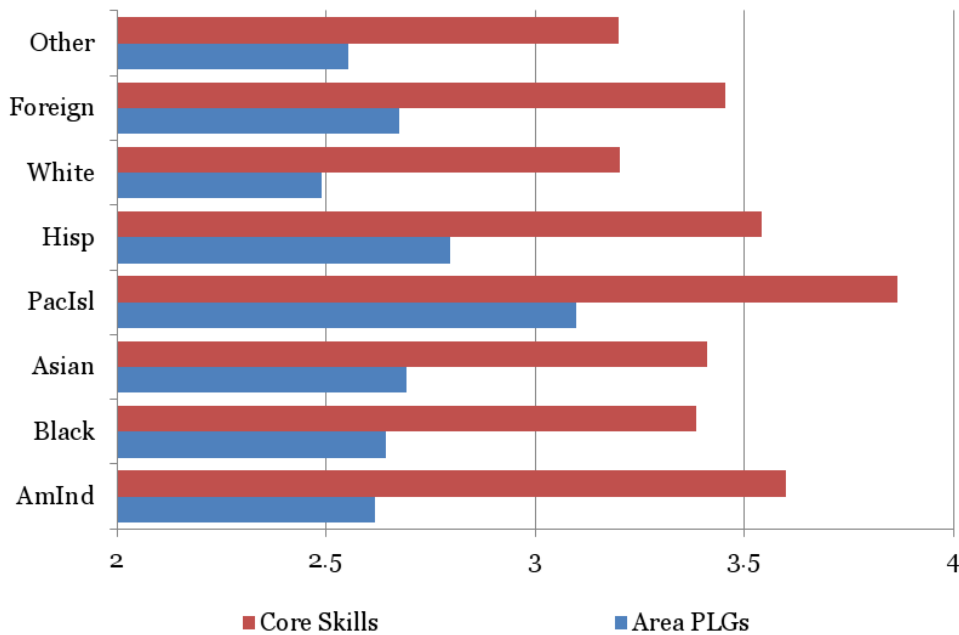
1. compare systematically the ideas, values, images, cultural artifacts, economic structures, technological developments, and/or attitudes of people from more than one culture outside the U.S.;
2. identify the historical context of ideas and cultural traditions outside the U.S. and how they have influenced American culture; and
3. explain how a culture outside the U.S. has changed in response to internal and external pressures.

Appendix D - Student Survey Data

This appendix has three summary graphics and the results to individual survey questions.

Figure 1

Overall Satisfaction with GE by Ethnicity

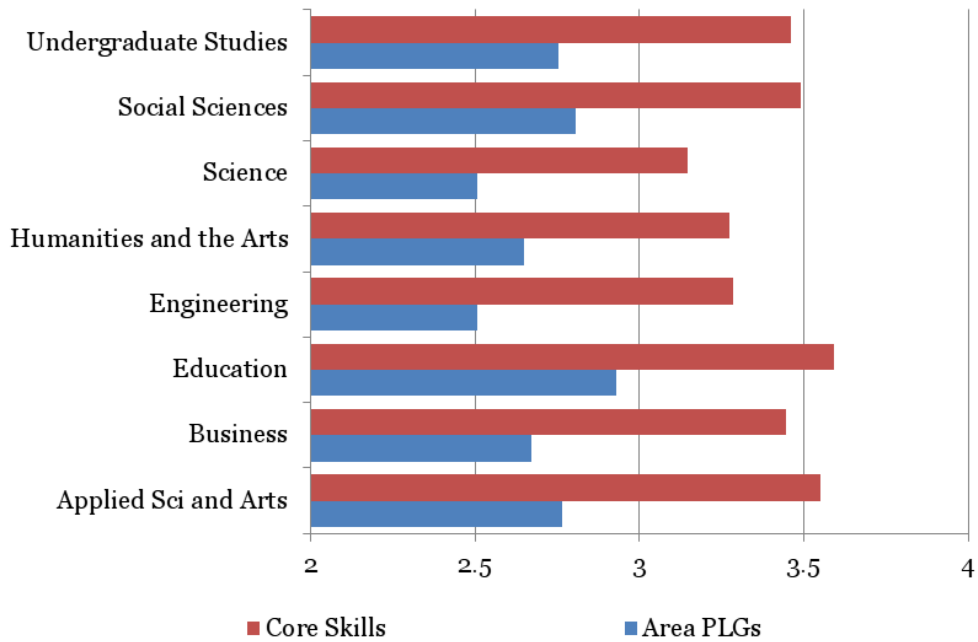


Overall satisfaction scores are created from 5-point Likert scale items, with 1-Strongly disagree and 5-Strongly agree; 3 is the 'neutral' point. The measure was an unweighted linear combination of six survey items² relating to satisfaction (Cronbach alpha > 80%). The x-axis is the overall satisfaction score on a 1 to 5 scale.

² Satisfaction with: GE Areas and PLGs; GE core skills; GE Areas; GE PLGs: lower division core skills: upper division core skills.

Figure 2

Overall Satisfaction with GE by College

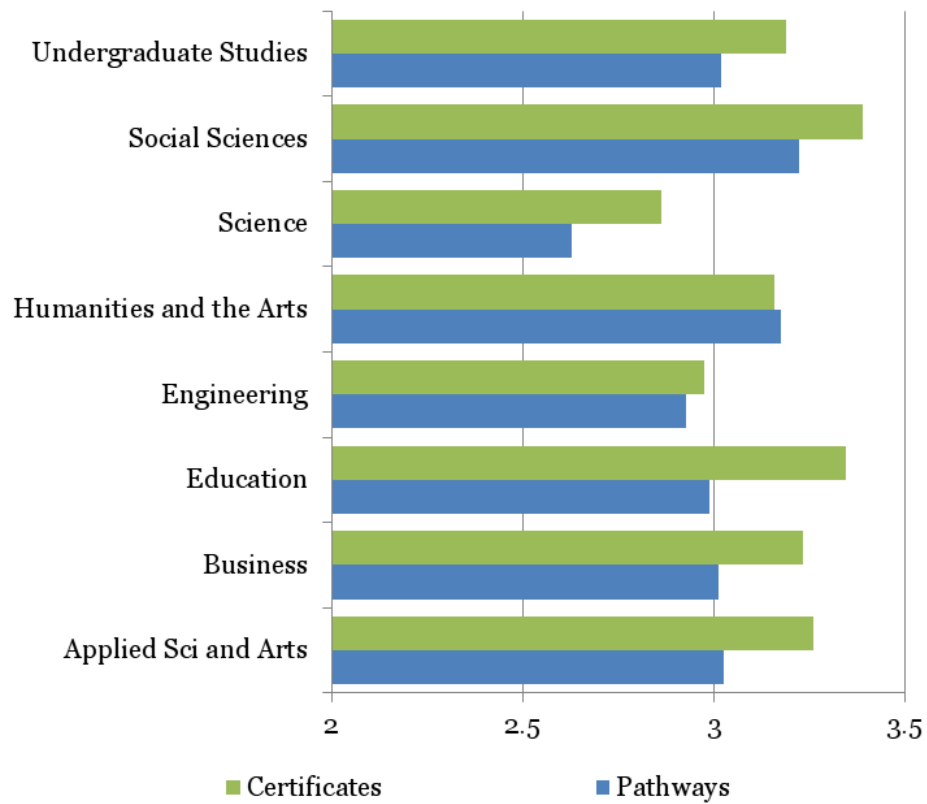


Overall satisfaction scores are created from 5-point Likert scale items, with 1-Strongly disagree and 5-Strongly agree; 3 is the 'neutral' point. The measure was an unweighted linear combination of six survey items³ relating to satisfaction (Cronbach alpha > 80%). The x-axis is the overall satisfaction score on a 1 to 5 scale.

³ Satisfaction with: GE Areas and PLGs; GE core skills; GE Areas; GE PLGs: lower division core skills: upper division core skills.

Figure 3

Student Interest in GE Pathways by College



Interest in GE Pathways was a single survey item, a 5-point Likert Scale.

Detailed Analysis

1.1 Student Opinion of Lower-Division GE Program

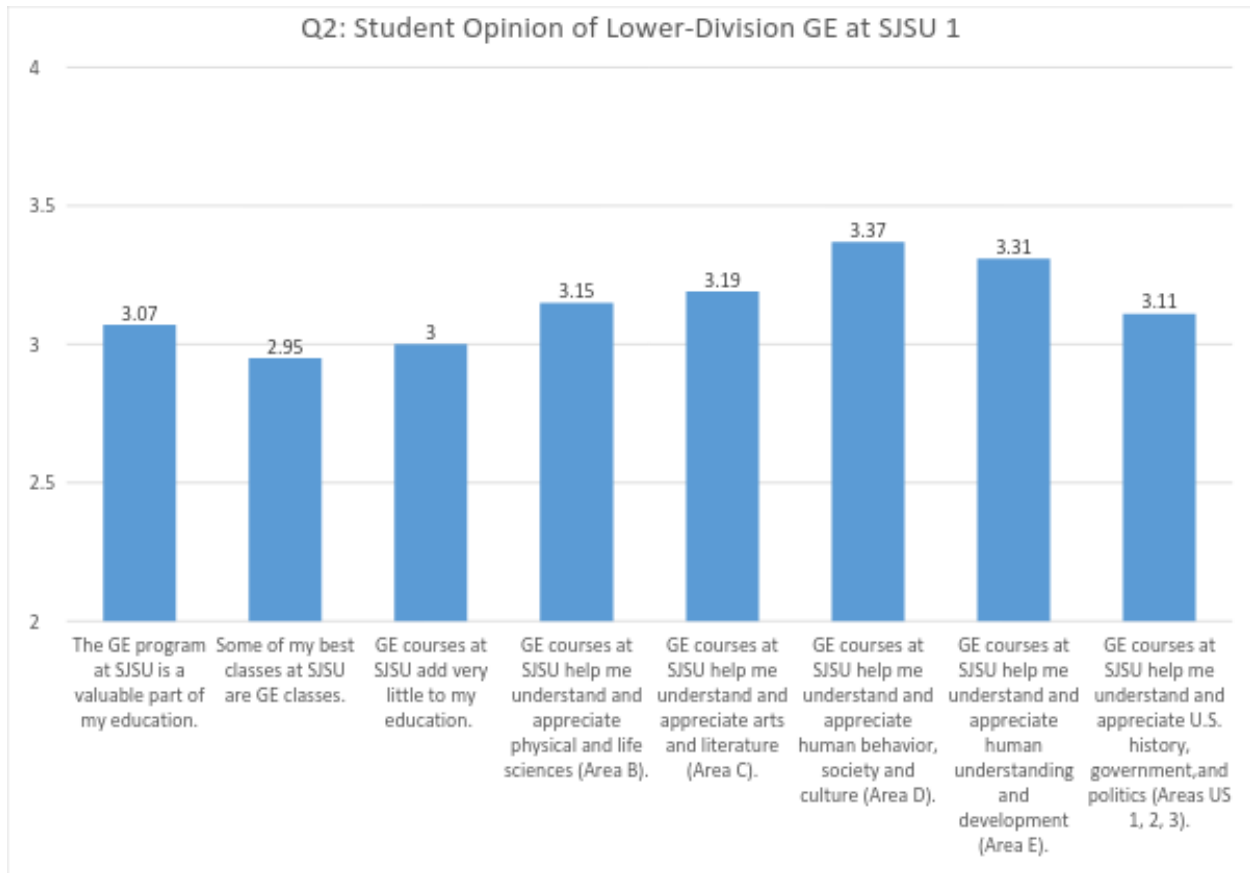
Q1. Which of the following best describes your experience with regard to lower-division Core GE courses?

| | Percent | Number |
|---|---------|--------|
| All Core GE taken at SJSU | 39% | 948 |
| Some Core GE taken at SJSU, some at other school(s) | 38% | 918 |
| All Core GE taken at other school(s) | 24% | 577 |

Q2. Please indicate how much you agree or disagree with each of the following statements about the lower-division Core GE program here at SJSU? (Asked only of those who reported taking at least some lower-division GE classes at SJSU.)

| | Strongly Disagree (1) | Disagree (2) | Neither Agree nor Disagree (3) | Agree (4) | Strongly Agree (5) | Mean (1-5 scale) |
|--|-----------------------|--------------|--------------------------------|-----------|--------------------|------------------|
| The GE program at SJSU is a valuable part of my education. | 12% | 21% | 24.5% | 34% | 8.5% | 3.07 |
| Some of my best classes at SJSU are GE classes. | 12.5% | 23.5% | 28% | 28% | 8% | 2.95 |
| GE courses at SJSU add very little to my education. | 8% | 31.5% | 24% | 26.5% | 10% | 3.00 |
| GE courses at SJSU help me understand and appreciate physical and life sciences (Area B). | 9.5% | 16.5% | 31% | 35.5% | 7.5% | 3.15 |
| GE courses at SJSU help me understand and appreciate arts and literature (Area C). | 10% | 16% | 28.5% | 36% | 9.5% | 3.19 |
| GE courses at SJSU help me understand and appreciate human behavior, society and culture (Area D). | 8% | 11.5% | 26.5% | 43% | 11% | 3.37 |
| GE courses at SJSU help me understand and appreciate human understanding and development (Area E). | 8.5% | 13.5% | 27.5% | 39.5% | 11% | 3.31 |
| GE courses at SJSU help me | 11% | 15% | 35% | 30% | 9% | 3.11 |

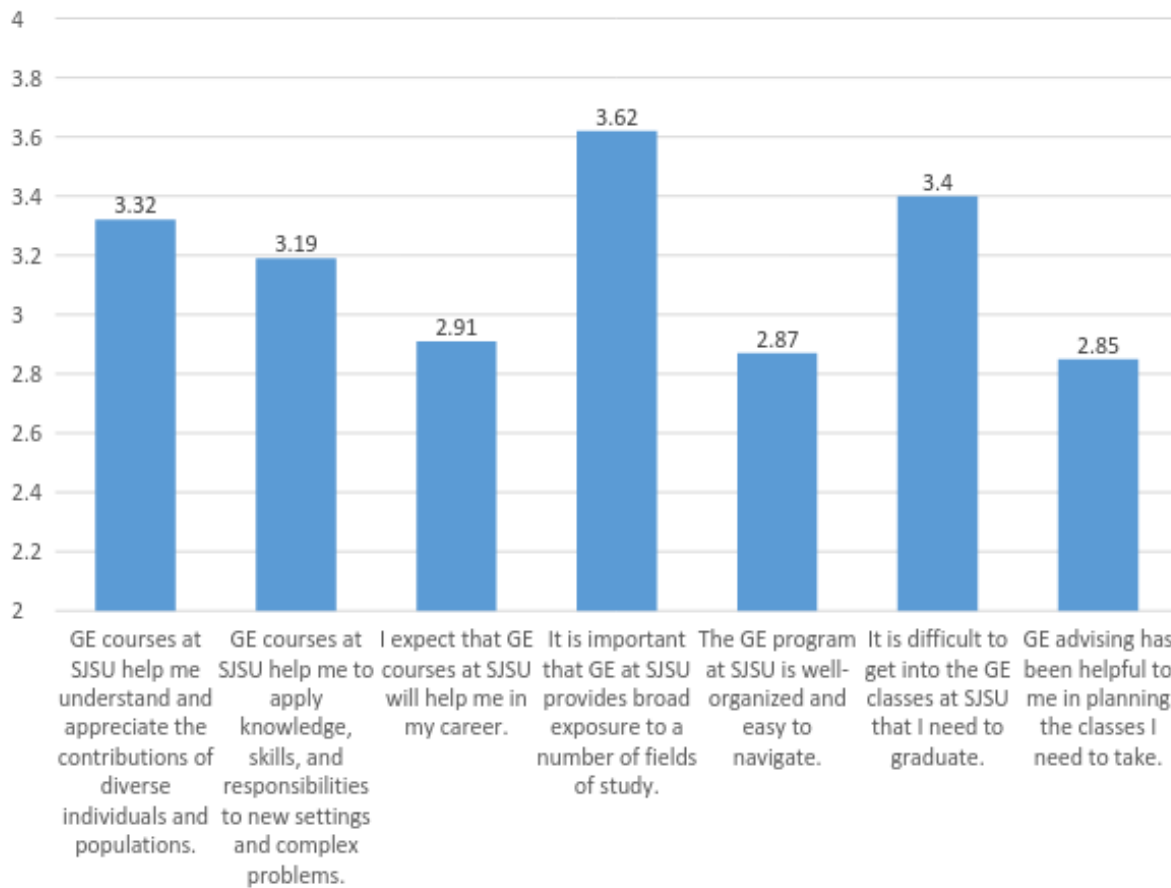
understand and appreciate
U.S. history,
government, and politics
(Areas US 1, 2, 3).



Q3. Please indicate how much you agree or disagree with each of the following statements about the lower-division Core GE program here at SJSU. Please base your responses only on your GE experiences at SJSU, even if you have taken GE classes at other schools.

| | Strongly Disagree (1) | Disagree (2) | Neither Agree nor Disagree (3) | Agree (4) | Strongly Agree (5) | Mean (1-5 scale) |
|---|------------------------------|---------------------|---------------------------------------|------------------|---------------------------|-------------------------|
| GE courses at SJSU help me understand and appreciate the contributions of diverse individuals and populations. | 8% | 13% | 28% | 40.5% | 10.5% | 3.32 |
| GE courses at SJSU help me to apply knowledge, skills, and responsibilities to new settings and complex problems. | 10% | 17% | 25.5% | 39.5% | 8% | 3.19 |
| I expect that GE courses at SJSU will help me in my career. | 17% | 22.5% | 23% | 28% | 9.5% | 2.91 |
| It is important that GE at SJSU provides broad exposure to a number of fields of study. | 7% | 9% | 19% | 45% | 20% | 3.62 |
| The GE program at SJSU is well-organized and easy to navigate. | 16% | 21% | 28% | 30% | 5% | 2.87 |
| It is difficult to get into the GE classes at SJSU that I need to graduate. | 6% | 18% | 28% | 27% | 21% | 3.40 |
| GE advising has been helpful to me in planning the classes I need to take. | 17.5% | 17% | 35% | 24% | 6.5% | 2.85 |

Q3: Opinion of Lower-Division GE 2



1.2 Student Opinion of GE Advising

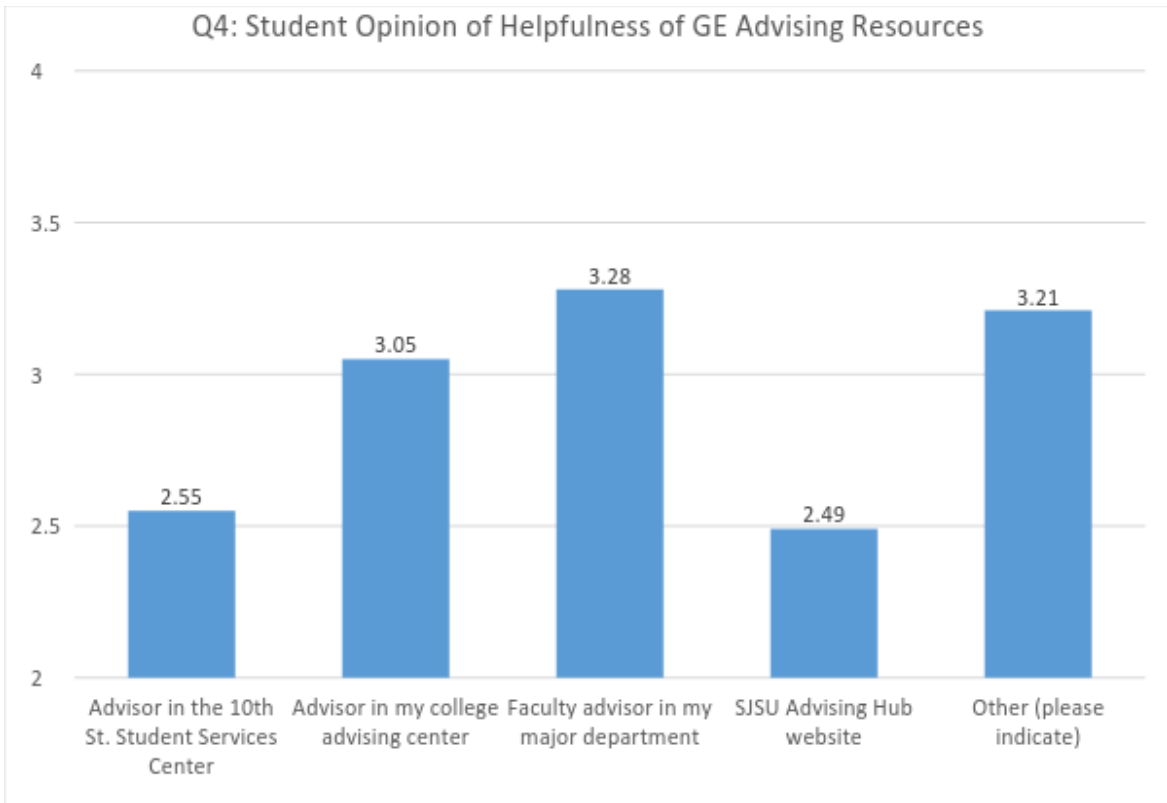
Q4. How helpful have you found each of the following resources for GE advising at SJSU?

| | Have not used (0) | Not helpful at all (1) | Slightly helpful (2) | Moderately helpful (3) | Very helpful (4) | Extremely helpful (5) | Mean (1-5 scale) |
|---|-------------------|------------------------|----------------------|------------------------|------------------|-----------------------|------------------|
| Advisor in the 10th St. Student Services Center | 48.5% | 11% | 14.5% | 15% | 8% | 3% | 2.55 |
| Advisor in my college advising center | 31% | 8% | 15.5% | 19% | 18.5% | 8% | 3.05 |
| Faculty advisor in my major department | 21.5% | 8.5% | 13% | 20% | 21.5% | 15.5% | 3.28 |
| SJSU Advising Hub website | 58.5% | 9% | 13% | 12% | 5% | 2.5% | 2.49 |
| Other (please indicate) | 77% | 4% | 4% | 5% | 4% | 6% | 3.21 |

“Other” advising resources mentioned included Athletic Advisors, EOP Advisors, forms, department websites, and friends. [To be added in Appendix.]

Q5. How often have you used the Academic Requirements Report in MySJSU to plan your GE courses?

| | |
|-----------------------------|-----|
| Never | 23% |
| Once or twice | 25% |
| Once per semester | 23% |
| More than once per semester | 29% |

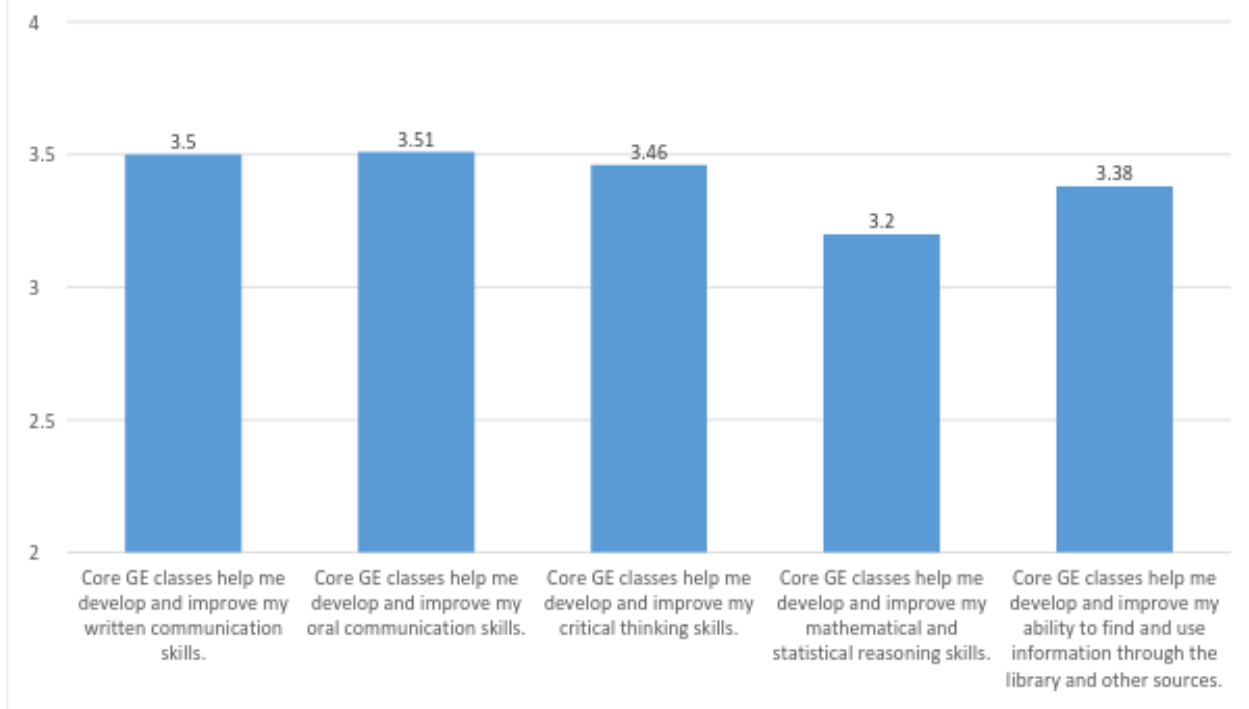


1.3 Student Opinion of Lower-Division GE Effectiveness in Developing Core Competencies

Q6. Thinking now about all of the lower-division Core GE courses you are taking now or have already taken (either at SJSU or another school), please indicate how much you agree or disagree with each of the following statements.

| | Strongly Disagree (1) | Disagree (2) | Neither Agree nor Disagree (3) | Agree (4) | Strongly Agree (5) | Mean (1-5 scale) |
|---|------------------------------|---------------------|---------------------------------------|------------------|---------------------------|-------------------------|
| Core GE classes help me develop and improve my written communication skills. | 6.5% | 11.5% | 20% | 49% | 13% | 3.50 |
| Core GE classes help me develop and improve my oral communication skills. | 6% | 11% | 20.5% | 50% | 12.5% | 3.51 |
| Core GE classes help me develop and improve my critical thinking skills. | 7% | 12% | 21.5% | 47% | 12.5% | 3.46 |
| Core GE classes help me develop and improve my mathematical and statistical reasoning skills. | 10% | 16% | 27.5% | 36.5% | 10% | 3.20 |
| Core GE classes help me develop and improve my ability to find and use information through the library and other sources. | 9.5% | 12% | 22% | 43.5% | 13% | 3.38 |

Q6: Student Opinion of Lower-Division GE Core Competencies



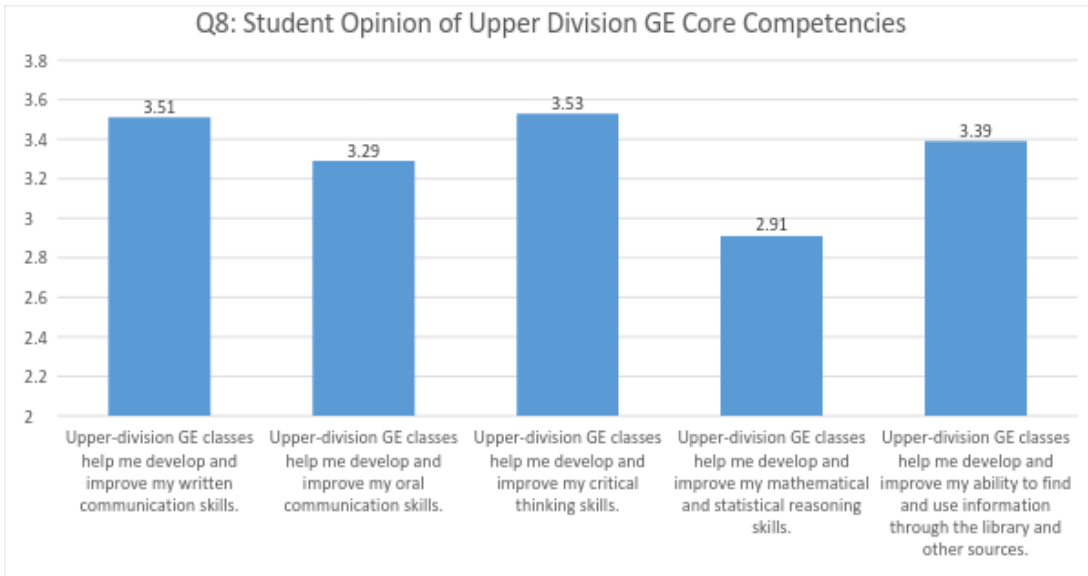
1.4 Student Opinion of Upper-Division GE Courses (SJSU Studies) Effectiveness in Developing Core Competencies

Q7. Have you taken any upper-division GE courses (SJSU Studies: Areas R, S, V, Z) yet at SJSU?

| | |
|-----|-----|
| Yes | 59% |
| No | 41% |

Q8. Thinking now about all of the upper-division GE courses you are taking now or have already taken at SJSU only (SJSU Studies courses), please indicate how much you agree or disagree with each of the following statements. (Asked only of those who answered Yes to Q7.)

| | Strongly Disagree (1) | Disagree (2) | Neither Agree nor Disagree (3) | Agree (4) | Strongly Agree (5) | Mean (1-5 scale) |
|---|------------------------------|---------------------|---------------------------------------|------------------|---------------------------|-------------------------|
| Upper-division GE classes help me develop and improve my written communication skills. | 9% | 11% | 19% | 42% | 19% | 3.51 |
| Upper-division GE classes help me develop and improve my oral communication skills. | 10% | 15.5% | 24% | 36.5% | 14% | 3.29 |
| Upper-division GE classes help me develop and improve my critical thinking skills. | 8.5% | 10% | 19.5% | 44.5% | 17.5% | 3.53 |
| Upper-division GE classes help me develop and improve my mathematical and statistical reasoning skills. | 16% | 20% | 30% | 25% | 9% | 2.91 |
| Upper-division GE classes help me develop and improve my ability to find and use information through the library and other sources. | 11% | 12% | 22% | 36.5% | 18.5% | 3.39 |



1.5 Student Opinion on GE Pathway Options

Q9. If there were a GE Pathway option at SJSU that would allow students to take lower and upper division GE courses focusing on a specific theme such as Sustainability, Creativity, or Global Citizenship, how likely would you be to advise students to choose this option?

| | |
|-------------------|-----|
| Not at all likely | 17% |
| Slightly likely | 15% |
| Somewhat likely | 34% |
| Very likely | 21% |
| Extremely likely | 13% |

Q10. If a certificate were offered to students who completed all courses in a GE Pathway, how likely would you be to advise students to choose this option?

| | |
|-------------------|-----|
| Not at all likely | 15% |
| Slightly likely | 14% |
| Somewhat likely | 29% |
| Very likely | 25% |
| Extremely likely | 17% |

Q11. How interested would you be in seeing SJSU develop each of the following possible GE Pathway themes?

| | Sustainability | Creativity | Global Citizenship |
|---------------------------|-----------------------|-------------------|---------------------------|
| Not at all interested (1) | 17% | 13% | 22% |
| Slightly interested (2) | 17.5% | 15% | 18% |
| Somewhat interested (3) | 33% | 25% | 29% |
| Very interested (4) | 20.5% | 28% | 20% |
| Extremely interested (5) | 12% | 19% | 11% |
| Mean (1-5 scale) | 2.93 | 3.24 | 2.80 |

Q12. Please list any other GE Pathway themes that you would be interested in, if this program were to be adopted at SJSU. [To be added in Appendix.]

Appendix E - Faculty Survey Data

Figure 1

Faculty Satisfaction with GE (Program Learning Goals and GE Areas)

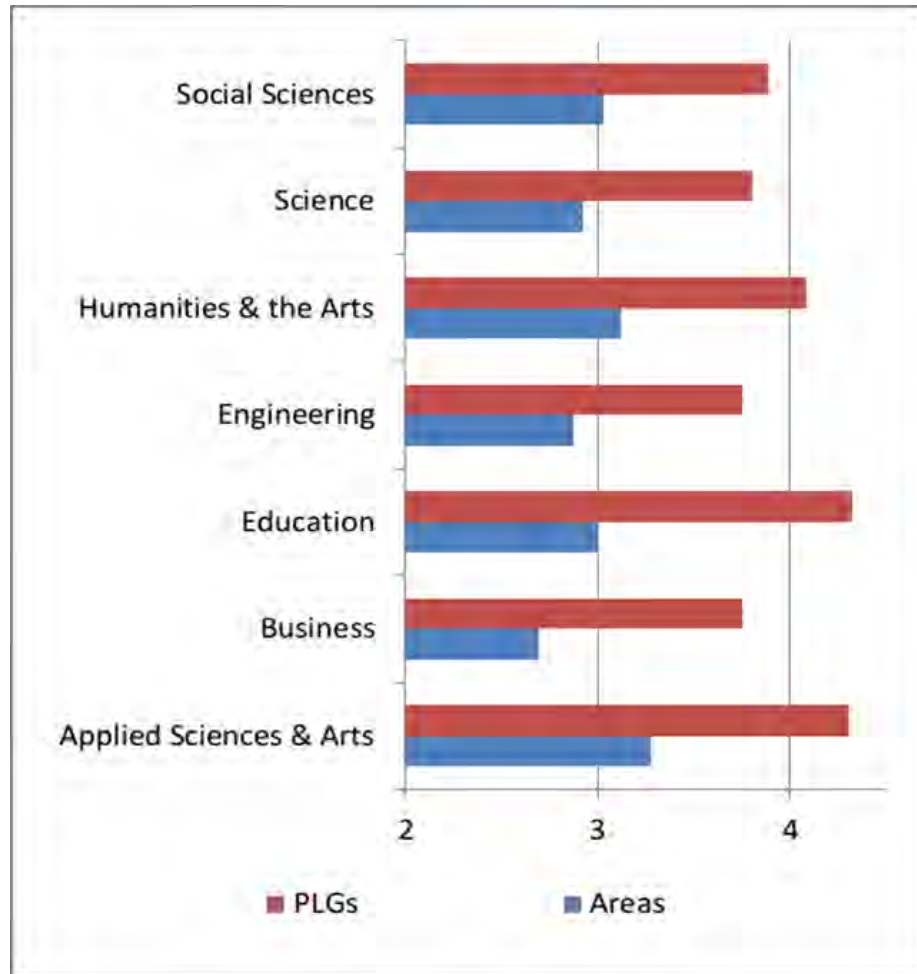


Figure 2

Faculty Satisfaction with GE (Lower and Upper Division)

| | | Have taught upper div GE | | | |
|--------------------------|-----|--------------------------|-------|---|-------|
| | | No | Yes | | |
| Have taught lower div GE | No | -0.48 | -0.11 | - | Lower |
| | | -0.53 | 0.14 | - | Upper |
| | Yes | 0.18 | 0.14 | - | Lower |
| | | 0.04 | 0.15 | - | Upper |

Measures are mean centered

2.1 Faculty Respondent Demographics

Q1. Do you teach undergraduate or graduate courses at SJSU, or both?

| | Percent | Number |
|---------------------------------|---------|--------|
| Undergraduate only | 46.5% | 230 |
| Graduate only | 7% | 35 |
| Both undergraduate and graduate | 46.5% | 230 |

Q2. Which of the following types of classes do you/have you taught at SJSU?

| | Currently teach | Have taught in the past | Do not teach |
|--|-----------------|-------------------------|--------------|
| Lower-division GE or American Institutions classes | 39% | 26% | 35% |
| Upper-division GE (SJSU Studies) classes | 39.5% | 17.5% | 43% |
| Non-GE undergraduate classes | 71% | 18% | 11% |
| Graduate classes | 35% | 33% | 32% |

Q3. Have you served as an advisor for students in your major?

| | |
|------------------------------------|-------|
| Yes, current major advisor | 32.5% |
| Yes, in the past but not currently | 15.5% |
| No | 52% |

2.2 Faculty GE Course Coordinator Opinions

Q4. Have you served as a GE course coordinator?

| | |
|------------------------------------|-----|
| Yes, current GE course coordinator | 19% |
| Yes, in the past but not currently | 10% |
| No | 71% |

Q5. Do you/did you coordinate a multi-section GE course with multiple instructors?

| | |
|-----|-----|
| Yes | 86% |
| No | 14% |

Questions for multi-section GE course coordinators only:

Q6. Which of the following methods do you/did you use to communicate with the instructors for the GE course you coordinate/d? Check all that apply.

| | |
|---------------------|-----|
| Email | 99% |
| Phone calls | 14% |
| Individual meetings | 63% |
| Group meetings | 59% |
| Other | 9% |

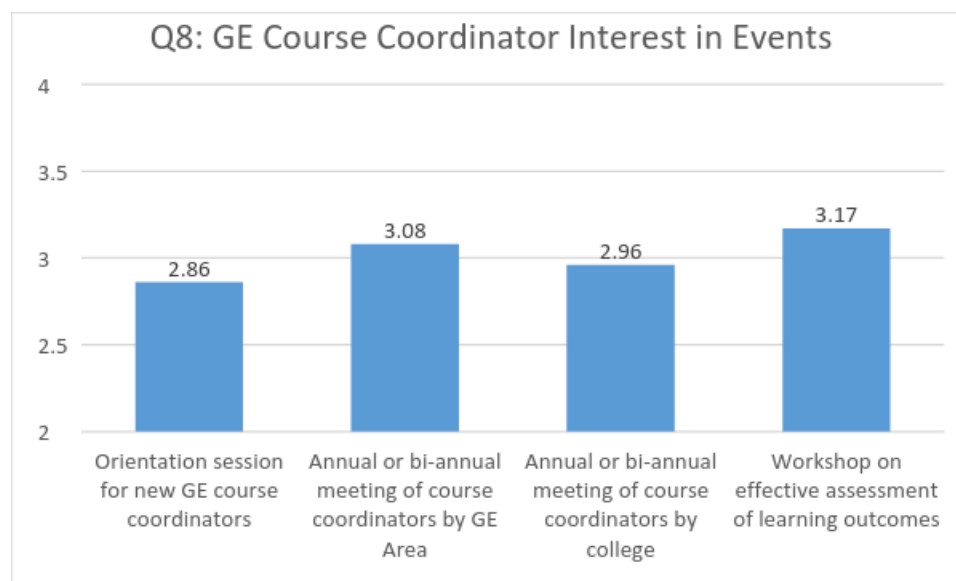
Other communication methods listed included best practices meetings, Canvas, Google Drive, cloud-based group, texts, wiki, and written communication.

Q7. How would you characterize the alignment across the different sections of the GE course you coordinate/d? Check all that apply.

| | |
|---|-----|
| All sections of the course use the same syllabus | 29% |
| GE Learning Outcomes (GELOs) are included in all syllabi | 95% |
| GELOs are linked to specific course assignments for assessment (assignments vary by section) | 74% |
| GELOs are linked to common assignments used across all course sections for assessment | 39% |
| Annual course assessment results are shared with all instructors | 62% |
| Course instructors discuss assessment results and suggest improvements to the course on a regular basis | 53% |
| Course instructors share ideas and instructional materials (in person or online) | 81% |

Q8. How likely would you be to participate in each of the following.

| | Extremely unlikely (1) | Somewhat unlikely (2) | Neither likely nor unlikely (3) | Somewhat likely (4) | Extremely likely (5) | Mean (1-5 scale) |
|---|------------------------|-----------------------|---------------------------------|---------------------|----------------------|------------------|
| Orientation session for new GE course coordinators | 29% | 13.5% | 14% | 29% | 14.5% | 2.86 |
| Annual or bi-annual meeting of course coordinators by GE Area | 21% | 15% | 15% | 34% | 15% | 3.08 |
| Annual or bi-annual meeting of course coordinators by college | 21% | 16% | 20% | 30% | 13% | 2.96 |
| Workshop on effective assessment of learning outcomes | 18.5% | 13% | 21% | 28.5% | 19% | 3.17 |



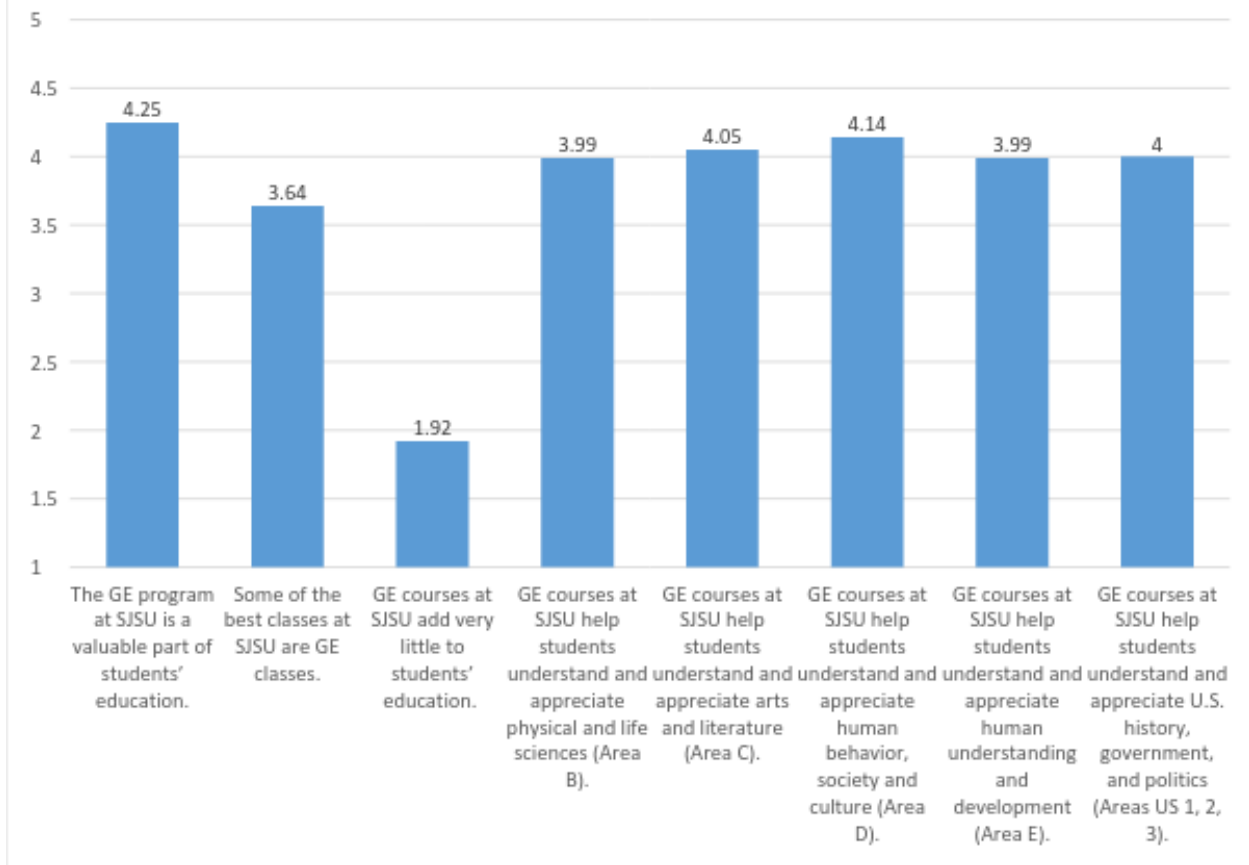
Q9. Please share any other comments regarding your experience as a GE course coordinator, or suggestions for improving university support for this role. [To be added in Appendix.]

2.3 Faculty Opinion of GE Program Effectiveness

Q10. Please indicate how much you agree or disagree with each of the following statements about the GE program here at SJSU?

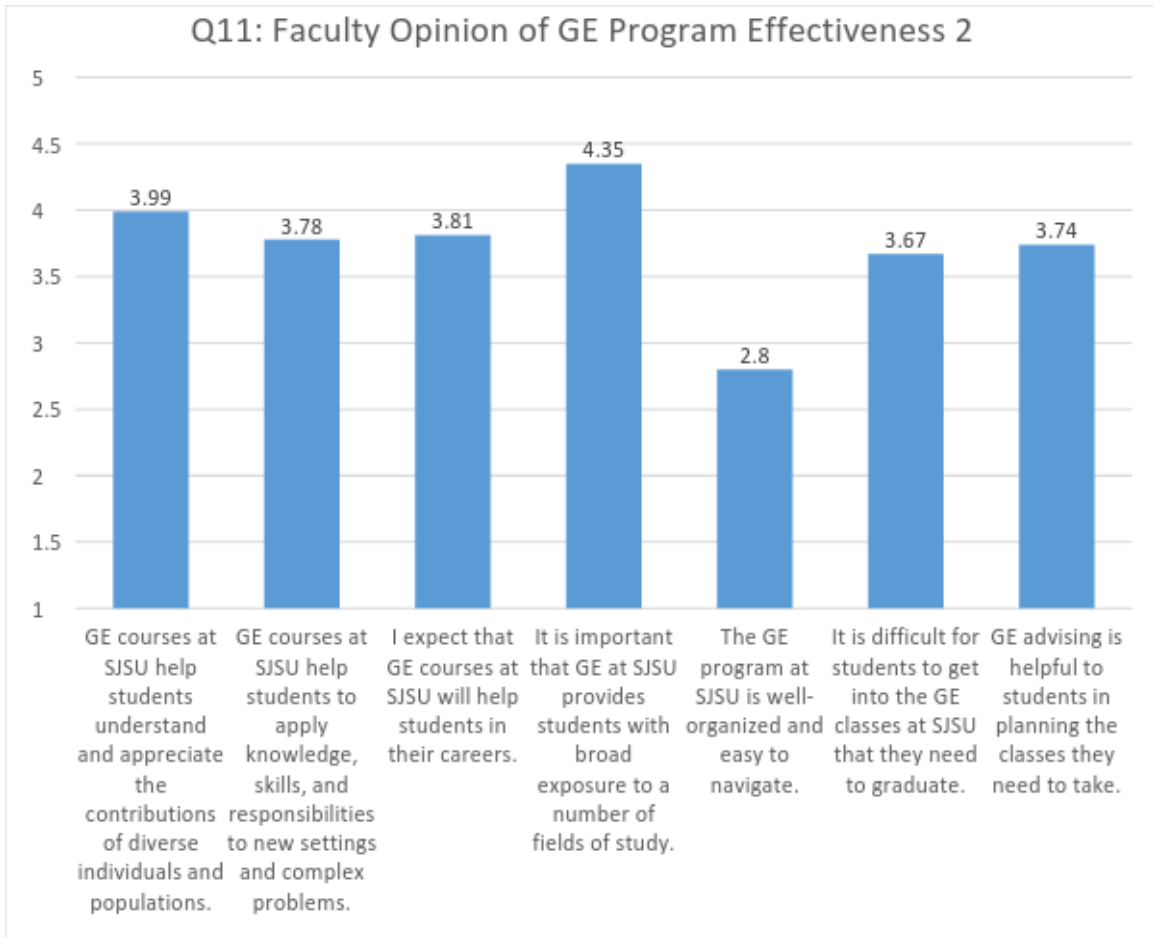
| | Strongly Disagree (1) | Disagree (2) | Neither Agree nor Disagree (3) | Agree (4) | Strongly Agree (5) | Mean (1-5 scale) |
|---|------------------------------|---------------------|---------------------------------------|------------------|---------------------------|-------------------------|
| The GE program at SJSU is a valuable part of students' education. | 3% | 4.5% | 7.5% | 33.5% | 51.5% | 4.25 |
| Some of the best classes at SJSU are GE classes. | 5% | 11% | 29% | 25% | 30% | 3.64 |
| GE courses at SJSU add very little to students' education. | 37% | 44% | 11% | 5% | 3% | 1.92 |
| GE courses at SJSU help students understand and appreciate physical and life sciences (Area B). | 2% | 3% | 18% | 47.5% | 29.5% | 3.99 |
| GE courses at SJSU help students understand and appreciate arts and literature (Area C). | 3% | 2% | 15% | 46% | 34% | 4.05 |
| GE courses at SJSU help students understand and appreciate human behavior, society and culture (Area D). | 2% | 3% | 12% | 44% | 39% | 4.14 |
| GE courses at SJSU help students understand and appreciate human understanding and development (Area E). | 3% | 6% | 14% | 43% | 34% | 3.99 |
| GE courses at SJSU help students understand and appreciate U.S. history, government, and politics (Areas US 1, 2, 3). | 3% | 4% | 16% | 44% | 33% | 4.00 |

Q10: Faculty Opinion of GE Program Effectiveness 1



Q11. Please indicate how much you agree or disagree with each of the following statements about the GE program here at SJSU.

| | Strongly Disagree (1) | Disagree (2) | Neither Agree nor Disagree (3) | Agree (4) | Strongly Agree (5) | Mean (1-5 scale) |
|---|------------------------------|---------------------|---------------------------------------|------------------|---------------------------|-------------------------|
| GE courses at SJSU help students understand and appreciate the contributions of diverse individuals and populations. | 3% | 5.5% | 15% | 43% | 33.5% | 3.99 |
| GE courses at SJSU help students to apply knowledge, skills, and responsibilities to new settings and complex problems. | 4% | 10% | 19% | 38% | 29% | 3.78 |
| I expect that GE courses at SJSU will help students in their careers. | 4% | 10% | 17% | 39% | 30% | 3.81 |
| It is important that GE at SJSU provides students with broad exposure to a number of fields of study. | 2.5% | 4.5% | 5.5% | 30% | 57.5% | 4.35 |
| The GE program at SJSU is well-organized and easy to navigate. | 15.5% | 27% | 27% | 23.5% | 7% | 2.80 |
| It is difficult for students to get into the GE classes at SJSU that they need to graduate. | 2.5% | 12.5% | 25% | 35% | 25% | 3.67 |
| GE advising is helpful to students in planning the classes they need to take. | 5% | 11% | 19.5% | 35% | 29.5% | 3.74 |



2.3 Faculty GE Advising

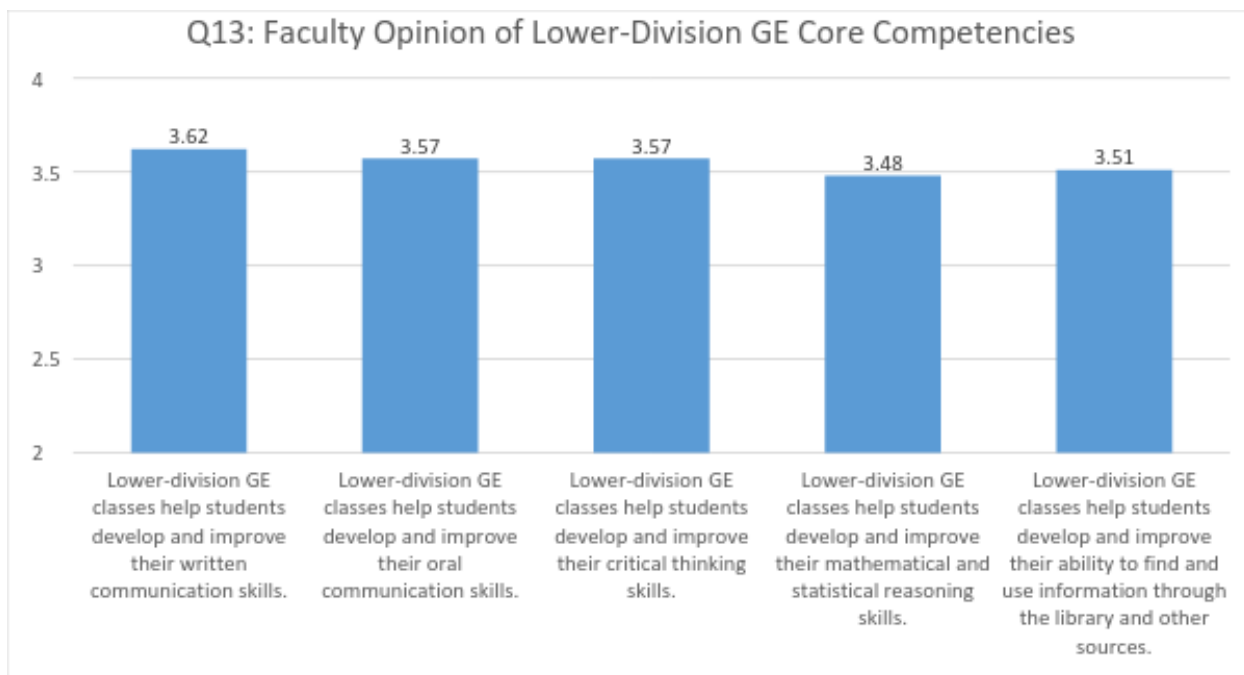
Q12. How often have you used the Academic Requirements Report in MySJSU to help students plan their GE courses?

| | |
|-----------------------------|-----|
| Never | 76% |
| Once or twice | 7% |
| Once per semester | 3% |
| More than once per semester | 14% |

2.4 Faculty Opinion of Lower-Division GE Program Effectiveness in Developing Core Competencies

Q13. Thinking about the lower-division core GE Program at SJSU, please indicate how much you agree or disagree with each of the following statements.

| | Strongly Disagree (1) | Disagree (2) | Neither Agree nor Disagree (3) | Agree (4) | Strongly Agree (5) | Mean (1-5 scale) |
|--|------------------------------|---------------------|---------------------------------------|------------------|---------------------------|-------------------------|
| Lower-division GE classes help students develop and improve their written communication skills. | 5% | 10% | 20% | 48% | 17% | 3.62 |
| Lower-division GE classes help students develop and improve their oral communication skills. | 3.5% | 10% | 27.5% | 43% | 16% | 3.57 |
| Lower-division GE classes help students develop and improve their critical thinking skills. | 6% | 7% | 27% | 44% | 16% | 3.57 |
| Lower-division GE classes help students develop and improve their mathematical and statistical reasoning skills. | 5% | 7% | 38% | 34% | 16% | 3.48 |
| Lower-division GE classes help students develop and improve their ability to find and use information through the library and other sources. | 5% | 9% | 31% | 41% | 14% | 3.51 |

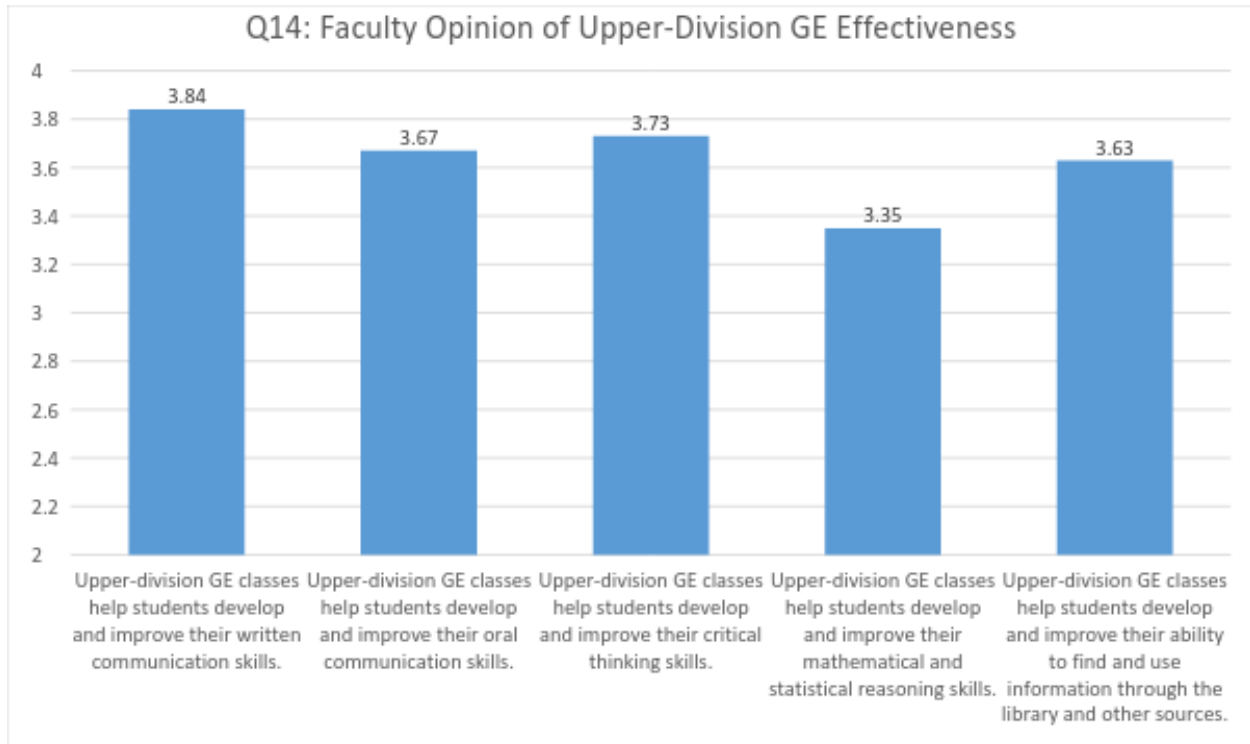


2.5 Faculty Opinion of Upper-Division GE Program Effectiveness in Developing Core Competencies

Q14. Thinking now about the upper-division GE program (SJSU Studies courses), please indicate how much you agree or disagree with each of the following statements.

| | Strongly Disagree (1) | Disagree (2) | Neither Agree nor Disagree (3) | Agree (4) | Strongly Agree (5) | Mean (1-5 scale) |
|--|------------------------------|---------------------|---------------------------------------|------------------|---------------------------|-------------------------|
| Upper-division GE classes help students develop and improve their written communication skills. | 2% | 5.5% | 21% | 50% | 21.5% | 3.84 |
| Upper-division GE classes help students develop and improve their oral communication skills. | 3% | 6.5% | 28.5% | 44.5% | 17.5% | 3.67 |
| Upper-division GE classes help students develop and improve their critical thinking skills. | 4% | 4% | 26.5% | 46% | 19.5% | 3.73 |
| Upper-division GE classes help students develop and improve their mathematical and statistical reasoning skills. | 5% | 9.5% | 43% | 30% | 12.5% | 3.35 |
| Upper-division GE classes help students develop and improve their ability to find | 2.5% | 7% | 30.5% | 44% | 16% | 3.63 |

and use information through the library and other sources.



2.6 Faculty Opinion on GE Pathways

Q15. If there were a GE Pathway option at SJSU that would allow students to take lower and upper division GE courses focusing on a specific theme such as Sustainability, Creativity, or Global Citizenship, how likely would you be to advise students to choose this option?

| | |
|-------------------|-----|
| Not at all likely | 16% |
| Slightly likely | 18% |
| Somewhat likely | 30% |
| Very likely | 21% |
| Extremely likely | 15% |

Q16. If a certificate were offered to students who completed all courses in a GE Pathway, how likely would you be to advise students to choose this option?

| | |
|-------------------|-----|
| Not at all likely | 18% |
| Slightly likely | 16% |
| Somewhat likely | 31% |
| Very likely | 20% |
| Extremely likely | 15% |

Q17. How interested would you be in seeing SJSU develop each of the following possible GE Pathway themes?

| | Sustainability | Creativity | Global Citizenship |
|---------------------------|-----------------------|-------------------|---------------------------|
| Not at all interested (1) | 18.5% | 16% | 15% |
| Slightly interested (2) | 13% | 15.5% | 11.5% |
| Somewhat interested (3) | 23% | 23% | 23% |
| Very interested (4) | 25% | 25% | 29% |
| Extremely interested (5) | 20.5% | 20.5% | 21.5% |
| Mean (1-5 scale) | 3.16 | 3.18 | 3.31 |

Q18. Please list any other GE Pathway themes that you would be interested in, if this program were to be adopted at SJSU. [To be added in Appendix.]

Appendix F – Models of Overall Student Satisfaction with GE

Model 1 regresses overall student satisfaction against student GPA in GE courses. Model 2 regresses GPA in GE courses against a variety of independent variables. In Model 3, overall student satisfaction is regressed against the same independent variables as Model 2. Finally Model 4 adds GPA in GE courses to Model 3.

The scheme (Barron and Kenney, 1973) is designed to show the potential mediating effect of student GPA in GE courses between satisfaction and the independent variables of interest. Given the effect of GPA on satisfaction (Model 1), and the relationships between GPA the independent variables of interest (Model 2) any variables in Model 3 that were related to satisfaction (and to GPA in Model 2) that were not significant in Model 4 would be relationship that were fully mediated by GPA.

None of the significant relationships between the independent variables of interest and satisfaction were fully mediated by grade point average.

Table 1

Medication Models of Student Satisfaction

| | Model 1 Satisfaction | Model 2 GE GPA | Model 3 Satisfaction | Model 4 Satisfaction |
|-------------|-------------------------|-----------------------|-------------------------|-------------------------|
| Intercept | 2.414 *** (0.098) | 2.4808 *** (0.255) | 2.7808 *** (0.364) | 2.4055 *** (0.37) |
| GE GPA | 0.172 *** (0.031) | | | 0.149 *** (0.03) |
| Sex | | -0.096 *** (0.027) | -0.199 *** (0.04) | -0.183 *** (0.04) |
| Age | | 0.004 (0.003) | 0.019 *** (0.004) | 0.019 *** (0.004) |
| Transfer | | 0.088 ** (0.033) | 0.334 *** (0.049) | 0.321 *** (0.049) |
| Part time | | -0.224 *** (0.034) | 0.077 (0.051) | 0.111 * (0.051) |
| Business | | -0.017 (0.048) | -0.074 (0.072) | -0.071 (0.072) |
| Education | | -0.075 (0.057) | 0.078 (0.084) | 0.093 (0.084) |
| Engineering | | -0.139 ** (0.048) | -0.152 * (0.071) | -0.133 † (0.071) |
| H&A | | -0.078 † (0.045) | -0.166 * (0.067) | -0.156 * (0.067) |
| Science | | -0.131 ** (0.045) | -0.302 *** (0.067) | -0.284 *** (0.067) |
| COSS | | -0.091 † | -0.003 | 0.010 |

| | | | | |
|------------------|--------|-----------|---------|---------|
| | | (0.047) | (0.069) | (0.069) |
| UGS | | -0.161 ** | -0.110 | -0.085 |
| | | (0.059) | (0.089) | (0.089) |
| East Bay | | 0.051 | 0.146 † | 0.142 † |
| | | (0.05) | (0.076) | (0.075) |
| Non-US | | 0.343 * | -0.023 | -0.077 |
| | | (0.172) | (0.265) | (0.264) |
| North Bay | | -0.078 | 0.053 | 0.066 |
| | | (0.065) | (0.097) | (0.096) |
| Santa Clara | | 0.053 | 0.157 * | 0.151 * |
| | | (0.046) | (0.07) | (0.07) |
| SoCal | | -0.139 * | 0.096 | 0.115 |
| | | (0.065) | (0.096) | (0.096) |
| US | | 0.507 * | -0.193 | -0.271 |
| | | (0.241) | (0.365) | (0.363) |
| West / South Bay | | 0.050 | 0.076 | 0.070 |
| | | (0.059) | (0.088) | (0.087) |
| Black | | 0.356 | -0.151 | -0.208 |
| | | (0.255) | (0.365) | (0.363) |
| Asian | | 0.706 ** | -0.065 | -0.173 |
| | | (0.244) | (0.348) | (0.347) |
| Pac Islander | | 0.463 | 0.162 | 0.091 |
| | | (0.291) | (0.414) | (0.412) |
| Hispanic | | 0.427 † | 0.018 | -0.048 |
| | | (0.244) | (0.348) | (0.346) |
| White | | 0.716 ** | -0.294 | -0.402 |
| | | (0.244) | (0.348) | (0.347) |
| Other | | 0.628 * | -0.242 | -0.339 |
| | | (0.246) | (0.35) | (0.349) |
| Non resident | | -0.342 * | 0.032 | 0.090 |
| | | (0.17) | (0.263) | (0.262) |
| Observations | 2221 | 2428 | 2221 | 2221 |
| Model df | 1 | 28 | 28 | 29 |
| Adj R Sq | 0.0136 | 0.0971 | 0.1238 | 0.1329 |