Major Requirements Initiative

An Initiative of the Budget Framework Agreement
Between the Governor of California
And the President of the University of California,
As Approved by the Regents of the University of California

Final Report
August 2018

University of California Office of the President

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Executive Summary

In the 2015 Budget Framework Agreement between Governor Brown and President Napolitano, the Major Requirements Initiative was one of several aimed at promoting student progress and timely degree completion. For it, faculty on the nine undergraduate campuses reviewed the upper division requirements for the top 75 percent of their campus's undergraduate majors to ensure they were appropriate for their graduates and as streamlined as possible. Two campuses chose to review separately the remaining 25 percent as well.

UC Regents have delegated responsibility for courses and curricula to the UC faculty. Faculty are very familiar with, and committed to, reviews and revisions for major degree programs. Across all nine undergraduate campuses combined, it is likely that faculty would review anywhere from 100 to 175 undergraduate majors annually. The Major Requirements Initiative focused entirely on undergraduate majors and their upper division requirements. It emphasized both excellence of the totality of requirements for the major and streamlining of those requirements. Most unusual was the scope of the undertaking: All nine UC undergraduate campuses at the same time examined 623 majors that accounted for more than 95 percent of all undergraduate degrees. The Initiative was a demanding, complex activity that went exceptionally well.

Activities were carried out with close collaboration among a campus point person who managed the Initiative on the campus and worked closely with designated UC Office of the President staff. The top 75 percent of undergraduate majors on each campus were identified based on number of graduates in each major averaged over three consecutive years. Emphasis was placed on streamlining upper division major requirements, and a general guideline for streamlining ("Unit Guideline") was total upper division (junior and senior year) required major coursework that could be completed in the equivalent of one academic year or less (one and one half academic years or less for engineering and computer science majors). It was a guideline, not a requirement, cap, or benchmark. In fact, the units needed to complete upper division requirements for a major ranged from well below the Unit Guideline to well above it. Faculty responsible for a major and a campus Academic Senate committee responsible for undergraduate education (or its designee) approved all changes to the requirements for a given

major. Changes were promulgated to all relevant campus venues and reflected in the campus online catalog that is updated annually.

Outcomes of the Major Requirements Initiative are expressed in units and changes in units needed to complete the upper division major requirements; streamlining is identified by decreases in units and also by requirements that can be completed within the Unit Guideline. Because many majors have options as to the major requirements and the options could lead to different numbers of units needed to complete a particular option in the major, faculty were asked to review all options and report just the lowest and highest number of units needed to complete a major's requirements before and after their review. These reports, which likely underestimate the extent of streamlining of units, showed that faculty decreased major requirements by at least 2,363 units, the equivalent of nearly 600 4-unit courses.

For all outcome analyses except that for total units streamlined, outcomes are based on the lowest number of units to complete a major's requirements when the major had different lowest and highest numbers and otherwise on the one number when lowest and highest were the same. Prior to faculty review, about half (55%) of the 623 majors included in the Initiative were at/below their Unit Guideline. In effect, these majors had already been streamlined. During the review, faculty decreased the units needed to complete upper division major requirements for 30 percent of majors and increased units for just one percent. Faculty made changes to many more of the majors that were above the Unit Guideline than at/below the Unit Guideline. At the end of the Major Requirements Initiative, two thirds (68%) of the 623 majors reviewed fell within the guidelines for streamlining. This was a 24 percent increase in the number of majors at/below the Unit Guideline.

A Difference Score was created for each major to represent the size and direction of differences between the upper division requirements for the major (in units) and the Unit Guideline for the major. A 0 Percent Difference Score corresponded to the Unit Guideline, and Difference Scores ranged from 58 percent below the zero point to 117 percent above the zero point. The Difference Score provided a means of moving beyond the binary perspective of the Unit Guideline to one that recognized that major requirements are spread across a wide range. It also facilitated consideration of the circumstances under which majors with requirements just above and far above zero percent (the Unit Guideline) would nonetheless be considered by faculty to be fully streamlined or properly streamlined.

Like UCLA's Challenge 45, which served as a model, the Major Requirements Initiative focused attention on both quality and streamlining of undergraduate majors and consolidated into a much shorter period of time work that would ordinarily span five to eight years of regular major reviews. Faculty embraced this special emphasis on program reviews, considerable streamlining occurred during the Initiative and in earlier reviews accepted in lieu of a new review for the Initiative, and the goals of the Major Requirements Initiative as set forth in the Budget Framework Agreement were met.

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I. Background

As part of the Budget Framework Agreement between Governor Brown and President Napolitano, as approved by the Regents, November 2015, faculty on each of the nine undergraduate campuses undertook an examination of the required upper division courses in the top 75 percent of that campus's undergraduate majors to ensure both that the upper division course requirements were appropriate for today's and tomorrow's graduates in the major and also that the requirements were as streamlined as possible. Two campuses decided to include all majors; the top 75 percent are reported. The Initiative was one of several in the Budget Framework Agreement that were aimed at promoting student progress and timely degree completion.

The Major Requirements Initiative was modeled after UCLA's Challenge 45, an initiative of the College of Letters and Science deans who asked faculty and their departments to focus on core courses in their field, review their lists of upper division courses required for each major, and strive to meet an approximate target of 45 upper division units for an undergraduate major. The initiative began in 2009 and involved 107 undergraduate majors in the College plus one major in the School of the Arts and Architecture. Responsible faculty determined that 46 of the majors already met the 45-unit challenge or did not warrant a change and that 61 should be changed (for more information see the following two UCLA news stories: http://newsroom.ucla.edu/stories/academic-departments-strengthen-214095; http://dailybruin.com/2011/09/16/039challenge_4039_degree_restructuring_near_completion_after_almost_half_of_college_majors_reduce_th/).

Faculty on all UC campuses carry out periodic academic program reviews, examining both undergraduate and graduate degree programs. Program review of various types is also part of the accreditation process of the Western Association of Schools and Colleges (WASC). The regular campus reviews that are not part of WASC occur on staggered 5- to 8-year cycles. The regular program reviews are conducted by campus Academic Senate committees responsible for undergraduate and graduate degree programs; they work on program review in close cooperation with senior academic administrators. Outside reviewers, a site visit, and student and faculty surveys are routine aspects of the process. Off-cycle reviews can occur at any time; they may or may not be conducted as the on-cycle reviews are conducted. They could, for example, be a planned off-cycle report or an unplanned response to problems or opportunities

within an academic degree program. Alternatively, a dean or department chair could initiate an internal review at any time as part of a strategic plan or academic renewal exercise.

Department faculty enter the degree program review process with the goals of ensuring that the major requirements reflect current thinking about the nature of the field, providing their graduates with knowledge and skills likely to be useful for post-baccalaureate education or employment, and effectively leveraging departmental and institutional resources to create the highest quality program. They compare the major requirements to those of similar programs in peer institutions within and outside of the UC system. They may also research the entry-level expectations of likely employers of their graduates. If applicable, a professional or accrediting body's requirements will be followed. Some departments will use data from student exit polls. Initial work may be done by anywhere from a few to all faculty. Final decisions about major requirements must be approved by department faculty responsible for the major and at least one campus Academic Senate committee or its designee. They must then be promulgated and publicly available in standard places with a clear date on which any change becomes effective, typically the beginning of an academic year.

The Major Requirements Initiative involved both familiar and not so familiar elements. As just described, faculty are very familiar with — and committed to — reviews and possible revisions for major degree programs. Ordinarily, faculty would consider preparation for the major as well as the major itself. The Major Requirements Initiative focused entirely on upper division (junior and senior year) major requirements. The Initiative also placed considerable emphasis on streamlining requirements. Most unusual was the scope of the undertaking. The Initiative considered about three-quarters (623) of all undergraduate majors at the same time and on all nine undergraduate campuses, whereas routine reviews of majors on all campuses combined might involve somewhere between about 100 to 175 majors in one year. The number of majors included in the Major Requirements Initiative on each campus was generally in line with the size of the undergraduate population, with the University's newest campus having 16 majors in the Initiative and the older campuses having from 48 to 98 majors in the Initiative. The UC Office of the President worked closely together with representatives from the campuses to support their work and to facilitate sharing across campuses.

To manage an initiative of this scope across the nine undergraduate campuses, the UC provost and executive vice president for academic affairs was the point person for the UC Office of the President, and the chancellor or her/his designee for each of the nine campuses identified a point person (e.g., vice chancellor for undergraduate education, the associate vice chancellor for academic affairs and dean of undergraduate education, or dean and vice provost of undergraduate education). The campus point persons managed the entire Initiative for the campus and were the point of campus contact for the UC Office of the President. The academic unit responsible for each major, usually an academic department, was identified and a designated leader, usually the department chair, was provided guidance as to how to proceed. At various times, including as the Initiative began, informational materials were prepared and made available to the campus point persons who shared them as appropriate on their campuses.

II. Organization of the Work

A. Identification of Top 75 Percent of Campus Majors

The top 75 percent of campus undergraduate majors was identified in a standard process carried out by the UC Office of the President in consultation with the campuses. For each campus, the average number of graduates in each major was calculated for the three most recent consecutive years for which data were available for all campuses (i.e., 2011-12, 2012-13, and 2013-14). The majors on each campus were then ordered from highest to lowest average number of graduates in the major in those three years. The majors in the first 75 percent of all undergraduate majors offered by the campus were identified as the ones the campus would consider. No substitutions or changes were possible.

Overall, 156,515 undergraduate degrees were awarded in 865 majors in 2011-12, 2012-13, and 2013-14 combined. In the top 75 percent of majors (n=648) for all undergraduate campuses combined, 154,977 degrees were awarded across the three years. Thus, combined across the nine undergraduate campuses, the top 75 percent of majors on each campus accounted for 99 percent of all undergraduate degrees in 2011-12, 2012-13, and 2013-14 combined.

In Fall 2015, at the time of the Major Requirements Initiative, 25 of the 648 majors in the top 75 percent of all majors on each campus in 2011-12, 2012-13, and 2013-14 had been discontinued, leaving a total of 623 majors that were considered. These 623 majors accounted for 152,035 undergraduate degrees (97 percent of all undergraduate degrees) in 2011-12, 2012-13, and 2013-14 combined. Because the number and percent were small and the majors were not those in which a large number of students graduated, the discontinued majors were not replaced to keep the total number at exactly 75 percent for each campus. Appendix A identifies by name the discontinued majors for each campus and the rank of each of these majors among the top 75 percent for that campus. The number of discontinued majors on the campuses ranged from one to five and constituted three to six percent of majors identified in the top 75 percent on each campus. None of the discontinued majors was in the top 10 percent for average number of degrees awarded in the majors for each campus for 2011-12, 2012-13, and 2013-14, and nearly three quarters were in the lower half of the average number of degrees awarded during that three-year period.

Appendix B identifies by name within campus each of the 623 undergraduate majors that was included in the Major Requirements Initiative. Majors are presented alphabetically within campus, and information is provided as to the type(s) of degree offered and the rank order (with one for the major with the largest number of degrees awarded in 2011-12, 2012-13, and 2013-14 combined).

B. Determination of Guidelines for Streamlining

Streamlining of a major occurs when the faculty reduce the upper division requirements for completion of that major. This includes fewer specific courses required, lower workload for required courses (e.g., three units instead of five units), and lower required number of elective courses or units. In all cases, the streamlining results in fewer total units of required upper division coursework in order to complete the major. Because the unit value of courses can

vary, the results of streamlining in this Initiative are represented by reductions in the units needed to complete upper division coursework required to graduate in the major.

For the Initiative, a general guideline for major requirements to be considered streamlined was that the total upper division (junior and senior year) courses required by the major could be completed in the equivalent of no more than one academic year (excluding summer) of full-time work at a standard load and preferably in less than one year. Upper division courses were those numbered 100-199, and upper division courses outside the major but required to complete the major counted toward the total. It was understood that required upper division courses would not all be taken in one year and some might be taken while a student was a freshman or sophomore or during the summer. It was also understood that for some majors there were very good reasons for having upper division requirements that took more than one year to complete. These points were early agreed on by the UC Office of the President and the undergraduate campuses. For a variety of reasons their implementation required additional discussion among all parties, as described below, in order to arrive at a set of guidelines that encompassed all 623 majors included in the Major Requirements Initiative.

For the University of California, the standard definition of full-time undergraduate work for an academic year is either three quarters with at least 15 units of coursework each quarter (45 units successfully completed in an academic year) or two semesters with at least 15 units of coursework each semester (30 units successfully completed in an academic year). Consequently, a general guideline for the upper division coursework required for the major was 45 quarter units for the seven quarter campuses and 30 semester units for the two semester campuses.

Major requirements are primarily described by courses that can carry any unit credit the campus faculty approve. Typically, courses carry three, four, or five units credit and a full load would be whatever set of courses yields at least 15 units credit for the term. Three campuses offer a preponderance of 4-unit courses and consider full-time enrollment for undergraduates to be four courses. Consequently, full-time work each term is worth one unit more than the 15 units of full-time work for the other campuses. For these three campuses, the guidelines for streamlining were a maximum of 48 units completed on a quarter campus and 32 units completed on a semester campus. One additional campus identified 14 majors with upper division requirements with a preponderance of 4-unit courses and, for these 14 majors only, the guideline for streamlining was 32 semester units.

Different guidelines were established for the engineering and the computer science majors on the nine undergraduate campuses. There were 90 such majors included in the Major Requirements Initiative. Most engineering majors and many computer science programs offered within an engineering school or department are accredited by the Accreditation Board for Engineering and Technology (ABET) whose requirements are greater than the one-academic-year guideline UC selected for the Major Requirements Initiative. Those engineering and computer science majors that do not undertake accreditation nonetheless base their major requirements on these professional standards. On November 30, 2015, UC Office of the President held a systemwide meeting of deans, other academic leaders, and senior staff to

discuss the best way to handle streamlining guidelines for engineering and computer science majors. That meeting was instrumental in determining that the guidelines for these majors would be that the total upper division courses required by the major could be completed in the equivalent of no more than one and one-half academic years (excluding summer) of full-time work and preferably in less. Therefore, the guideline for engineering and computer science majors on quarter campuses was 68 or 72 units, depending on the preponderance of 4-unit courses on the campus, and for semester campuses the guideline was 48 units.

The campus point persons and UC Office of the President staff considered whether there were any majors, other than those in engineering and computer science, for which special guidelines for streamlining should be established. There was consensus that other accredited and/or pre-professional undergraduate majors (e.g., architecture, business administration, clinical nutrition, dance-performance, landscape architecture, music-performance, nursing) throughout UC were small enough in number and varied enough in scope that it was not worth the time to establish separate guidelines for each one, as was done for engineering and computer science. The Major Requirements Initiative addressed both appropriate major requirements and streamlining and included the possibility that some majors could make a strong case for requiring more units than the general guideline. It was taken as a given that majors could require fewer units than the general guideline and that no rationale for fewer units would be needed.

Appendix C presents the guidelines that were established for upper division requirements for majors included in the Major Requirements Initiative. They will be referred to as the "Unit Guideline" for each major. With the exception of engineering and computer science majors, the guidelines provide unit values that implement the general guideline that the total upper division (junior and senior year) courses required by the major could be completed in the equivalent of no more than one academic year (excluding summer) of full-time work and preferably in less than one year. They resulted in a single Unit Guideline for each major on each campus. During the Major Requirements Initiative, the Unit Guideline for streamlining provided guidance to faculty responsible for the major; it did not serve as a requirement, cap, or benchmark, nor did it override the best judgment of the faculty responsible for the major as to what were both appropriate and feasible upper division requirements for that major. The Difference Score (see "Creation of Difference Scores and Graphs") was developed as staff in the UC Office of the President prepared this report and was not a consideration during the time campus faculty reviewed major requirements.

C. Implementation of the Review Process

The Major Requirements Initiative involved 623 majors on the nine UC undergraduate campuses. Each major was currently active and among the top 75 percent based on average number of students graduating in the major during three consecutive years (see "Identification of Top 75 Percent of Campus Majors"). Each such major was reviewed by the responsible faculty beginning in Fall Term 2015 except when a recent review was available and met all of the following four conditions:

1. the major review took place in the recent past (i.e., academic years 2009-10 through 2014-15, which would include UCLA's Challenge 45);
2. both quality of the major and streamlining, however defined, were explicitly considered;
3. the campus point person for the Major Requirements Initiative affirmed that the earlier review included explicit consideration of the possibility of reducing the number of upper division courses/units required for the major; and
4. adequate, if not complete, information on the course and unit requirements prior to and after the review was available and the campus would share it with staff in the UC Office of the President.

Campus point persons and UC Office of the President staff agreed on this approach, recognizing that campus reviews of selected majors are commonplace, UCLA's Challenge 45 was one impetus for the Major Requirements Initiative, the extensive and extended effort of Challenge 45 should be used for the Major Requirements Initiative, and other campuses should have the same opportunity to use apposite major requirements reviews in lieu of another such review starting Fall Term 2015.

In total, during the Major Requirements Initiative, the campuses completed reviews for 412 (66 percent) of the 623 top 75 percent of majors and submitted earlier reviews for 211 (34 percent) of them. The outcomes in terms of streamlining were not demonstrably different. As described earlier (see "Background"), faculty on all campuses periodically review undergraduate and graduate majors as part of routine practice and sometimes do so in a special initiative. Campuses varied (from 0 percent to 85 percent) in the extent to which they identified and submitted major reviews that were conducted prior to the Major Requirements Initiative and met the four conditions. Below are descriptions of the circumstances under which the earlier reviews took place for the four campuses that had the largest percent of earlier reviews, ordered from highest percent downward.

- Of the 95 majors included in the top 75 percent for UCLA, 81 (85 percent) were reviewed before the Major Requirements Initiative began. All but three were part of the special initiative, Challenge 45, that the College of Letters and Science deans undertook with support from the executive vice chancellor and provost. Of the 107 majors included in Challenge 45, 78 were also identified as being in the top 75 percent for the Major Requirements Initiative. The other three of the 81 that were reviewed prior to the beginning of the Major Requirements Initiative were majors in the professional schools of engineering and nursing. The remaining 14 of 95 majors in the top 75 percent were reviewed during the Major Requirements Initiative. All 14 were undergraduate majors in the four professional schools for arts and architecture, engineering, nursing, and theatre, film and television.
- Of the 98 majors included in the top 75 percent for UCB, 59 (60 percent) were reviewed before the Major Requirements Initiative began, demonstrating the importance and impact of campus-initiated review processes. Of these 59 majors, 46 were reviewed as part of the campus's rigorous Academic Program Review process, which each

department undergoes every eight years. An additional nine majors were reviewed during the Letters & Science Executive Committee review process, which occurs every 10 years for majors housed in the interdisciplinary studies division. The remaining four majors were reviewed at the impetus of the individual departments, independent of an official campus-led review process.

- Of the 16 majors included in the top 75 percent for UCM, nine (56 percent) were reviewed as part of the campus' ongoing engagement in creating, reviewing, and revising its undergraduate and graduate degree programs. The campus is rapidly increasing its enrollment and academic offerings, a circumstance unique among UC's campuses. Therefore, both existing and proposed undergraduate majors are scrutinized for their ability to meet the educational needs of current and future students and to reflect the most up-to-date teaching and research commitments of the faculty.
- Of the 90 majors included in the top 75 percent for UCSD, 35 (39 percent) were reviewed as part of the Curriculum Review initiative of the associate vice chancellor for academic affairs and dean of undergraduate education. She asked that *"All departments, undergraduate programs, and colleges re-examine unit requirements for general education, lower- and upper-division requirements for majors, and prerequisites and course content, to streamline unit requirements, ultimately allowing students to graduate in a timely manner"* (http://academicaffairs.ucsd.edu/ug-ed/cue/cur.html).

Once faculty in the unit responsible for a major had completed their review (or determined they would submit results from a prior review), the results were reported to the campus point person for the Major Requirements Initiative. For each major, information was provided as to the number of units needed to complete the major's upper division requirements prior to and after the faculty review. For all majors reviewed during the Major Requirements Initiative and many majors reviewed earlier (but none of those in UCLA's Challenge 45) information was also gathered on number of required courses before and after faculty review of the major.

In general, campus decisions were simply entered into the Major Requirements Initiative database managed by staff at the UC Office of the President. The one exception was the 109 majors that had upper division requirements greater than their Unit Guideline and that the responsible campus faculty determined should not be changed at all. For these majors, the University Committee on Educational Policy (UCEP) provided an independent review of the decision (see Appendix D). UCEP is a systemwide committee of the Academic Senate with faculty members from the related committee on each of UC's 10 campuses. Among other matters the campus and systemwide committees are responsible for undergraduate courses and curricula. UCEP generously agreed to carry out these reviews, supported as needed by the UC Office of the President staff to the Major Requirements Initiative.

Across all nine undergraduate campuses combined the responsible faculty proposed changes to upper division major requirements for 209 of the 623 majors reviewed. Of the 209 majors that changed, 101 had the same lowest and highest units and so could have only one change. The remaining 108 had different lowest and highest units, and 89 had changes to both the lowest and highest units, six had changes to the lowest units only, and 13 had changes to the highest

units only. The proposed changes to these 209 majors had to be approved by at least one Academic Senate committee on the campus or its designee. Once approved, an effective date had to be set, the changes had to be promulgated within the campus, and the campus online catalog of majors and courses had to be updated for the year that the revised major requirements were effective. Often the online catalog had a link to the academic unit responsible for the major and details of major requirements and meeting them were provided there.

Regardless of whether the upper division major requirements were reviewed during the Major Requirements Initiative or prior to the Initiative, at the end of the Major Requirements Initiative the following was true for every active major that was identified as among the top 75 percent on each undergraduate campus:

- Responsible faculty had reviewed the major requirements.
- The review included consideration of both the quality of the major and possible streamlining of its upper division requirements.
- Any changes to the major requirements approved by the responsible faculty had then been approved by the campus Academic Senate committee responsible for undergraduate education or its designee.
- All approved changes had been communicated as needed throughout the campus and memorialized in at least one public venue, with the online campus general catalog either providing all needed information or providing general information and a link to the site with various details about the major requirements and how to meet them.

Appendix E provides a timeline showing when each step in the review and approval process was achieved for all 623 majors, both those reviewed during the Major Requirements Initiative and also those reviewed prior to the start of the Major Requirements Initiative and submitted in lieu of another review. It also identifies where to find information about the requirements for all undergraduate majors offered by each campus for the current year.

D. Determination of Units to Use to Assess Outcomes

In order to have a measure of streamlining that could be used consistently for all majors on all campuses, the Major Requirements Initiative used the units needed to complete a major's requirements. The upper division requirements for a major are expressed primarily as courses, which may include regularly scheduled classes, internships or fieldwork, special projects, service learning, independent study, and more. These requirements may be very specific or provide a range of options. The student meets requirements by successful completion of courses. Courses may vary considerably in their unit value, though most are worth three, four, or five units. Academic Senate Regulation 760 stipulates "The value of a course in units shall be reckoned at the rate of one unit for three hours' work per week per term on the part of a student or the equivalent." Clearly the use of unit as a measure of workload meets the needs of the Major Requirements Initiative, whereas the use of course does not.

To gather information about the units needed to complete a major's requirements there needed to be some accommodation to the fact that many majors have options for completing the major. Different options could be due to different concentrations within a major (e.g., International Studies Bachelor of Arts with concentrations in either History or International Business), different degrees possible within a major (e.g., Bachelor of Arts or Bachelor of Science in Anthropology), or other variations. The options may or may not differ in the total number of units or courses needed to complete the major's requirements. They do differ in substantive content and requirements. For the majors with options, faculty were asked to review each option separately considering both quality and streamlining.

Considering all options for a given major, the campuses reported on the ones needing the lowest and highest numbers of upper division units in order to complete the major's requirements at the time the review began and after the review was finished. This information allowed one to identify changes in the workload to complete a major's requirements and to bracket the range of workloads for a major. One could not know whether there were many or few options between the lowest and highest units, whether there were many or few options with exactly the same units needed to complete them for a given major, nor whether a major with the same lowest and highest units before review and the same lowest and highest units after the review (though perhaps different from those prior to review) in fact had no options or only had options that required the same number of units to complete. Although such information would have been interesting, it was not essential to assessing changes to major requirements and the extent to which they supported streamlining, which will be reported in the next section, "Outcomes."

Campus and UC Office of the President point persons, and students themselves, agree that the various options for completing a major provide students with a variety of opportunities to enrich and expand their knowledge and skills vis-à-vis their major. At the same time, the variety presented complications for assessing the outcomes of the Major Requirements Initiative. The resolution was to encourage streamlining for all majors and all options within a major, to obtain information about the lowest and highest units needed to meet the major's requirements, considering all options available in the major, and to carry out analyses on streamlining using just one unit value for each major. For the 349 majors (56 percent of all 623 majors) that reported the same number for both lowest and highest units needed to complete the major requirements, that number would be used. For majors that reported different lowest and highest numbers of units to complete the major requirements either or both before and after the faculty review, the lowest number of units would be used. In two subsections of "Outcomes" the highest number of units is also considered (see "Decrease in Unit Requirements Due to Streamlining" and "Overview of Major Reviews and Outcomes").

III. Outcomes

In keeping with the Budget Framework Agreement emphasis on supporting student progress and improving time-to-degree, the analysis of outcomes of the Major Requirements Initiative focused on the extent to which upper division major requirements were as streamlined as possible consistent with offering a high quality educational experience for undergraduates in

the major. As described in "Determination of Guidelines for Streamlining," there was an overall guideline for streamlining for each major; namely, required upper division coursework that would take the equivalent of no more than one academic year to complete, or one and one half academic years for engineering and computer science majors. The guideline was expressed in units and is referred to throughout as the "Unit Guideline."

As faculty conducted reviews of the 623 undergraduate majors included in the Major Requirements Initiative, they had several actions open to them. A central decision was whether to change at all the upper division requirements for each major. Possible changes would likely focus on the substantive requirements for the major; for example, updating content and skill requirements according to current visions of excellence or providing students in the major with more flexibility as to options and specialization. Faculty would also consider workload for students in the major and capacity of the department to ensure that these students would have adequate access to the required courses. If the responsible faculty decided to change a major's upper division requirements, the changes could decrease or increase the upper division units needed to complete the major's requirements or they could have no effect on the units needed. For the Major Requirements Initiative, given its goals and given the fact that only two majors reported a change (in courses) that did not entail a change in units, the focus was entirely on those changes that resulted in a change in the units needed to complete a major's requirements. As described earlier (see "Determination of Units to Use to Assess Outcomes"), campuses reported on the lowest and highest number of units needed to complete a major's requirements before faculty review and after faculty review. The lowest and highest numbers were the same for 56 percent of the 623 majors and different for the remaining 44 percent.

In the remainder of this "Outcomes" section, streamlining of the 623 majors will be considered. The quality and appropriateness of the substantive upper division requirements for each major are assumed. In all subsections except the first one, when a major has lowest and highest units that are different from each other, the lowest number of units needed to complete requirements is used. The first subsection, "Decrease in Unit Requirements Due to Streamlining", provides some estimates of streamlining overall. The second subsection, "Overview of Major Reviews and Outcomes", reflects a binary approach to streamlining; that is, major requirements were either at/below the Unit Guideline or above the Unit Guideline. All 623 majors are considered together, and the status of major requirements before and after faculty review is reported. The next two subsections, "Creation of Difference Scores and Graphs" and "Overview of Difference Scores and Outcomes", describe the Difference Score, a measure of the relative distance of a major's requirements (as units) from the major's Unit Guideline, explain the creation of four subgroups defined both by two types of majors (diverse and engineering/computer science) and also by two organizations of the academic year (three quarters and two semesters), and illustrate how Difference Scores vary along a continuum from well below the Unit Guideline (the zero point in the Difference Scores) to well above it.

The final three subsections examine subsets of majors all of which were above the 0 Percent Difference Score (which is also the Unit Guideline) after faculty review. "Examination of Majors with Positive Difference Scores of 1-10 Percent" describes 69 majors that could be considered to be streamlined despite having major requirements for which the units needed to complete

them are above the 0 Percent Different Score. "Examination of Majors with Positive Difference Scores Greater Than 30 Percent" describes 36 majors with requirements that can only be completed with total units that are significantly above the 0 Percent Difference Score, offers some possible reasons for the requirements, and suggests what campuses might choose to explore when these majors are reviewed in the future. Finally, "Examination of Unchanged Majors with Positive Difference Scores" describes the 109 such majors and their diverse characteristics, offers some suggestions as to faculty's possible reasons for not changing the requirements, and reports on the review of the rationale for the requirements by the University Committee on Educational Policy.

A. Decrease in Unit Requirements Due to Streamlining

To obtain an estimate of the number of units streamlined in the Major Requirements Initiative, changes from before to after faculty review were examined. Changes to major requirements that resulted in either increases or decreases in units needed to complete the major requirements were identified, and the number of units decreased minus the number of units increased was the measure of streamlining. Table 1 below presents the results for the four possible circumstances:

1. majors that had lowest and highest unit values that were the same before faculty review and also lowest and highest unit values that were the same after faculty review,
2. majors that had lowest and highest unit values that were different before faculty review and also lowest and highest unit values that were different after faculty review
3. majors that had lowest and highest unit values that were the same before faculty review and lowest and highest unit values that were different after faculty review, and
4. majors that had lowest and highest unit values that were different before faculty review and lowest and highest unit values that were the same after faculty review.

When a major had lowest and highest unit values that were the same before and again after review (number 1 above), there was just one opportunity to streamline units. When a major had lowest and highest unit values that were different either or both before and again after review, there were two opportunities to calculate streamlining, one for the lowest unit values and one for the highest unit values (numbers 2, 3, and 4 above). There may well have been other opportunities to streamline for options with unit values between lowest and highest, but the data were not collected.

Table 1. Evidence of streamlining, as indicated by decreases in the number of units needed to complete majors' requirements and taking account of increases in number of units needed.

Number of Majors		Number of Majors with No Change in Units Needed to Complete Major	Number of Majors with Decreased Units Needed to Complete Major	Number of Units Decreased	Number of Majors with Increased Units Needed to Complete Major	Number of Units Increased	Total Units Streamlined (Number Decreased Minus Number Increased)
1. Majors with same lowest and highest units needed to meet majors' requirements both before and after faculty review							
349		248	96	813	5	27	786
2. Majors with different lowest and highest units needed to meet majors' requirements both before and after faculty review							
253	Lowest units required	176	74	586	3	9	577
	Highest units required	170	80	704	3	14	690
3. Majors with same lowest and highest units needed to meet majors' requirements before faculty review and different lowest and highest units after faculty review							
12	Lowest units required	2	10	102	0	0	102
	Highest units required	1	8	55	3	6	49
4. Majors with different lowest and highest units needed to meet majors' requirements before faculty review and same lowest and highest units after faculty review							
9	Lowest units required	1	7	57	1	7	50
	Highest units required	1	8	109	0	0	109

The rightmost column of Table 1 shows the number of units for which streamlining can be calculated, taking account of unit increases needed to complete revised requirements for a few majors. The number of units increased (63) was very small compared to the number of units decreased (2,426). In total, faculty streamlined at least 2,363 units, the equivalent of nearly 600 4-unit courses. Faculty streamlined major requirements that prior to faculty review were above the Unit Guideline, at the Unit Guideline, and below the Unit Guideline. Streamlining was more likely when a major's requirements began above the Unit Guideline, but even some majors whose requirements were well below their Unit Guideline were further streamlined, as will be described later (see "Overview of Major Reviews and Outcomes" and Figure 1 below).

Reporting streamlining of 2,363 units is almost certainly an underestimate. It is likely that some more streamlining occurred in options whose changes were not recorded because they were those that needed neither the lowest nor the highest number of units to complete the majors' requirements. Moreover, of the 623 majors included in the Major Requirements Initiative, 341 had requirements that in units were at/below the Unit Guideline — and so by definition were streamlined — prior to review for the Initiative. Furthermore, it is argued in a later subsection ("Examination of Majors with Positive Difference Scores of 1-10 Percent") that 64 of the 69 majors with 1-10 Percent Difference Scores could as well be considered to be streamlined. Neither of these sets of majors has been included in the calculations presented in this subsection, but they also support the assertion that there is greater streamlining than counted here. Altogether, focusing on majors included in the Major Requirements Initiative, it is clear that UC faculty were attentive to streamlining during the Initiative and are attentive to streamlining whenever they are reviewing major requirements.

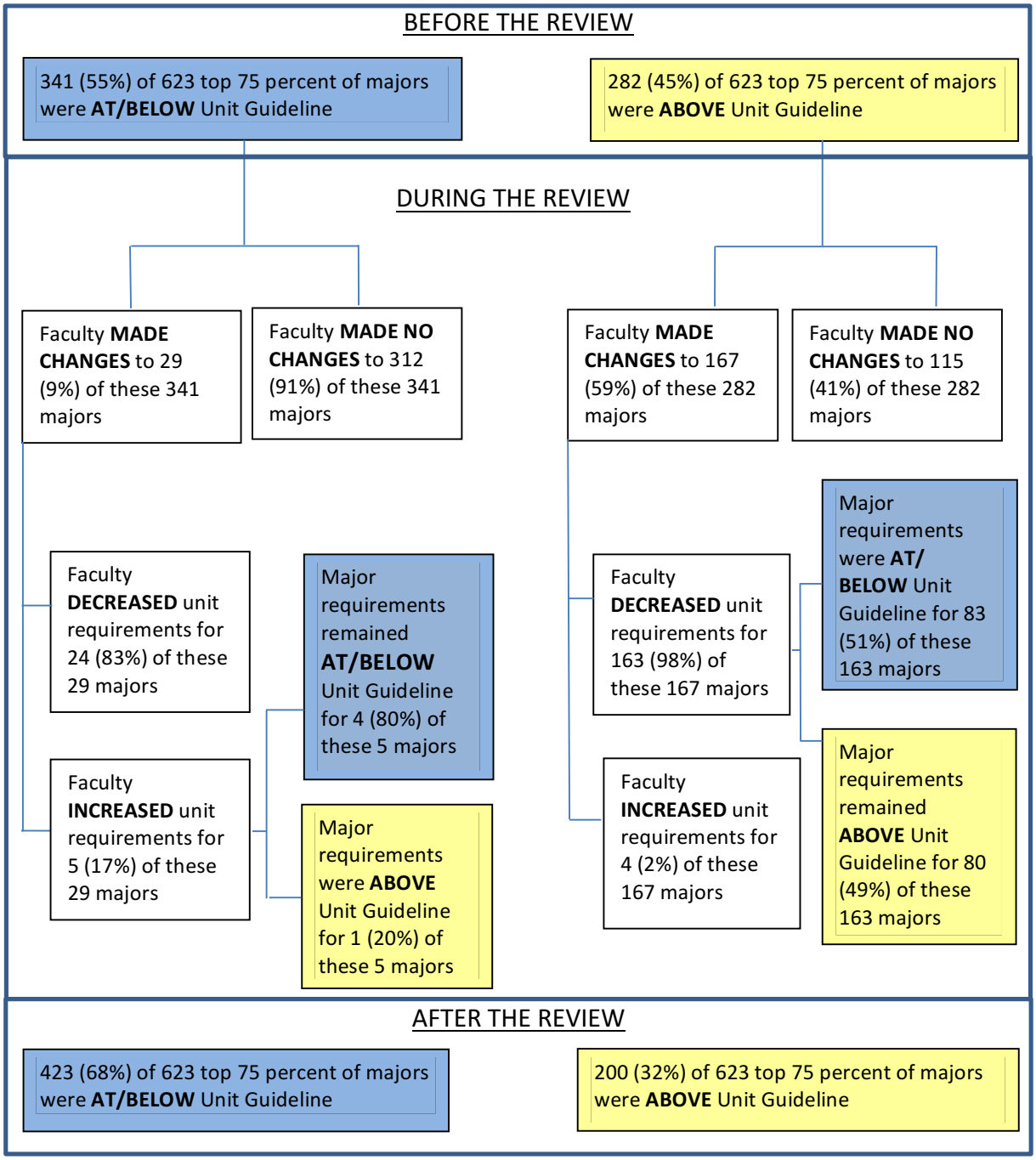
B. Overview of Major Reviews and Outcomes

Figure 1 (below) presents a summary at three points in time of the status of majors as over or at/below their Unit Guideline. It is a binary view: the upper division requirements for each major are either above or at/below the major's Unit Guideline. For those majors with different unit values for lowest and highest units needed to complete a majors' requirements, the lowest number is used in the overview (see "Determination of Units to Use to Assess Outcomes"). In Figure 1, the top ("Before the Review") and bottom ("After the Review") sections provide information about the status of all 623 majors in terms of being at/below the Unit Guideline (blue box) or above the Unit Guideline (yellow box) before the faculty reviews began and after they had been completed. Prior to faculty review, about half (55 percent) of the 623 top 75 percent majors were at/below their Unit Guideline. After all majors in the top 75 percent had been reviewed by faculty on each campus and any proposed changes to requirements had been approved by the responsible faculty and designated campus Academic Senate committee or its designee, two thirds (68 percent) of the 623 majors reviewed fell within the guidelines for streamlining. This is a 24 percent increase in the number of top 75 percent majors whose upper division requirements fell within UC guidelines for streamlining.

The large middle section ("During the Review") of Figure 1 presents the decisions that faculty actually made as they reviewed the 623 majors. A comparison of the left hand section for majors that were at/below the Unit Guideline before the review with the right hand section for majors that were above the Unit Guideline before the review makes it clear that faculty were attentive to streamlining. Faculty were always more likely to make changes that resulted in decreased units rather than increased units needed to complete a major's requirements. They were much more likely to make changes when majors were above, as compared to at/below, the Unit Guideline, respectively 59 percent and 9 percent. The changes were highly likely to result in decreased units to complete the requirements, more so when the major was above the Unit Guideline before the review (98 percent) than when the major was at/below the Unit Guideline (83 percent). Finally, of the majors that were above the Unit Guideline and made changes that decreased the units needed to complete the requirements half moved from above the Unit Guideline to at/below.

Figure 1. For all 623 majors in the Major Requirements Initiative, number and percent at/below or above the Unit Guideline before and after faculty review and faculty decisions during the review.

If lowest and highest number of units needed to complete a major's requirements were different, lowest number of units was used for this figure. If lowest and highest were the same, that number was used. The figure shows 196 majors that changed; the remaining 13 of the 209 total majors that changed were only for the highest units. Top and bottom boxes present status before and after faculty review; middle box presents faculty decisions during review. Left hand side covers majors at/below Unit Guideline before faculty review; right hand side covers majors above Unit Guideline before faculty review. Blue shading indicates major requirements at/below Unit Guideline; yellow shading indicates major requirements above Unit Guideline.



As explained earlier (see "Determination of Units to Use to Assess Outcomes"), a little more than half (56 percent) of the 623 majors in the Major Requirements Initiative had one and only one number of units needed to complete the major's requirements regardless of the number of options it had. The remaining 44 percent had two or more numbers of units, but only the lowest and highest were reported to the UC Office of the President. When a major had different options with different units needed to complete the requirements, the one with the lowest number of units has been used in Figure 1 and all other analyses except the analysis just presented in "Decrease in Unit Requirements Due to Streamlining." If the lowest number of units were replaced with the highest number of units, it is to be expected that the percentage of majors at/below the Unit Guideline would be smaller prior to faculty review. In fact, that was the case, as described below.

This is an opportune place to illustrate what would likely be the same and different for all analyses were the highest number of units needed to complete a major's requirements used instead of the lowest number of units for the 44 percent of majors with different lowest and highest units. Prior to faculty review, 41 percent of majors would have been at/below the Unit Guideline, compared to 55 percent shown in Figure 1. After faculty review, 49 percent of all majors would have been at/below the Unit Guideline, compared to 68 percent in Figure 1. Although there would be differences of degree in terms of streamlining if the highest rather than lowest number of units needed to complete major requirements were used, the general pattern during faculty review would be the same. Whether the lowest or highest number of units was used along with the single number for the 56 percent of majors with the same lowest and highest units needed to complete the major requirements, faculty were much more likely to make changes that decreased rather than increased the units needed to complete major requirements, to make changes to those majors whose requirements were above the Unit Guideline prior to review than to those majors at/below the Unit Guideline prior to review, and changes were much more likely to be decreases in the number of units needed to complete the major requirements when the major was above the Unit Guideline prior to review than when it was at/below the Unit Guideline prior to review.

The analysis so far has focused on the status of the upper division requirements for each major as either above the Unit Guideline or at/below the Unit Guideline for each major. A more differentiated analysis, as follows, examines the size and direction of differences between the upper division requirements for each major (in units) and the Unit Guideline for that major. The analysis provides a richer set of perspectives on the outcomes of the Major Requirements Initiative. In the remaining subsections of "Outcomes," for the 44 percent of majors with lowest and highest unit requirements that are different, the lowest number of units needed to complete the majors' requirements will be used for simplicity and consistency of presentation.

C. Creation of Difference Scores and Graphs

In order to characterize upper division major requirements beyond "at/below the Unit Guideline" or "above the Unit Guideline" a measure of the size and direction of differences between the upper division requirements for each major (in units) and the Unit Guideline for that major was calculated. Seven Unit Guidelines had been established at the beginning of the Major Requirements Initiative (see Appendix C), and each major on each campus had one and

only one Unit Guideline. For the 44 percent of majors that reported different lowest and highest units were needed to complete the majors' requirements, the lowest number of units was used. The following percent calculation was made for each major: the difference between the number of units needed to complete the upper division major requirements (Major Units) and the Unit Guideline for that major (Unit Guideline) divided by the major's Unit Guideline: (Major Units - Unit Guideline)/Unit Guideline. This measure is referred to as the "Difference Score" for each major.

The Difference Score could and did yield a wide range of results for the majors and supported analysis beyond the binary of at/below or above the Unit Guideline as in Figure 1 (above). After the faculty review, Difference Scores ranged from 58 percent below a major's Unit Guideline (the 0 Percent Difference Score) to 117 percent above a major's Unit Guideline and were generally arrayed all along the continuum of Difference Scores. Although the same measure was calculated in the same way for every major and has roughly the same meaning, the results were not all combined into one figure with all 623 majors included in the Major Requirements Initiative. This is because the seven Unit Guidelines ranged from 30 to 72 units and the same Difference Score for majors with very different Unit Guidelines could translate to a different number of upper division courses (which typically are three, four, or five units) required for the major to be at the Unit Guideline. Compare the following two examples that illustrate how the same Difference Score can be associated with different numbers of required upper division courses depending on the Unit Guideline:

- A Unit Guideline of 30 or 32 applies on semester campuses for all majors except engineering and computer science. Assuming courses for such a major average out to four units a course, the Unit Guideline represents about eight required courses for a major on a semester campus. Difference Scores of 10 percent and 30 percent for these majors on semester campuses entail respectively something less than one four-unit course and something more than two four-unit courses over the Unit Guideline of 30 or 32.
- A Unit Guideline of 45 or 48 applies on quarter campuses for all majors except engineering and computer science. Assuming courses for such a major average out to four units a course, the Unit Guideline represents about 11 to 12 required courses for a major on a quarter campus. Difference Scores of 10 percent and 30 percent for these majors on quarter campuses entail respectively something more than one four-unit course and something more than three four-unit courses over the Unit Guideline of 45 or 48.

Consequently, majors are organized into four subgroups each of which involves the same type of majors (diverse or engineering/computer science) and the same academic year structure (quarter or semester). This results in there being no more than four units difference in the Unit Guidelines for the majors included in each subgroup (see Appendix C).

Every one of the 623 majors included in the Major Requirements Initiative is included in just one of the four subgroups. The Difference Scores for majors in the four subgroups are presented in four figures (see Figures 2, 3, 4, and 5 below) and one table (see Table 2 below).

Each figure addresses a particular subgroup of majors and campuses and includes graphs of the Difference Scores before and after the faculty reviewed the majors in the subgroup. The figures are all organized in the same way.

The y-axis is the Difference Scores. The 0 percent, where a major's requirements (in units) and the Unit Guideline are the same, is clearly marked. Below the 0 Percent Difference Score are majors that are below the Unit Guideline and are indicated with a minus sign. The larger the negative Difference Score, the fewer units needed to complete a major's requirements. Above the 0 Percent Difference Score are majors that are above the Unit Guideline; they do not have a plus sign. The larger the positive (unmarked) Difference Score, the more units needed to complete a major's requirements. In order to encompass the Difference Scores of all majors and keep the bottom and top of each figure the same, the Difference Scores on the y-axis range from negative 60 percent to positive (unmarked) 120 percent.

All the majors that belong in a figure are arrayed along the x-axis consecutively left to right from lowest below 0 Percent Difference Score through 0 Percent Difference Score to the highest above 0 Percent Difference Score. The x-axis itself is different for each of the four figures in that the total majors in each figure are divided evenly along the x-axis, and the cumulative number of majors at each tick mark is indicated. When the number of majors is large and/or the Difference Scores are very similar, the data point for a given major cannot be seen in these graphs; instead the line appears to be wider due to the overlap of data points. Compare Figure 5 (below), which clearly shows each major graphed, with Figure 2 (below) where the large number of majors results in the middle section of the before and after graphs appearing to be a thick line rather than discrete majors, which can only be seen at either end.

Finally, following the convention in Figure 1 (above), majors with a 0 percent or a negative percent Difference Score (that is, at/below the Unit Guideline) have a blue background field and majors with a positive percent Difference Score (that is, above the Unit Guideline) have a yellow background field.

A summary of the features of each figure is as follows:

- Figure 2, a) before faculty review and b) after faculty review
  - Number of Majors: 439
  - Majors in arts, health sciences, humanities, life sciences, multi-disciplinary/interdisciplinary, physical sciences/mathematics, professional fields, and social sciences (referred to collectively as "diverse majors")
  - With some exceptions expected, these are majors with upper division requirements that could be completed in the equivalent of no more than one academic year of full time work on a quarter campus
  - Unit Guidelines: 45, or 48 if courses are typically 4 units
- Figure 3, a) before faculty review and b) after faculty review
  - Number of Majors: 94

- Majors in arts, health sciences, humanities, life sciences, multi-disciplinary/interdisciplinary, physical sciences/mathematics, professional fields, and social sciences (referred to collectively as “diverse majors”)
- With some exceptions expected, these are majors with upper division requirements that could be completed in the equivalent of no more than one academic year of full time work on a semester campus
- Unit Guidelines: 30, or 32 if courses are typically 4 units

➢ Figure 4, a) before faculty review and b) after faculty review
- Number of Majors: 70
- Majors in engineering and computer science (referred to collectively as “engineering/computer science majors”)
- These are majors with upper division requirements that could be completed in the equivalent of no more than one and one half academic years of full time work on a quarter campus
- Unit Guidelines: 68, or 72 if courses are typically 4 units

➢ Figure 5, a) before faculty review and b) after faculty review
- Number of Majors: 20
- Majors in engineering and computer science (referred to collectively as “engineering/computer science majors”)
- These are majors with upper division requirements that could be completed in the equivalent of no more than one and one half academic years of full time work on a semester campus
- Unit Guideline: 48

Figure 2. For 439 majors in arts, health sciences, humanities, life sciences, multidisciplinary/interdisciplinary, physical sciences/mathematics, professional fields, and social sciences (collectively, "diverse majors") in the Major Requirements Initiative, Difference Scores on the seven quarter campuses before and after faculty review.

If lowest and highest number of units needed to complete a major's requirements were different, lowest number of units was used for this figure. If lowest and highest were the same, that number was used. Top and bottom boxes present status before and after faculty review. Blue area includes all majors with 0 or negative Difference Score; yellow area includes all majors with positive Difference Score. Unit Guideline is 45 or 48 units.

Figure 2a. Status before the faculty review.

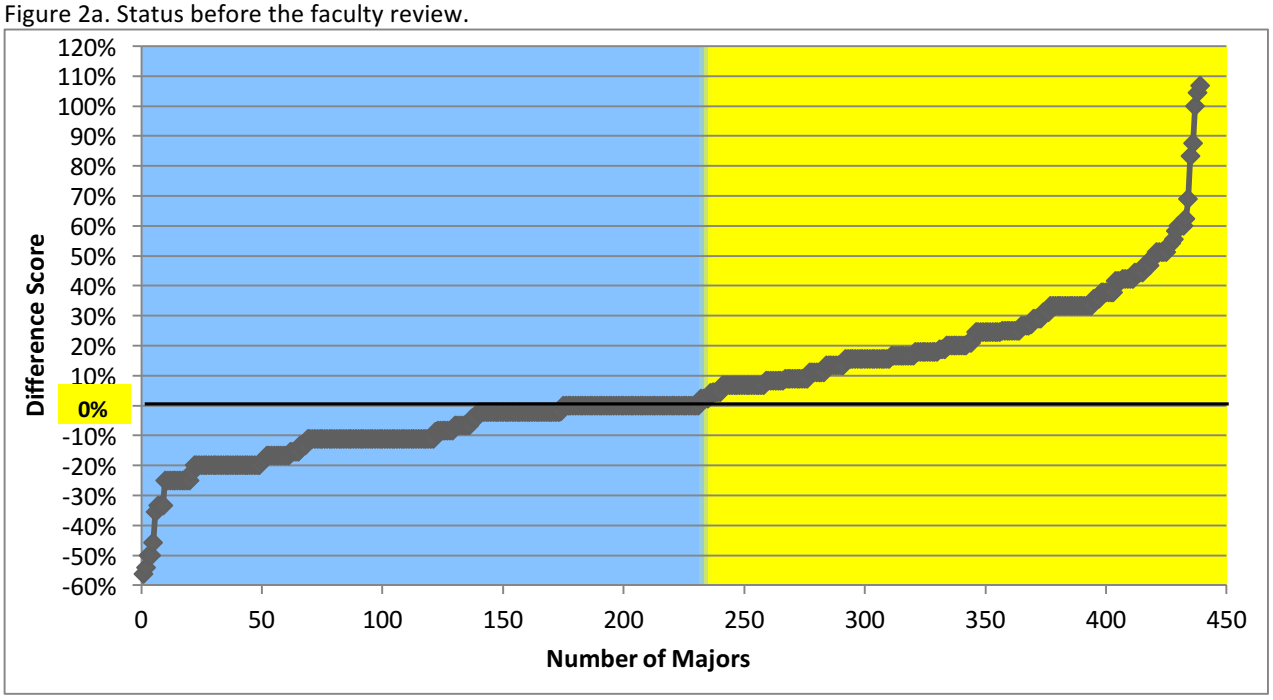


Figure 2b. Status after the faculty review.

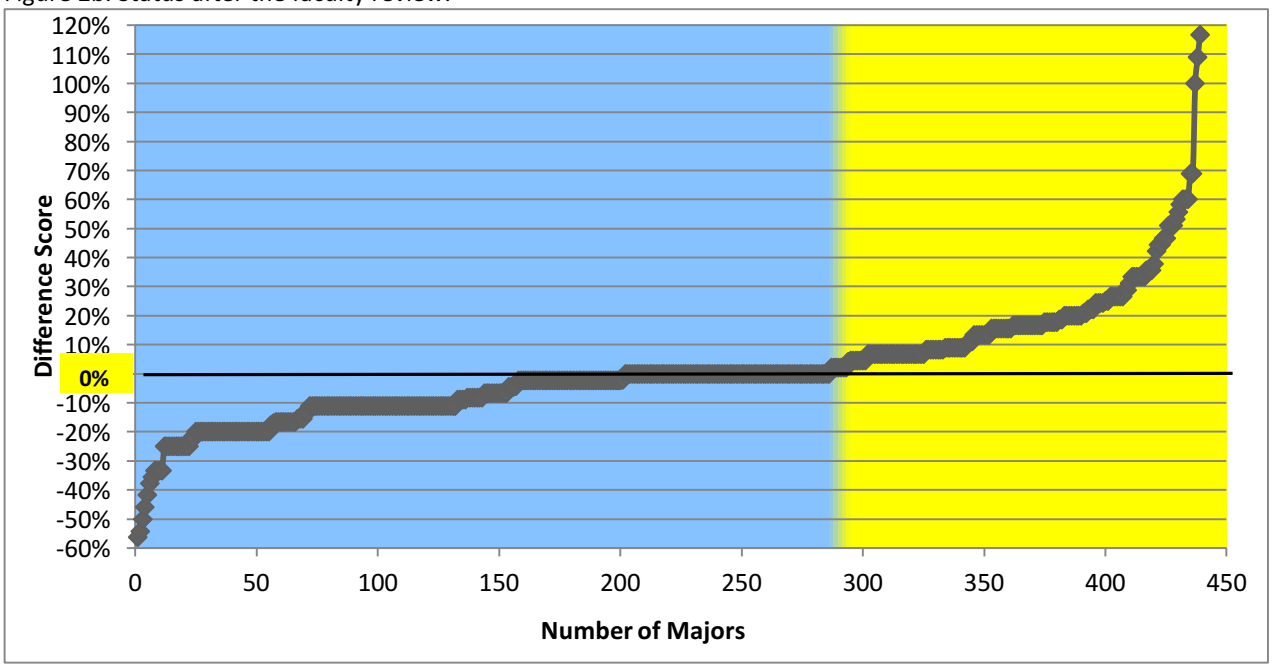


Figure 3. For 94 majors in arts, health sciences, humanities, life sciences, multidisciplinary/interdisciplinary, physical sciences/mathematics, professional fields, and social sciences (collectively, "diverse majors") in the Major Requirements Initiative, Difference Scores on the two semester campuses before and after faculty review.

If lowest and highest number of units needed to complete a major's requirements were different, lowest number of units was used for this figure. If lowest and highest were the same, that number was used. Top and bottom boxes present status before and after faculty review. Blue area includes all majors with 0 or negative Difference Score; yellow area includes all majors with positive Difference Score. Unit Guideline is 30 or 32 units.

Figure 3a. Status before the faculty review.

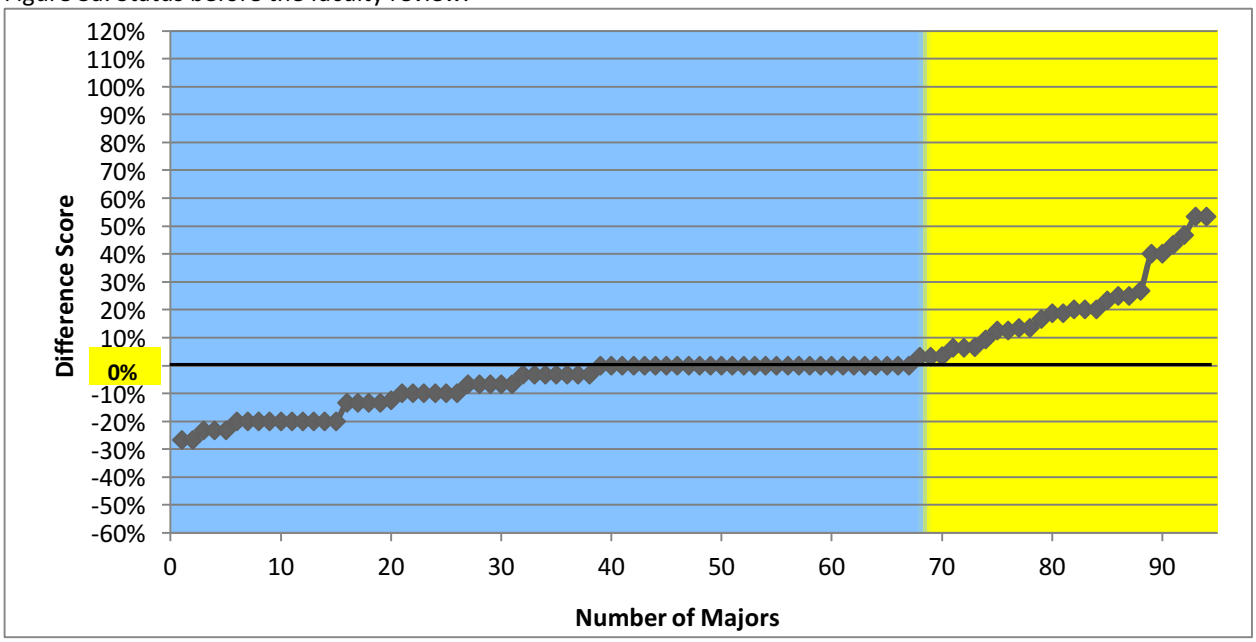


Figure 3b. Status after the faculty review.

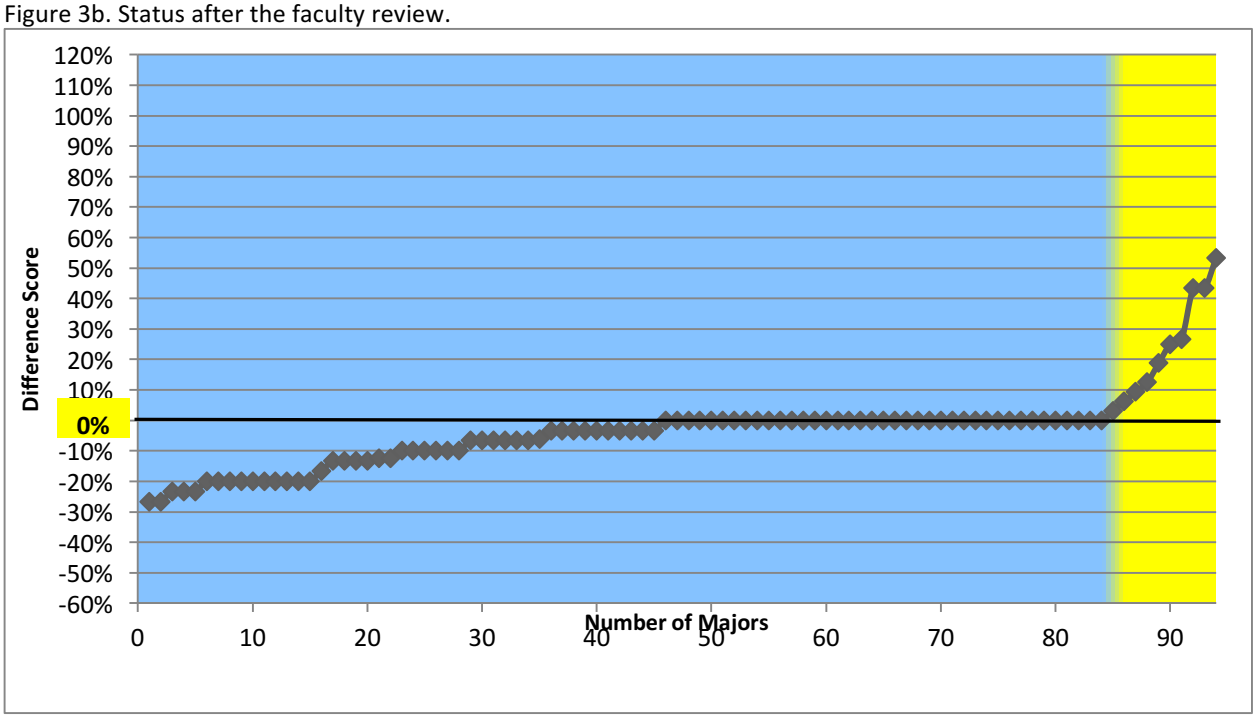


Figure 4. For 70 majors in engineering and computer science in the Major Requirements Initiative, Difference Scores on the seven quarter campuses before and after faculty review.

If lowest and highest number of units needed to complete a major's requirements were different, lowest number of units was used for this figure. If lowest and highest were the same, that number was used. Top and bottom boxes present status before and after faculty review. Blue area includes all majors with 0 or negative Difference Score; yellow area includes all majors with positive Difference Score. Unit Guideline is 68 or 72 units.

Figure 4a. Status before the faculty review.

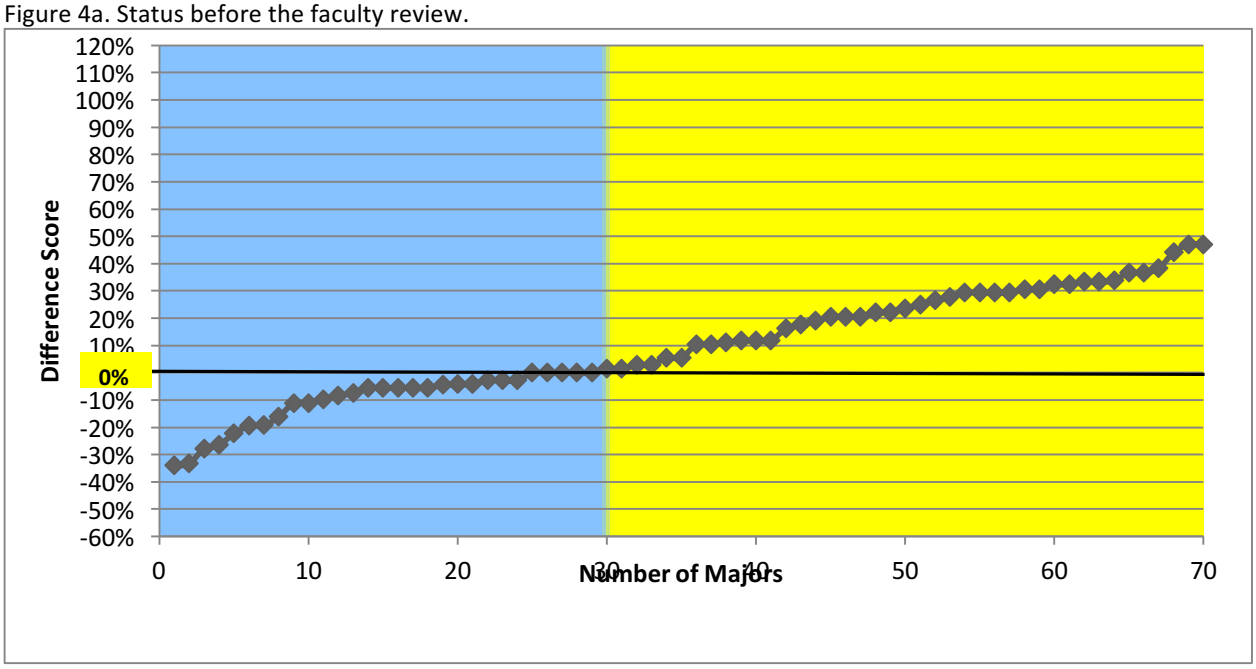


Figure 4b. Status after the faculty review.

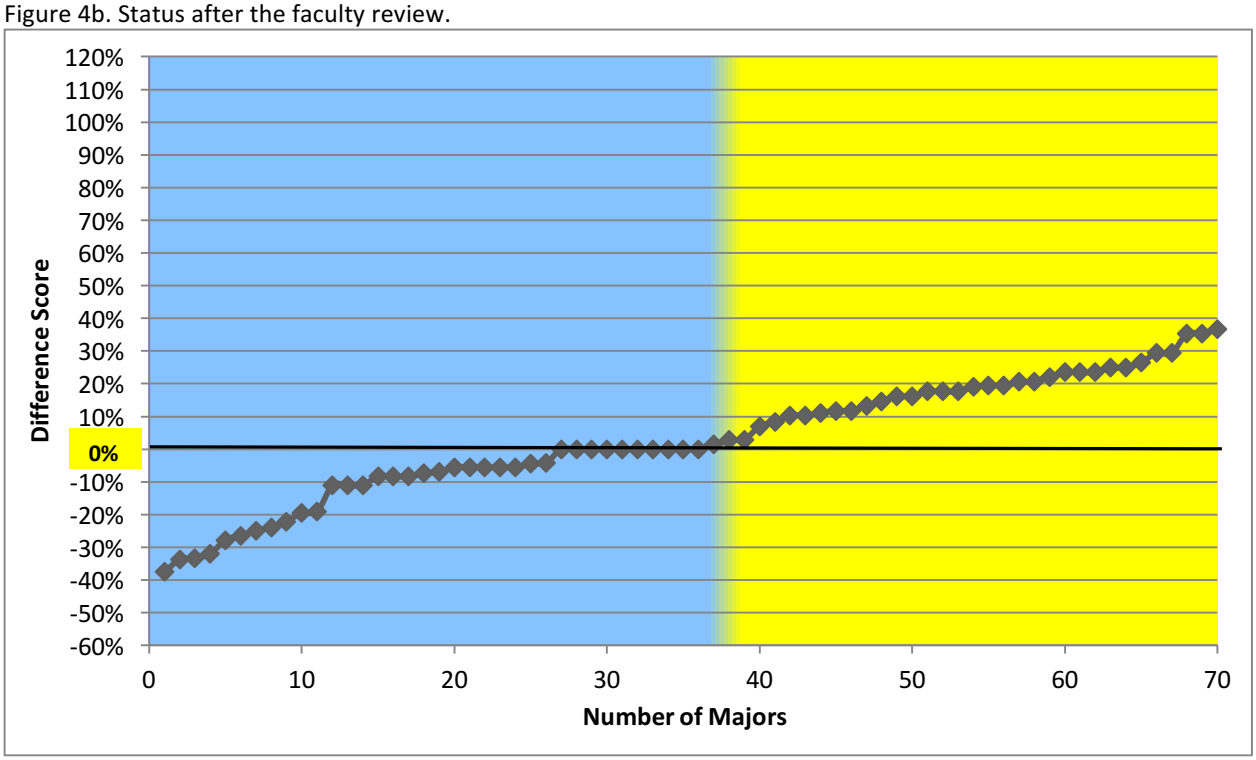


Figure 5. For 20 majors in engineering and computer science in the Major Requirements Initiative, Difference Scores on the two semester campuses before and after faculty review.

If lowest and highest number of units needed to complete a major's requirements were different, lowest number of units was used for this figure. If lowest and highest were the same, that number was used. Top and bottom boxes present status before and after faculty review. Blue area includes all majors with 0 or negative Difference Score; yellow area includes all majors with positive Difference Score. Unit Guideline is 48 units.

Figure 5a. Status before the faculty review.

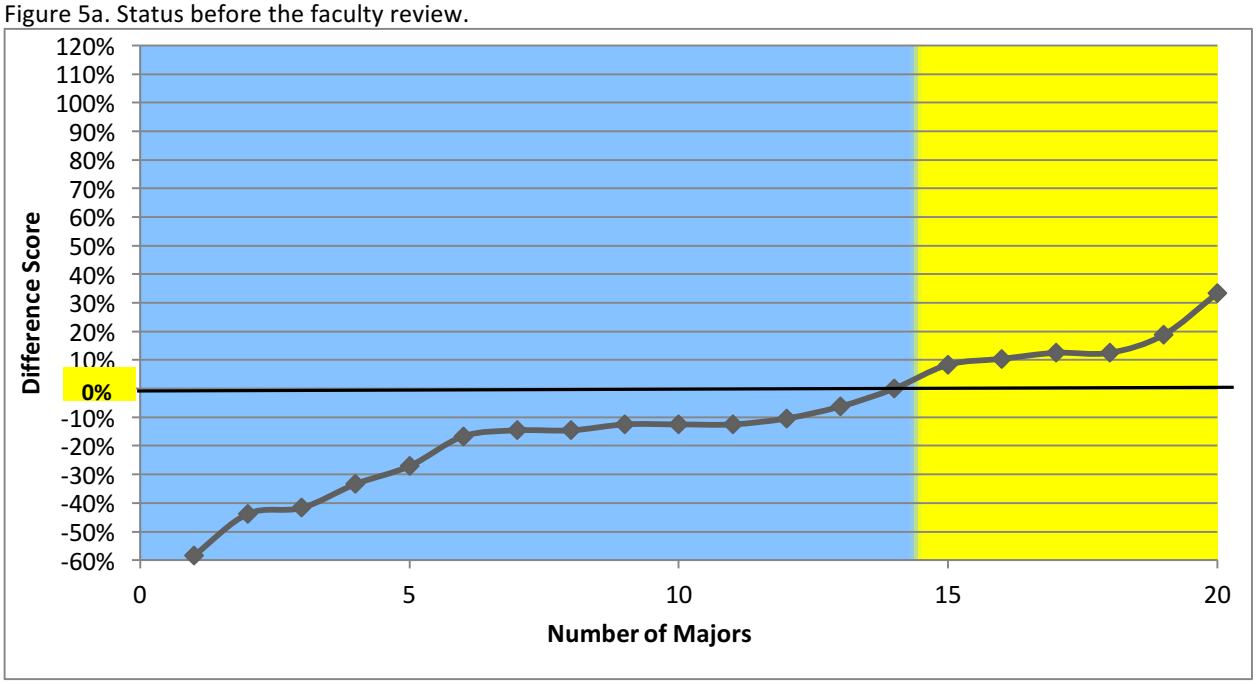
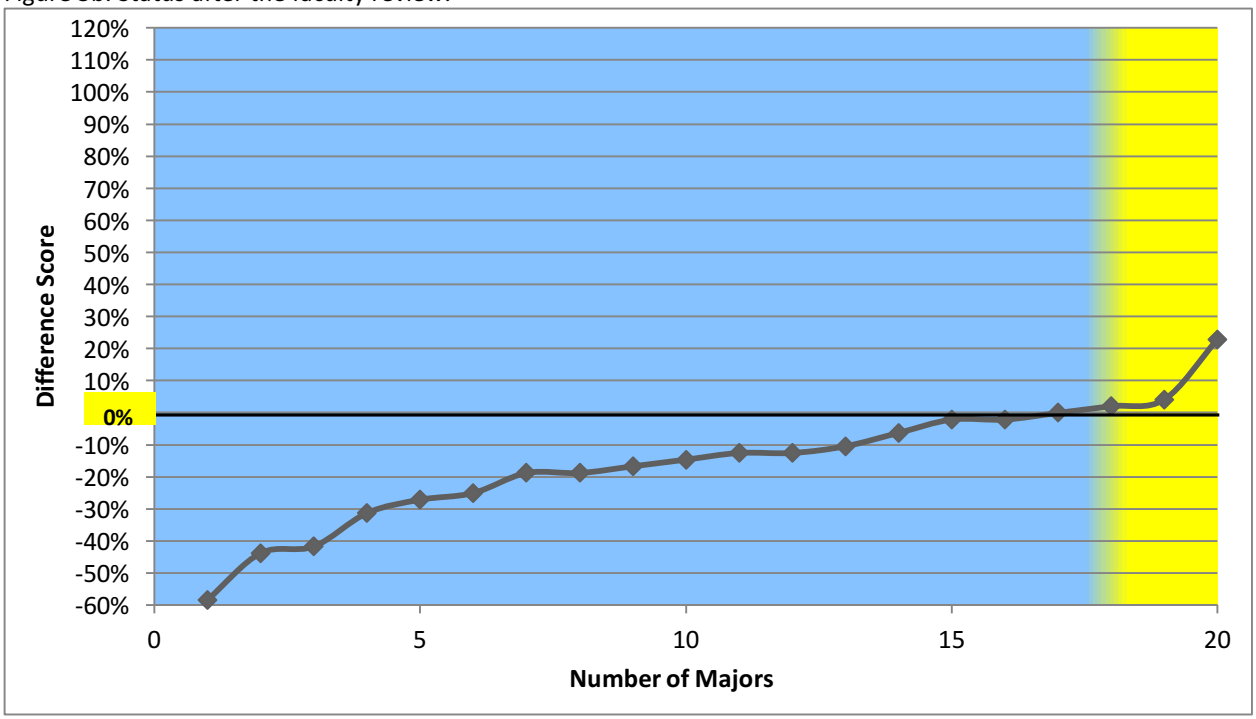


Figure 5b. Status after the faculty review.



D. Overview of Difference Scores and Outcomes

The Difference Scores reflect a considerable range in the distance between a major's Unit Guideline and the major's requirements, in terms of units needed to complete the requirements, from Difference Scores nearly 60 percent below the zero point to Difference Scores nearly 120 percent above the zero point. They also show a clustering close to the zero point and are more or less continuous from just below to just above the zero point. Figures 2, 3, 4, and 5 (above) convey these points well.

The Difference Scores also confirm that, with one exception, all four subgroups created with the Difference Scores performed as did all 623 majors combined in the number and percent of majors at/below the Unit Guideline (which is also the 0 Percent Difference Score) and in the character of faculty decisions during review (see Figure 1, above). For all 623 majors combined, a majority were at/below the Unit Guideline before the faculty reviewed them and the number at/below the Unit Guideline increased as a result of the faculty review. Three of the four subgroups established for the Difference Scores also followed this pattern. The exception is the subgroup of engineering/computer science majors on quarter campuses; before faculty review, a majority of the majors were not at/below the Unit Guideline and after faculty review the percent at/below had increased but only to 51%, just barely a majority. As a result of faculty reviews, all four subgroups increased by at least 10 percentage points the percent of majors at/below the Unit Guideline or 0 Percent Difference Score. Although it is shown in the middle section of Figure 1 and not shown in Figures 2, 3, 4, and 5, it is the case that faculty in each of the four subgroups were likely to make many more changes that decreased then increased units and especially so when majors were above rather than at/below the Unit Guideline (0 Percent Difference Score). In fact, virtually all changes (96-100 percent among the four subgroups) in major requirements resulted in a decrease in the number of units needed to complete the major. In Figure 1's subsection "Overview of Major Reviews and Outcomes" it was noted that the decisions faculty made for all 623 majors combined reflected their awareness of the importance of streamlining. This analysis shows that this awareness was characteristic of faculty regardless of type of major they were responsible for and the academic calendar on which they operated.

Figures 2, 3, 4, and 5 above and Table 2 below also suggest that the four subgroups vary to some extent in their streamlining. Given the wide range in number of majors in each subgroup, from 20 to 439, and the number of campuses in each subgroup, from two to seven, it is challenging to assert that there are differences and more challenging to explain what would account for differences. Nonetheless, it seems that the engineering/computer science majors on semester campuses are generally more streamlined (see Table 2). Both their lowest negative Difference Scores and highest unmarked (positive) Difference Scores are the lowest of the four subgroups. This subgroup also has by far the highest percent of Majors with Difference Scores less than 0 percent; moreover, for Difference Scores at/below 0 percent it has a percentage of majors nearly equal to that for the diverse majors on semester campuses subgroup and far above the percent for the other two subgroups. The subgroups are defined by two characteristics (nature of the major and academic calendar), and this fact can be used to

explore further possible explanations for the streamlining outcomes for the subgroup of engineering/computer science majors on semester campuses.

Table 2. For all 623 majors, distribution of Difference Scores after faculty review for the four subgroups determined by majors (diverse compared to engineering/computer science) and academic calendar (quarter compared to semester).

	Diverse Majors		Engineering/Computer Science Majors	
	Quarter Campus	Semester Campus	Quarter Campus	Semester Campus
	Figure 2	Figure 3	Figure 4	Figure 5
Number of Majors	439	94	70	20
Lowest Difference Score	-56%	-27%	-38%	-58%
Highest Difference Score	117%	53%	37%	23%
Percent Majors with Difference Score Less Than 0 Percent	46%	48%	37%	80%
Percent Majors with Difference Score of 0 Percent	19%	41%	14%	5%
Total At/Below 0 Percent	65%	89%	51%	85%
Percent Majors with Difference Score Between 1 and 10 Percent	13%	3%	10%	10%
Percent Majors with Difference Score Between 11 and 20 Percent	11%	2%	19%	0%
Percent Majors with Difference Score Between 21 and 30 Percent	4%	2%	16%	5%
Percent Majors with Difference Score Above 30 Percent	7%	3%	4%	0%
Total Above 0 Percent	35%	10%	49%	15%
Percent Above 0 Percent And Not Changed During Faculty Review	21%	4%	20%	0%

Comparing the two subgroups of diverse majors to the two subgroups of engineering/computer science majors, one might infer that the engineering/computer science majors' Unit Guidelines were easier for these majors to meet than were the diverse majors' Unit Guidelines, and well they might be for some of the diverse majors. The engineering/computer science Unit Guidelines (48 for semester campuses and 68 for quarter campuses, or 72 for quarter campuses offering mostly 4-unit courses) were chosen to be attainable by these two disciplines, which are

generally governed by Accreditation Board for Engineering and Technology (ABET) professional accrediting requirements that are both specific and numerous.

As explained elsewhere (see “Determination of Guidelines for Streamlining” and Appendix C), campus point persons and UC Office of the President staff agreed that there were other pre-professional majors that might well require more units than the relevant Unit Guideline for diverse majors (30 or 32 for semester campuses and 45 or 48 for quarter campuses) in order to educate students well for post-baccalaureate employment or study. Moreover, among the diverse majors, there are fields, for example physical sciences, for which it is typical across the country to have a large number of specific upper division course requirements, and these majors might well have benefitted from a larger Unit Guideline than that for many other diverse majors. In both cases, the relevant majors are currently included along with all the other diverse majors and may account for the greater percent of diverse majors than engineering/computer science majors with requirements that exceed the Unit Guideline. This topic will be revisited in a later subsection, "Examination of Majors with Positive Difference Scores Greater Than 30 Percent.”

Comparing the two subgroups of quarter campuses to the two subgroups of semester campuses, one might infer that it is easier for semester than quarter campuses to be more streamlined in their majors. The data certainly reflect greater streamlining on semester than quarter campuses. However, it is difficult to identify differences in the organization of the academic year for quarter and semester campuses that would account for differences in streamlining. Moreover, it is difficult to arrive at conclusions when there are just two campuses on the semester system and seven on the quarter system. Without much more exploration with the campuses, there is little reason to claim that the apparent quarter-semester difference in streamlining is due to the campuses’ different academic calendars.

The Difference Scores graphed in Figures 2, 3, 4, and 5 (above) and summarized in Table 2 (above) show that there are a number of majors that are very close to the 0 Percent Difference Score, although above it, as well as some majors that are very much below and/or very much above the 0 Percent Difference Score. Given faculty commitment to an outstanding education in the major(s) for which they are responsible, majors with Difference Scores at/below 0 Percent can be expected to be consistent with the Major Requirements Initiative’s goals of both excellence and streamlining of undergraduate majors. Therefore, the focus in the last three subsections in “Outcomes” is on the nature of majors with Difference Scores above 0 Percent when faculty have completed their review. Each subsection provides factual information and also involves judgment calls as to what criteria to use to decide, for example, that a major above the 0 Percent Difference Score (also the Unit Guideline) is nonetheless streamlined or that a major has a high number of requirements that are well justified. In this sense, the three following subsections introduce topics that campus faculty and campus academic administrators may choose to pursue further using criteria and processes that are of their own choosing.

E. Examination of Majors with Positive Difference Scores of 1-10 Percent

Following faculty review, among the 623 majors included in the Major Requirements Initiative, a number have requirements that are above, but close to, the 0 Percent Difference Score, which is also the Unit Guideline. Faculty could choose to target these majors for revisions that would bring the total units needed to complete the major down to at/below the 0 Percent Difference Score. Already close to the Unit Guideline, changes for these majors should be easier to make than would be changes for majors with higher Difference Scores. If attaining a Difference Score at/below 0 Percent (the Unit Guideline) should for some reasons be important, these majors might be the first targets for increasing the proportion of majors with at least one set of requirements that is at/below the 0 Percent Difference Score. Alternatively, one could argue that these majors are already streamlined because they are close to the 0 Percent Difference Score and the Unit Guideline associated with the zero point is just that, a guideline for streamlining not a benchmark, cap, or requirement.

To explore this latter alternative further, two conservative criteria were established. One criterion was that the major had to have a 1-10 Percent Difference Score. As demonstrated visually in Figures 2, 3, 4, and 5 (above), majors with these Difference Scores are close to the 0 Percent Difference Score (which is the Unit Guideline). Quantitatively, as shown in Table 2 (above), these majors constitute a comparatively small percent of all majors in their subgroup, ranging from three percent to 13 percent. Of the 69 majors with 1-10 Percent Difference Scores after faculty review, faculty had reduced requirements for 33 (48 percent) of them during their review.

The other criterion was that the major's requirements could be completed with total units that were not more than the equivalent of one course greater than the Unit Guideline. Undergraduate courses can vary considerably in unit value, according to faculty choices; however, most are three, four, or five units of credit per term. For this exploration, all courses in the Major Requirements Initiative are assumed to be worth four units per term. Thus, the other criterion is that the major's requirements are no more than four units (roughly one course) greater than the Unit Guideline. All but five majors with 1-10 Percent Difference Scores meet this other criterion. Just one of the majors with 11-20 Percent Difference Scores and none of the majors with Difference Scores above 20 Percent meet this other criterion.

There are 69 majors in the four subgroups combined with a 1-10 Percent Difference Score; 64 of them also meet the 1-4 unit criterion. These 64 majors constitute 10 percent of all 623 majors included in the Major Requirements Initiative, 32 percent of the 200 majors with Positive Difference Scores after faculty review, and three to 13 percent of majors in the four subgroups. The two criteria are conservative so long as one accepts the premise that the Unit Guideline is a guideline. It seems likely that faculty responsible for each of these 64 majors would believe the major's requirements are appropriate and additional work to reduce the required coursework by 1-4 units, or about one course, is unnecessary or undesirable. Campus point persons and UC Office of the President staff working on the Major Requirements Initiative would agree. In aggregating all evidence of streamlining we would include these 64 majors among those that are streamlined.

F. Examination of Majors with Positive Difference Scores Greater Than 30 Percent

Just as some majors are above but close to the 0 Percent Difference Score following faculty review, others remain very far above the 0 Percent Difference Score. In considering these majors that on the face of it are candidates for further streamlining, it is instructive to learn more about them.

Using a conservative criterion of positive Difference Scores above 30 percent after faculty review, 36 majors were identified, constituting six percent of all 623 majors included in the Major Requirements Initiative, 18 percent of the 200 majors with Positive Difference Scores after faculty review, and zero to seven percent of majors in the four subgroups (see Table 2 above). Of the 36 majors with Difference Scores greater than 30 percent after faculty review, faculty had reduced the units needed to complete the majors' requirements for six (17 percent) of them. At issue for exploration are possible justifications for the comparatively high major requirements even among those six majors that faculty had streamlined to some degree during faculty review.

Because certain disciplines (e.g., physical sciences/mathematics) and types of degrees (e.g., Bachelor of Fine Arts, Bachelor of Science) are likely to require more units for their majors, these two characteristics of majors with the highest Difference Scores were examined, along with the major name and, in some cases, actual major requirements. Each of the 623 majors included in the Major Requirements Initiative was placed in a rubric created by the Institutional Research and Academic Planning Department in the UC Office of the President. For the 10 disciplines it identified, the relevant fields from the Classification of Instructional Programs (CIP) codes managed by the Institute of Education Sciences' National Center for Education Statistics (NCES) were identified. Each campus has established for each major one CIP code from among the 50 or so codes NCES has established, and UC Office of the President staff for the Major Requirements Initiative used that CIP code to connect each major to a discipline. Table 3 below presents the number and percent of majors in each of the 10 disciplines for all 623 majors included in the Major Requirements Initiative, the 36 majors with Difference Scores greater than 30 percent, and the 109 majors above their Unit Guideline and not changed during the faculty review. The relevant comparison for this exploration is that between all 623 majors and the 36 high requirements majors. In order for the two groups to be considered different, the percent distribution for a discipline and degree type had to be at least 5 percentage points different.

Table 3. Representation among 10 disciplines of all 623 majors included in the Major Requirements Initiative, all 36 majors with Difference Scores greater than 30 percent, and all 109 majors above the Unit Guideline before faculty review and not changed during faculty review.

	All Majors (n=623)		Majors with Greater Than 30 Percent Difference Score (n=36)		Majors Above Unit Guideline Before Review and Unchanged During Review (n=109)	
Disciplines	Number	Percent	Number	Percent	Number	Percent
Arts	50	8%	2	6%	6	6%
Computer Science	13	2%	0	0%	1	1%
Engineering	73	12%	3	8%	13	12%
Health Sciences	7	1%	2	6%	1	1%
Humanities	108	17%	4	11%	9	8%
Life Sciences	98	16%	7	19%	22	20%
Multidisciplinary/ Interdisciplinary	34	5%	2	6%	2	2%
Physical Sciences/ Mathematics	70	11%	4	11%	26	24%
Professional Fields	31	5%	7	19%	15	14%
Social Sciences	139	22%	5	14%	14	13%

As anticipated when the Engineering/Computer Science Unit Guideline was established, many of the 36 majors with Difference Scores greater than 30 percent are pre-professional, may have accrediting requirements, or may be in disciplines well known nationally for the high number of demanding upper division course requirements. Compared to all 623 majors included in the Major Requirements Initiative, the 36 with Difference Scores greater than 30 percent were more likely to have been assigned to the Professional Fields (respectively 19 percent and 5 percent). These seven majors included three in architecture, one in community and regional development, and three in business administration and management. In addition, these 36 majors were more likely to be assigned to Health Sciences (respectively 6 percent and 1 percent). These two majors are Nursing and Nursing Science. On the flip side, majors in two disciplines that are less likely to be pre-professional or require high numbers of specialized major courses were underrepresented by at least 5 percentage points among the 36 high Difference Score majors compared to all majors in the Major Requirements Initiative; specifically, the percent of high Difference Score majors compared to the percent among all majors in the Initiative was respectively 11 percent and 17 percent in Humanities and 14 percent and 22 percent in Social Sciences.

Although there was no overall difference of at least 5 percentage points between the representation of other disciplines among all majors and the 36 with a Difference Score above

30 percent, 15 others of the 36 high requirements majors are also oriented professionally in the opinion of campus point persons and UC Office of the President staff working on the Initiative. These 15 are as follows:

- Three majors in Engineering,
- Two Nutrition Science majors in Multidisciplinary/Interdisciplinary,
- Four majors that combine administration with a major coded one each as Arts, Humanities, Life Sciences, and Social Sciences, and
- Six majors that combine law with a major coded as Humanities (2 majors) or Social Sciences (4 majors).

Finally, the remaining 12 of the 36 high Difference Score majors included one in Arts, one in Humanities, six in Life Sciences, and four in Physical Sciences/Mathematics. Life Sciences and Physical Sciences/Mathematics majors tend to have many requirements, and among the Life Sciences majors are five that are in Agricultural Science and tend toward the pre-professional. Thus, it is tenable to argue that as many as 33 of the 36 majors with high Difference Scores are in disciplines and/or are specifically designed such that a comparatively high number of units are needed to complete requirements that educate these students well for post-baccalaureate study and careers.

In addition to the greater representation of professionally oriented majors and characteristically high requirement majors among the 36 high Difference Score majors, these majors are also much more likely than are all majors in the Major Requirements Initiative (see Table 4 below) to award Bachelor of Science degrees; respectively, 61 percent and 37 percent. The discipline or field of a major tends to drive the requirements and the degree offered not vice versa, and faculty determine what type of degree will be offered for each major. The high proportion of these 36 majors that offer the Bachelor of Science indicates, as do the discipline and specifics of the majors, that one might find it reasonable that these 36 majors were among those with the highest Difference Scores.

Table 4. Representation among different types of degrees of all 623 majors included in the Major Requirements Initiative, all 36 majors with Difference Scores greater than 30 percent after faculty review, and all 109 majors above the Unit Guideline before faculty review and not changed during faculty review.

	All Majors (n=623)		Majors with Greater Than 30 Percent Difference Score (n=36)		Majors Above Unit Guideline Before Review and Unchanged During Review (n=109)	
Degree Awarded	Number	Percent	Number	Percent	Number	Percent
Bachelor of Arts (BA)	355	57%	12	33%	31	28%
Bachelor of Science (BS)	233	37%	22	61%	71	65%
BA and BS	29	5%	2	6%	5	5%
Bachelor of Fine Arts (BFA) Bachelor of Music (BM) BA and BFA BA and BM	6	1%	0	0%	2	2%

In summary, among the 36 majors with a Difference Score above 30 percent, a preponderance of them have characteristics that would be associated with a high number of major requirements and therefore of units. Whether any of them could be more streamlined and how to go about deciding this are topics campus faculty and academic administrators have no doubt considered in the past and may wish to consider again in the future.

G. Examination of Unchanged Majors with Positive Difference Scores

This third and last exploration of majors with Positive Difference Scores examines those for which the faculty decided not to change any requirements. Majors from all nine undergraduate campuses and a range of disciplines are included in this group. A total of 109 majors were identified, constituting 17 percent of all 623 majors included in the Major Requirements Initiative, 54 percent of the 200 majors with Positive Difference Scores after faculty review, and 0 percent to 21 percent of majors in the four subgroups (see Table 2 above). In terms of Difference Scores, of the 109 majors 31 percent had 1-10 Percent Difference Scores, 29 percent had 11-20 Difference Scores, 17 percent had 21-30 Difference Scores, and 24 percent had Difference Scores above 30 percent. Of the 109, 34 are also in the subsection "Examination of Majors with Positive Difference Scores of 1-10 Percent" and 25 are also in the subsection "Examination of Majors with Positive Difference Scores Greater Than 30 Percent". Although these overlaps are non-trivial, all 109 majors were included in all analyses in this subsection in order to provide a complete perspective on majors that had positive Difference Scores prior to faculty review and were not changed at all during faculty review.

Nearly a third of the 109 majors in this group (33 majors, 30 percent) have both 1-10 Difference Scores and also upper division major requirements that are within 1-4 units, or about one course, of a 0 Percent Difference Score and, hence, their Unit Guideline. As argued earlier (see "Examination of Majors with Positive Difference Scores of 1-10 Percent"), these majors are close enough to their Unit Guideline that faculty could reasonably consider them to be

adequately streamlined and be disinclined to change the major requirements if faculty were satisfied with them as they were when faculty began the review.

As was the case for the majors with requirements far above their Unit Guidelines (see "Examination of Majors with Positive Difference Scores Greater Than 30 Percent), many of the 109 majors examined here are pre-professional, may have accrediting requirements, or may be in fields well known for their tendency to have many expectations as to what students completing these majors should know and be able to do. Compared to all 623 majors included in the Major Requirements Initiative (see Table 3 above), the 109 were more likely to have been assigned to Professional Fields (respectively 14 percent and 5 percent) and to Physical Sciences/Mathematics (respectively 24 percent and 11 percent). On the flip side, majors in two disciplines that are less likely to be pre-professional or require high numbers of specialized major courses were underrepresented by at least 5 percentage points; specifically, the percent among the 109 majors compared to the percent among all majors in the Initiative was respectively eight percent and 17 percent in Humanities and 13 percent and 22 percent in Social Sciences. Also (see Table 4 above) these 109 majors are much more likely to offer Bachelor of Science degrees than are all majors in the Major Requirements Initiative; respectively, 65 percent and 37 percent. The more prescriptive and demanding character of many of these 109 majors may have led faculty to believe that there was little opportunity to revise requirements so as to achieve greater streamlining.

Certainly, campus faculty who were serving on the systemwide Academic Senate University Committee on Educational Policy at the time of the Major Requirements Initiative concluded that faculty responsible for these majors provided strong rationales for the major requirements as they were prior to the faculty review and the Committee members found other evidence as well that convinced them that it was appropriate not to change the requirements for these majors (see "Implementation of the Review Process" and Appendix D). Because courses and curricula are the responsibility of the faculty, the conclusions of the University Committee on Educational Policy are important indicators that a persuasive case can be made to faculty peers for what seem to be high numbers of units needed to complete the requirements for some majors.

IV. Discussion

The Major Requirements Initiative included a total of 623 undergraduate majors that were the top 75 percent of majors on each of the nine undergraduate campuses. The 623 majors accounted for more than 95 percent of all UC degrees awarded over a recent three year period. The goals of the Initiative were to ensure both that upper division major requirements were appropriate for today's and tomorrow's graduates and also that the requirements were as streamlined as possible. The UC Regents have delegated responsibility for courses and curricula to the UC faculty. Faculty can be relied upon to attend to the breadth, depth, and quality of majors and also to consider workload for students and capacity of the faculty to offer the courses needed to complete the major. Moreover, faculty routinely carry out reviews of majors on a five- to eight-year cycle. It was the faculty who carried out the essential reviews and made the decisions for the the top 75 percent of majors on their campus. In effect, they consolidated

into about a year and a half major reviews that would otherwise have been spread over five to eight years.

For this Initiative, the streamlining goal was particularly emphasized and successfully addressed. When faculty made changes to major requirements, they were very likely to be changes that decreased the units needed to complete the majors' requirements and very unlikely to be changes that increased the units. In total, subtracting all reported increases in units needed to meet major requirements from all reported decreases in units needed, 2,363 fewer units were needed to meet major requirements after the faculty reviews. This is the equivalent of about 600 4-unit courses. It is likely an underestimate of streamlining because there was no information gathered about any options that had required units between the lowest and highest numbers and made changes during the review. Faculty were much more likely to change requirements for majors that were above than at/below their Unit Guideline before review, and much more likely to decrease than increase major requirements when changes were made. Overall, the number of majors that were at/below the Unit Guideline increased by 24 percent during the reviews.

Preparations for the Major Requirements Initiative provided clear evidence that well established routine and special purpose campus processes for creating, reviewing, revising, and discontinuing majors are alive and well on the nine undergraduate campuses. Of the 623 majors included in the Initiative, campuses identified 211 majors (34 percent) that faculty reviewed prior to the Initiative and wanted to submit in lieu of another review during the Initiative. These earlier reviews explicitly addressed both quality and streamlining, as did the Initiative. An internal comparison of the majors faculty reviewed before and during the Major Requirements Initiative indicated that the outcomes were similar. Also, when UC Office of the President staff reviewed the campus submissions for all 623 majors, they found that somewhat more than half were at/below their Unit Guideline prior to any review as part of the Major Requirements Initiative. Finally, between 2013-14, the last year of data used to identify the top 75 percent majors and Fall Term 2015 when the Major Requirements Initiative began, faculty had discontinued 25 of the 648 top 75 percent campus majors.

The Major Requirements Initiative involved processes and governance structures that are well established on the campuses. It also utilized measures and processes that a campus may want to use more formally, use more often, or use for the first time, depending on the campus. For example, the Unit Guideline was not a requirement, benchmark, or cap, but it did help to establish a set of expectations that may well have influenced faculty behavior. The Unit Guideline was formally established, adjusted for various campus conditions including academic calendar and typical unit values of undergraduate courses, adjusted for engineering and computer science majors, shared among the campuses and UC Office of the President, and used in reporting preliminary outcomes as the Initiative was in progress. As another example, the Difference Score was created during analysis of the Initiative's outcomes. It provided a means of moving from the binary perspective of the Unit Guideline to a continuous perspective of the relative distance of a major's requirements from its Unit Guideline. It also made it possible to consolidate majors and campuses into a small number of groups. Graphs of Difference Scores made it easy to see the distribution of major requirements (in units) across

the entire range from least to most and how they changed when faculty reviewed the majors. And a major's Difference Score pinpointed its position vis-à-vis other majors and campuses. A single campus could create for itself a graph or graphs similar to those in this report, as well as compare itself with other campuses or compare majors within the campus. Information and examples are valuable for thinking and doing. UC already has several venues in which faculty and/or academic administrators can and do share information and examples. These include campus and systemwide Academic Senate committees focused on undergraduate education and campus and systemwide meetings of academic administrators focused on undergraduate education or a particular discipline (e.g., engineering) or group of disciplines (e.g., letters and science). Such gatherings can be used deliberately to support continued attention to major requirements, both their quality and their streamlining.

The Major Requirements Initiative was a complex undertaking, not only because of the rich variety of majors and short time to complete the work but also because it had to encompass as one whole nearly all majors on the nine undergraduate campuses. Among the many challenges the Initiative presented, four seem worth identifying here:

Assessing Multiple Options for Completing a Major

Faculty are likely to offer students options for completing the requirements for each undergraduate major. There could be few or many options; for example, majors can have different formal concentrations ranging from two to over 20, different types of degrees, and an additional focus (e.g., law and society, administration studies). Concentrations and other options within a major may or may not entail differences in the total number of units needed to complete the major's requirements. They do entail differences in substantive content and requirements, and they do offer wonderful opportunities for enriched study. Altogether they presented a complexity and variability that would have been very difficult to manage and was not necessary for this Initiative. The campus point persons and UC Office of the President staff for the Initiative chose to cope with this richness and diversity by asking faculty to review all options for quality and streamlining and to report the lowest and highest number of units needed to satisfy the requirements of all options within the major. For a little more than half the majors the lowest and highest numbers were the same. When they were different, the lowest number was used almost exclusively in this report, because it represents the most streamlined version of a major's requirements.

Conceptualizing and Characterizing Majors

The Initiative brought together nearly all undergraduate majors at UC and created circumstances where it was easy to see that the nature of a major and the field of a major could vary considerably. Examples are the multiple options for many majors and their wide range of offerings and requirements, the number and nature of requirements for different majors, and the assignment of majors to disciplines. In consultation among the campuses and UC Office of the President, a separate Unit Guideline was established for engineering and computer sciences majors. There was widespread agreement this was appropriate. There were also quandaries as to exactly which majors were in engineering or computer science and as to why other high demand types of majors were

not similarly singled out for separate Unit Guidelines. Majors coded by the campuses as computer science majors, for example, have names that do and do not include "computer science," may and may not be part of an engineering school or department, may and may not be accredited, and may and may not offer a Bachelor of Science degree. The required units vary considerably across the computer science majors. In addition, some majors that have "computer science" in the major name are not coded as being in the computer science discipline. Variation is desirable, not undesirable; at the same time, it needs to make sense and be manageable. For the Major Requirements Initiative, it was managed by treating all faculty decisions about a major's requirements, name, and discipline as sacrosanct.

Differentiating Expectations for Major Requirements

The diversity of undergraduate majors and their characteristics and of campuses in the context of belonging to the UC system is a strength of the University. For the Major Requirements Initiative, as with many of the University's endeavors, there was a need to establish expectations that supported the Initiative's goals and accommodated major and campus differences. This required close collaboration among the campuses and UC Office of the President. The result was satisfactory choices that nonetheless could still be debated by the campuses and UC Office of the President. The Unit Guideline was established to convey a sense of what constituted a streamlined major. Small variations provided for campus differences in academic calendar and typical unit value(s) of undergraduate courses. Among all the majors, only those in engineering and computer science were assigned a different Unit Guideline, one half again as large as that established for all other majors. The Unit Guideline was consistently identified as a guideline not a requirement, cap, or benchmark, and the responsibility of faculty to approve requirements for every major was emphasized as well.

Balancing Rules, Guidance, and Process

The many variations among majors and campuses, including those described above and others known to many readers of this report, were handled in a variety of ways. Existing policies and rules were not questioned. Participants in the Initiative did not seek to add any new ones, nor did they conclude that any were needed. Consequently, guidance and process were used to implement the Initiative. The Unit Guideline was established based on a general understanding across campuses of the maximum time to devote to upper division major requirements. It was meant to be guidance. When responsible faculty established requirements that, in units, were greater than the Unit Guideline, process was expected to be used to support their decisions. The faculty process could be that internal to the unit responsible for the major (usually the department) or a special faculty process such as that the University Committee on Educational Policy carried out during the Major Requirements Initiative for those 109 majors with requirements that were greater than their Unit Guideline and were not changed during faculty review. Whether the balance among rules, guidance, and process was the right one may still be a matter for debate.

The upper division major requirements addressed in the Major Requirements Initiative are but one of several requirements for successful completion of a UC bachelor's degree. Undergraduates on all nine undergraduate campuses are required to complete general education courses, major preparation courses, and major courses, along with a certain total number of units earned and a certain time of residence on the campus awarding the degree. On some campuses, there are also requirements for courses offered by the undergraduate college to which the student belongs, diversity course(s), and/or service learning courses. Some majors will require internships and/or supervised field work. And many students will want to take electives, study abroad, participate in campus research, engage in individual and team sports, and much more from the wealth of opportunities each University of California campus offers undergraduates. Many students will need or want to work. In order to support undergraduates in their academic and personal development, employment, and timely completion of their undergraduate degree all requirements must be considered together and managed so that an undergraduate who successfully completes a full academic load each year can both graduate in a timely way and learn and mature through co-curricular, extra-curricular, and personal development activities.

The work that has been done for the Major Requirements Initiative fits well with the University's emphasis on timely completion of the bachelor's degree. President Napolitano and the chancellors have been and will continue to be proactive in establishing the expectations, resources, requirements, and other campus features that support all undergraduates in obtaining a rich and enriching experience and attaining a bachelor's degree in four years for freshmen and two years for transfers. Examples of particular efforts include developing early indicators for likelihood of timely graduation, providing timely advising, establishing support systems for those who need them, establishing students' and parents' expectation of timely graduation, ensuring that needed courses are available, providing opportunities to "catch up" to those who lag in their progress toward the baccalaureate, ensuring strong preparation for the University's undergraduate experience, and more. In their endeavors to achieve timely graduation for all UC undergraduates, President Napolitano and the chancellors have the strong support of the UC Board of Regents and various public and government leaders and agencies.

Like UCLA's Challenge 45, which served as a model, the Major Requirements Initiative focused attention on both quality and streamlining of undergraduate majors and consolidated into a much shorter period of time work that would ordinarily span five to eight years of regular major reviews. Faculty embraced this special emphasis on program reviews, considerable streamlining occurred during the Initiative and in earlier reviews accepted in lieu of a new review for the Initiative, and the goals of the Major Requirements Initiative as set forth in the Budget Framework Agreement were met.

Appendices

A. Discontinued Majors Originally Identified as Among the Top 75 Percent

B. Top 75 Percent Majors Included in the Major Requirements Initiative

C. Unit Guideline for Two Sets of Majors on Each Undergraduate Campus

D. Review by the University Committee on Educational Policy of Majors that Began over the Unit Guideline and Were Not Changed during the Review

E. Timeline for Review of Majors, Approval of Changes to Requirements, and Implementation of Revised Requirements

Appendix A
Discontinued Majors Originally Identified as Among the Top 75 Percent

Twenty-five undergraduate majors that were identified as being in the top 75 percent on their campus based on the average number of graduates in the major in 2011-12, 2012-13, and 2013-14 were subsequently identified as having been discontinued by the start of the Major Requirements Initiative in Fall 2015. These majors are presented below alphabetically for each campus. In brackets following the major name is its rank on the campus along with the total number of active majors on the campus between 2011 and 2014. Rank order one was the major with the largest number of graduates on that given campus for the three years identified above.

CAMPUS	MAJOR NAME [RANK]
UCB	ASIAN AMERICAN STUDIES [95 of 135]
UCB	POLITICAL ECONOMY - INDUSTRIAL SOCIETIES [77 of 135]
UCB	RELIGIOUS STUDIES [72 of 135]
UCD	EXERCISE BIOLOGY [13 of 116]
UCD	FILM STUDIES [53 of 116]
UCD	TECHNOCULTURAL STUDIES [61 of 116]
UCI	EARTH & ENVIRONMENTAL SCIENCES [38 of 91]
UCI	SOCIAL SCIENCES [50 of 91]
UCLA	EAST ASIAN STUDIES [62 of 133]
UCLA	ECONOMICS/INTERNATIONAL AREA STUDIES [94 of 133]
UCLA	MIDDLE EASTERN & NORTH AFRICAN STUDIES [77 of 133]
UCLA	SOUTHEAST ASIAN STUDIES [98 of 133]
UCLA	WOMEN'S STUDIES [35 of 133]
UCM	LITERATURES AND CULTURES [10 of 23]
UCR	ASIAN LITERATURE AND CULTURES [54 of 95]
UCR	BIOLOGICAL SCIENCES [17 of 95]
UCR	FILM & VISUAL CULTURE [57 of 95]
UCSD	ANTHROPOLOGY [32 of 126]
UCSD	BIO-ENGINEERING - PRE MED [45 of 126]
UCSD	DRAMA [41 of 126]
UCSD	ENGINEERING SCIENCE [77 of 126]
UCSB	BUSINESS ECONOMICS [7 of 80]
UCSB	ECONOMICS - MATHEMATICS [52 of 80]
UCSC	AMERICAN STUDIES [33 of 66]
UCSC	NEUROSCIENCE & BEHAVIOR [42 of 66]

Appendix B
Top 75 Percent Majors Included in the Major Requirements Initiative

The Major Requirements Initiative included 623 undergraduate majors on the nine undergraduate campuses. For each campus, the top 75 percent majors were identified based on the average number of graduates in the major in 2011-12, 2012-13, and 2013-14. As presented in Appendix A, 25 of those majors had been discontinued by Fall 2015 when the Major Requirements Initiative began. The remaining 623 majors are presented alphabetically by name for each campus and the type(s) of degrees available in the major are identified. Types of degrees include Bachelor of Arts (BA), Bachelor of Fine Arts (BFA), Bachelor of Music (BM), and Bachelor of Science (BS). In brackets following the major name is its rank on the campus. Rank order one was the major with the most graduates on a given campus over the three years identified above. In parentheses following the name of the campus is the total number of majors that were included in the top 75 percent for that campus in Fall 2015 when the Initiative began. For each campus, a major's rank may be greater than the number of majors the campus reviewed because the rank was assigned prior to identifying majors that had been discontinued; for example, UC Berkeley had 101 majors when the sample was drawn and ranks were given to majors at that time, but when the Initiative began three of those majors had been discontinued, leaving the campus with 98 majors. The original ranks (e.g., 100 for Classical Languages) are retained in this appendix.

UC BERKELEY (98)	
MAJOR NAME [RANK]	**DEGREE**
AFRICAN-AMERICAN STUDIES [80]	BA
AMERICAN STUDIES [24]	BA
ANTHROPOLOGY [14]	BA
APPLIED MATHEMATICS [19]	BA
ARCHITECTURE [17]	BA
ART [39]	BA
ASIAN AMERICAN AND ASIAN DIASPORA STUDIES [94]	BA
ASIAN STUDIES AREA I [90]	BA
ASTROPHYSICS [61]	BA
BIOENGINEERING [26]	BS
BIOENGINEERING/MATERIALS SCIENCE AND ENGINEERING [97]	BS
BUSINESS ADMINISTRATION [7]	BS
CHEMICAL BIOLOGY [41]	BS
CHEMICAL ENGINEERING [30]	BS
CHEMICAL ENGINEERING/MATERIALS SCIENCE AND ENGINEERING [93]	BS
CHEMISTRY [47]	BA & BS
CHICANO STUDIES [67]	BA
CHINESE LANGUAGE & LITERATURE [69]	BA
CIVIL ENGINEERING [28]	BS
CLASSICAL CIVILIZATIONS [70]	BA
CLASSICAL LANGUAGES [100]	BA
COGNITIVE SCIENCE [27]	BA
COMPARATIVE LITERATURE [62]	BA
COMPUTER SCIENCE [13]	BA
CONSERVATION & RESOURCE STUDIES [35]	BS
DANCE & PERFORMANCE STUDIES [85]	BA
DEVELOPMENT STUDIES [55]	BA
ECONOMICS [1]	BA
ELECTRICAL ENGINEERING - COMPUTER SCIENCE [6]	BS
ENGINEERING MATHEMATICS AND STATISTICS [98]	BS
ENGINEERING PHYSICS [64]	BS
ENGLISH [5]	BA

UC BERKELEY (98)	
MAJOR NAME [RANK]	**DEGREE**
ENVIRONMENTAL EARTH SCIENCE [78]	BA
ENVIRONMENTAL ECONOMICS & POLICY [15]	BA & BS
ENVIRONMENTAL ENGINEERING SCIENCE [101]	BS
ENVIRONMENTAL SCIENCE [44]	BS
ETHNIC STUDIES [49]	BA
FILM [38]	BA
FORESTRY & NATURAL RESOURCES [75]	BS
FRENCH [60]	BA
GENDER & WOMEN'S STUDIES [57]	BA
GENETICS & PLANT BIOLOGY [73]	BS
GEOGRAPHY [46]	BA
GEOLOGY [88]	BA
GEOPHYSICS [83]	BA
GERMAN [68]	BA
HISTORY [11]	BA
HISTORY OF ART [42]	BA
INDUSTRIAL ENGINEERING & OPERATIONS RESEARCH [50]	BS
INTEGRATIVE BIOLOGY [3]	BA
INTERDISCIPLINARY STUDIES [16]	BA
ITALIAN STUDIES [91]	BA
JAPANESE LANGUAGE & LITERATURE [59]	BA
LANDSCAPE ARCHITECTURE [76]	BA
LATIN-AMERICAN STUDIES [89]	BA
LEGAL STUDIES [20]	BA
LINGUISTICS [45]	BA
MARINE SCIENCE [81]	BA
MATERIALS SCIENCE & ENGINEERING [66]	BS
MATERIALS SCIENCE AND ENGINEERING/MECHANICAL ENGINEERING [92]	BS
MATHEMATICS [32]	BA
MECHANICAL ENGINEERING [12]	BS
MEDIA STUDIES [10]	BA
MICROBIAL BIOLOGY [56]	BS

UC BERKELEY (98)	
MAJOR NAME [RANK]	**DEGREE**
MIDDLE EASTERN STUDIES [96]	BA
MOLECULAR & CELL BIOLOGY - PL1 - 1 [43]	BA
MOLECULAR & CELL BIOLOGY – PL1 - 2 [51]	BA
MOLECULAR & CELL BIOLOGY – PL1 - 3 [33]	BA
MOLECULAR & CELL BIOLOGY – PL2 - 2 [22]	BA
MOLECULAR & CELL BIOLOGY – PL2 - 3 [29]	BA
MOLECULAR ENVIRONMENTAL BIOLOGY [36]	BS
MUSIC [52]	BA
NEAR EASTERN CIVILIZATIONS [84]	BA
NEAR EASTERN LANGUAGES & LITERATURE [99]	BA
NUCLEAR ENGINEERING [86]	BS
NUTRITION SCIENCE - DIETETICS [65]	BS
NUTRITION SCIENCES-PHYSIOLOGY AND METABOLISM [48]	BS
NUTRITION SCIENCES-TOXICOLOGY [54]	BS
OPERATIONS RESEARCH & MANAGEMENT SCIENCE [79]	BA
PEACE & CONFLICT STUDIES [37]	BA
PHILOSOPHY [31]	BA
PHYSICS [34]	BA
POLITICAL ECONOMY [8]	BA
POLITICAL SCIENCE [2]	BA
PSYCHOLOGY [4]	BA
PUBLIC HEALTH [18]	BA
RHETORIC [25]	BA
SLAVIC LANGUAGES & LITERATURE [82]	BA
SOCIAL WELFARE [23]	BA
SOCIETY AND ENVIRONMENT [40]	BS
SOCIOLOGY [9]	BA
SOUTH & SOUTHEAST ASIAN STUDIES [71]	BA
SPANISH [63]	BA
SPANISH - OPTION C PLAN 2 [87]	BA

UC BERKELEY (98)	
MAJOR NAME [RANK]	**DEGREE**
SPANISH - OPTION D [74]	BA
STATISTICS [21]	BA
THEATER AND PERFORMANCE STUDIES [53]	BA
URBAN STUDIES [58]	BA
UC DAVIS (84)	
MAJOR NAME [RANK]	**DEGREE**
AEROSPACE SCIENCE AND ENGINEERING [40]	BS
AFRICAN AMERICAN AND AFRICAN STUDIES [69]	BA
AMERICAN STUDIES [73]	BA
ANIMAL BIOLOGY [44]	BS
ANIMAL SCIENCE [17]	BS
ANIMAL SCIENCE AND MANAGEMENT [62]	BS
ANTHROPOLOGY [20]	BA & BS
APPLIED MATHEMATICS [75]	BS
APPLIED PHYSICS [86]	BS
ART HISTORY [63]	BA
ART STUDIO [32]	BA
ASIAN AMERICAN STUDIES [55]	BA
BIOCHEMICAL ENGINEERING [79]	BS
BIOCHEMISTRY AND MOLECULAR BIOLOGY [8]	BS
BIOLOGICAL SCIENCES [3]	BA & BS
BIOLOGICAL SYSTEMS ENGINEERING [64]	BS
BIOMEDICAL ENGINEERING [35]	BS
BIOTECHNOLOGY[27]	BS
CELL BIOLOGY [52]	BS
CHEMICAL ENGINEERING [28]	BS
CHEMISTRY [23]	BA & BS
CHICANA/CHICANO STUDIES [34]	BA
CHINESE [59]	BA
CIVIL ENGINEERING [16]	BS
CLASSICAL CIVILIZATION [71]	BA
CLINICAL NUTRITION [22]	BS
COMMUNICATION [5]	BA
COMMUNITY AND REGIONAL DEVELOPMENT [25]	BS

UC DAVIS (84)	
MAJOR NAME [RANK]	**DEGREE**
COMPARATIVE LITERATURE [67]	BA
COMPUTER ENGINEERING [70]	BS
COMPUTER SCIENCE [21]	BS
COMPUTER SCIENCE AND ENGINEERING [45]	BS
DESIGN [18]	BA
EAST ASIAN STUDIES [85]	BA
ECONOMICS [2]	BA
ELECTRICAL ENGINEERING [24]	BS
ENGLISH [12]	BA
ENTOMOLOGY [82]	BS
ENVIRONMENTAL HORTICULTURE AND URBAN FORESTRY [76]	BS
ENVIRONMENTAL POLICY ANALYSIS AND PLANNING [43]	BS
ENVIRONMENTAL SCIENCE AND MANAGEMENT [26]	BS
ENVIRONMENTAL TOXICOLOGY [50]	BS
EVOLUTION, ECOLOGY AND BIODIVERSITY [56]	BA & BS
FOOD SCIENCE [31]	BS
FRENCH [68]	BA
GENDER, SEXUALITY AND WOMEN'S STUDIES [72]	BA
GENETICS AND GENOMICS [29]	BS
GEOLOGY [54]	BA & BS
GERMAN [81]	BA
HISTORY [14]	BA
HUMAN DEVELOPMENT [9]	BS
INTERNATIONAL AGRICULTURAL DEVELOPMENT [77]	BS
INTERNATIONAL RELATIONS [11]	BA
ITALIAN [78]	BA
JAPANESE [51]	BA
LANDSCAPE ARCHITECTURE [47]	BS
LINGUISTICS [42]	BA
MANAGERIAL ECONOMICS [4]	BS
MATERIALS SCIENCE AND ENGINEERING [84]	BS
MATHEMATICS [39]	BA & BS
MECHANICAL ENGINEERING [15]	BS

UC DAVIS (84)	
MAJOR NAME [RANK]	**DEGREE**
MICROBIOLOGY [38]	BA & BS
MUSIC [57]	BA
NEUROBIOLOGY, PHYSIOLOGY AND BEHAVIOR [6]	BA & BS
NUTRITION SCIENCE [41]	BS
PHARMACEUTICAL CHEMISTRY [37]	BS
PHILOSOPHY [33]	BA
PHYSICS [48]	BA & BS
PLANT BIOLOGY [87]	BA & BS
PLANT SCIENCES [83]	BS
POLITICAL SCIENCE [7]	BA
POLITICAL SCIENCE - PUBLIC SERVICE [58]	BA
PSYCHOLOGY [1]	BA & BS
RELIGIOUS STUDIES [65]	BA
RUSSIAN [74]	BA
SCIENCE AND TECHNOLOGY STUDIES [80]	BA
SOCIOLOGY [10]	BA
SOCIOLOGY – ORGANIZATIONAL STUDIES [46]	BA
SPANISH [19]	BA
STATISTICS [36]	BA & BS
TEXTILES AND CLOTHING [66]	BS
THEATRE AND DANCE [60]	BA
VITICULTURE AND ENOLOGY [49]	BS
WILDLIFE, FISH AND CONSERVATION BIOLOGY [30]	BS
UC IRVINE (66)	
MAJOR NAME [RANK]	**DEGREE**
AEROSPACE ENGINEERING [34]	BS
ANTHROPOLOGY [16]	BA
ART [25]	BA
ART HISTORY [36]	BA
ASIAN AMERICAN STUDIES [65]	BA
BIOCHEMISTRY- MOLECULAR BIOLOGY [58]	BS
BIOLOGICAL SCIENCES [1]	BS
BIOMEDICAL ENGINEERING [23]	BS

UC IRVINE (66)	
MAJOR NAME [RANK]	**DEGREE**
BIOMEDICAL ENGINEERNIG: PREMED [39]	BS
BUSINESS ADMINISTRATION [12]	BA
BUSINESS ECONOMICS [3]	BA
BUSINESS INFORMATION MANAGEMENT [42]	BS
CHEMICAL ENGINEERING [32]	BS
CHEMISTRY [15]	BS
CHICANO/LATINO STUDIES [44]	BA
CHINESE STUDIES [66]	BA
COMPARATIVE LITERATURE [55]	BA
COMPUTER ENGINEERING [48]	BS
COMPUTER SCIENCE [21]	BS
COMPUTER SCIENCE & ENGINEERING [37]	BS
CRIMINOLGY, LAW & SOCIETY [6]	BA
DANCE [49]	BA
DANCE - PERFORMANCE [56]	BFA
DEVELOPMENTAL & CELL BIOLOGY [64]	BS
DRAMA [22]	BA
EARTH SYSTEM SCIENCE [57]	BS
EAST ASIAN CULTURES [54]	BA
ECOLOGY & EVOLUTIONARY BIOLOGY [59]	BS
ECONOMICS [10]	BA
ENGINEERING - CIVIL [18]	BS
ENGINEERING - ELECTRICAL [26]	BS
ENGINEERING - MECHANICAL [13]	BS
ENGLISH [11]	BA
ENVIRONMENTAL ENGINEERING [46]	BS
ENVIRONMENTAL SCIENCE [62]	BA
EUROPEAN STUDIES [67]	BA
FILM AND MEDIA STUDIES [17]	BA
FRENCH [68]	BA
GENDER AND SEXUALITY STUDIES [60]	BA
GLOBAL CULTURES [51]	BA
HISTORY [20]	BA
INFORMATICS [35]	BS

UC IRVINE (66)	
MAJOR NAME [RANK]	**DEGREE**
INFORMATION & COMPUTER SCIENCES [31]	BS
INTERNATIONAL STUDIES [9]	BA
JAPANESE LANGUAGE & LITERATURE [53]	BA
LITERARY JOURNALISM [29]	BA
MATERIALS SCIENCE ENGINEERING [47]	BS
MATHEMATICS [24]	BS
MICROBIOLOGY & IMMUNOLOGY [61]	BS
MUSIC [63]	BA
MUSIC, PERFORMANCE [52]	BM
NEUROBIOLOGY [41]	BS
NURSING SCIENCE [30]	BS
PHARMACEUTICAL SCIENCES [27]	BS
PHILOSOPHY [40]	BA
PHYSICS [43]	BS
POLITICAL SCIENCE [4]	BA
PSYCHOLOGY [5]	BA
PSYCHOLOGY & SOCIAL BEHAVIOR [2]	BA
PUBLIC HEALTH POLICY [14]	BA
PUBLIC HEALTH SCIENCES [8]	BS
QUANTITATIVE ECONOMICS [45]	BA
SOCIAL ECOLOGY [19]	BA
SOCIOLOGY [7]	BA
SPANISH [33]	BA
URBAN STUDIES [28]	BA

UCLA (95)	
MAJOR NAME [RANK]	**DEGREE**
AEROSPACE ENGINEERING [42]	BS
AFRICAN-AMERICAN STUDIES [52]	BA
AMERICAN LITERATURE & CULTURE [44]	BA
ANTHROPOLOGY [6]	BA
APPLIED LINGUISTICS [73]	BA
APPLIED MATHEMATICS [28]	BS
ARABIC [83]	BA
ARCHITECTURAL STUDIES [60]	BA

UCLA (95)	
MAJOR NAME [RANK]	**DEGREE**
ART [36]	BA
ART HISTORY [24]	BA
ASIAN AMERICAN STUDIES [47]	BA
ASIAN HUMANITIES [55]	BA
ASTROPHYSICS [75]	BS
ATMOSPHERIC, OCEAN AND ENVIRONMENTAL SCIENCE [71]	BS
BIOCHEMISTRY [11]	BS
BIOENGINEERING [38]	BS
BIOLOGY [8]	BS
BIOPHYSICS [81]	BS
BUSINESS ECONOMICS [12]	BA
CHEMICAL ENGINEERING [25]	BS
CHEMISTRY [34]	BS
CHEMISTRY - MATERIAL SCIENCE [85]	BS
CHICANA & CHICANO STUDIES [26]	BA
CHINESE [63]	BA
CIVIL ENGINEERING [23]	BS
CLASSICAL CIVILIZATION [66]	BA
COGNITIVE SCIENCE [54]	BS
COMMUNICATION STUDIES [13]	BA
COMPARATIVE LITERATURE [65]	BA
COMPUTATIONAL & SYSTEMS BIOLOGY [93]	BS
COMPUTER SCIENCE [21]	BS
COMPUTER SCIENCE & ENGINEERING [51]	BS
DESIGN MEDIA ARTS [43]	BA
EARTH AND ENVIRONMENTAL SCIENCE [92]	BA
ECOLOGY, BEHAVIOR & EVOLUTION [68]	BS
ECONOMICS [5]	BA
ELECTRICAL ENGINEERING [14]	BS
ENGLISH [4]	BA
ENVIRONMENTAL SCIENCE [27]	BS
ETHNOMUSICOLOGY [64]	BA
EUROPEAN STUDIES [80]	BA
FILM AND TELEVISION [50]	BA
FRENCH [56]	BA

UCLA (95)	
MAJOR NAME [RANK]	**DEGREE**
GENDER STUDIES [61]	BA
GEOGRAPHY [31]	BA
GEOGRAPHY/ENVIRONMENTAL STUDIES [30]	BA
GEOLOGY [90]	BS
GERMAN [84]	BA
GLOBAL STUDIES [45]	BA
HISTORY [3]	BA
HUMAN BIOLOGY AND SOCIETY [58]	BA
INTERNATIONAL DEVELOPMENT STUDIES [17]	BA
IRANIAN STUDIES [95]	BA
ITALIAN & SPECIAL FIELD [79]	BA
JAPANESE [53]	BA
JEWISH STUDIES [89]	BA
KOREAN [96]	BA
LATIN-AMERICAN STUDIES [78]	BA
LINGUISTICS [48]	BA
LINGUISTICS & ANTHROPOLOGY [97]	BA
LINGUISTICS & ASIAN LANGUAGES & CULTURES [69]	BA
LINGUISTICS & COMPUTER SCIENCE [91]	BA
LINGUISTICS & FRENCH [99]	BA
LINGUISTICS & PSYCHOLOGY [59]	BA
LINGUISTICS & SPANISH [88]	BA
MARINE BIOLOGY [76]	BS
MATERIALS ENGINEERING [57]	BS
MATHEMATICS [46]	BS
MATHEMATICS - APPLIED SCIENCE [41]	BS
MATHEMATICS/ECONOMICS [19]	BS
MATHEMATICS FOR TEACHING [72]	BS
MATHEMATICS OF COMPUTATION [82]	BS
MECHANICAL ENGINEERING [22]	BS
MICROBIOLOGY - IMMUNOLOGY - MOLECULAR GENETICS [18]	BS
MIDDLE EASTERN STUDIES [100]	BA
MOLECULAR, CELL, & DEVELOPMENTAL BIOLOGY [20]	BS
MUSIC [49]	BA

UCLA (95)	
MAJOR NAME [RANK]	**DEGREE**
MUSIC HISTORY [70]	BA
NEUROSCIENCE [16]	BS
NURSING [103]	BS
PHILOSOPHY [15]	BA
PHYSICS [37]	BS
PHYSIOLOGICAL SCIENCE [10]	BS
POLITICAL SCIENCE [1]	BA
PSYCHOBIOLOGY [9]	BS
PSYCHOLOGY [2]	BA
RUSSIAN LANGUAGE & LITERATURE [87]	BA
SOCIOLOGY [7]	BA
SPANISH [32]	BA
SPANISH AND COMMUNITY AND CULTURE [67]	
SPANISH & LINGUISTICS [86]	BA
STATISTICS [39]	BS
STUDY OF RELIGION [74]	BA
THEATER [29]	BA
WORLD ARTS AND CULTURES (WAC CONCENTRATION) [40]	BA
UC MERCED (16)	
MAJOR NAME [RANK]	**DEGREE**
ANTHROPOLOGY [14]	BA
APPLIED MATHEMATICS [13]	BS
BIOENGINEERING [12]	BS
BIOLOGICAL SCIENCES [1]	BS
CHEMICAL SCIENCES [15]	BS
COGNITIVE SCIENCE [6]	BA & BS
COMPUTER SCIENCE & ENGINEERING [8]	BA
ECONOMICS [7]	BA
ENVIRONMENTAL ENGINEERING [16]	BS
HISTORY [11]	BA
MANAGEMENT AND BUSINESS ECONOMICS [3]	BS
MECHANICAL ENGINEERING [5]	BS
PHYSICS [17]	BS
POLITICAL SCIENCE [4]	BA
PSYCHOLOGY [2]	BA

UC MERCED (16)	
MAJOR NAME [RANK]	**DEGREE**
SOCIOLOGY [9]	BA
UC RIVERSIDE (68)	
MAJOR NAME [RANK]	**DEGREE**
AFRICAN-AMERICAN STUDIES [67]	BA
ANTHROPOLOGY [8]	BA & BS
ANTHROPOLOGY/LAW & SOCIETY [70]	BA & BS
ART [20]	BA
ART HISTORY [42]	BA
ART HISTORY/ADMINISTRATION STUDIES [56]	BA
ASIAN STUDIES [63]	BA
BIOCHEMISTRY [12]	BA & BS
BIOENGINEERING [21]	BS
BIOLOGY [3]	BA & BS
BUSINESS ADMINISTRATION [1]	BS
BUSINESS ECONOMICS [11]	BA
BUSINESS INFORMATICS [65]	BS
CHEMICAL ENGINEERING [35]	BS
CHEMISTRY [22]	BS
CHICANO STUDIES [66]	BA
COMPUTER ENGINEERING [39]	BS
COMPUTER SCIENCE [28]	BS
CREATIVE WRITING [16]	BA
DANCE [55]	BA
ECONOMICS [26]	BA
ECONOMICS/ADMINISTRATIVE STUDIES [10]	BA
ECONOMICS/LAW & SOCIETY [64]	BA
ELECTRICAL ENGINEERING [32]	BS
ENGLISH [7]	BA
ENTOMOLOGY [60]	BS
ENVIRONMENTAL ENGINEERING [40]	BS
ENVIRONMENTAL SCIENCE [23]	BS
ETHNIC STUDIES [41]	BA
GENDER AND SEXUALITY STUDIES [29]	BA
GEOLOGY [52]	BS
GLOBAL STUDIES [37]	BA

UC RIVERSIDE (68)	
MAJOR NAME [RANK]	**DEGREE**
HISTORY [6]	BA
HISTORY/ADMINISTRATION STUDIES [48]	BA
HISTORY/LAW & SOCIETY [53]	BA
INTERDISCIPLINARY STUDIES [31]	BA
LANGUAGES & LITERATURES/COMPARATIVE LITERATURE [68]	BA
LANGUAGES & LITERATURES/FRENCH [69]	BA
LANGUAGES & LITERATURES/LANGUAGES [45]	BA
LATIN-AMERICAN STUDIES [59]	BA
LIBERAL STUDIES [14]	BA
LINGUISTICS [49]	BA
LITERATURE & LANGUAGES: CLASSICAL STUDIES [71]	BA
MATERIALS SCIENCE & ENGINEERING [62]	BS
MATHEMATICS [18]	BS
MATHEMATICS FOR SECONDARY SCHOOL [47]	BS
MECHANICAL ENGINEERING [15]	BS
MEDIA AND CULTURAL STUDIES [9]	BA
MUSIC [44]	BA
NEUROSCIENCE [13]	BS
PHILOSOPHY [25]	BA
PHILOSOPHY/LAW & SOCIETY [51]	BA
PHYSICS [43]	BS
PLANT BIOLOGY [61]	BA
POLITICAL SCIENCE [5]	BA
POLITICAL SCIENCE/ ADMINISTRATION STUDIES [58]	BA
POLITICAL SCIENCE/ INTERNATIONAL STUDIES [24]	BA
POLITICAL SCIENCE/LAW & SOCIETY [27]	BA
PSYCHOLOGY [2]	BS
PSYCHOLOGY AND LAW & SOCIETY [38]	BA
PUBLIC POLICY [34]	BA
RELIGIOUS STUDIES [46]	BA

UC RIVERSIDE (68)	
MAJOR NAME [RANK]	**DEGREE**
SOCIOLOGY [4]	BA
SOCIOLOGY/ADMINISTRATION STUDIES [30]	BA & BS
SOCIOLOGY - LAW AND SOCIETY [33]	BA & BS
SPANISH [19]	BA
STATISTICS [50]	BS
THEATER, FILM, AND DIGITAL PRODUCTION [36]	BA
UC SAN DIEGO (90)	
MAJOR NAME [RANK]	**DEGREE**
AEROSPACE ENGINEERING [28]	BS
ANTHROPOLOGY (SOCIOCULTRAL ANTHROPOLOGY) [44]	BA
APPLIED MATHEMATICS [54]	BS
ART HISTORY/CRITICISM [56]	BA
BIOCHEMISTRY & CELL BIOLOGY [7]	BS
BIOENGINEERING [36]	BS
BIOENGINEERING - BIOINFORMATICS [79]	BS
BIOENGINEERING (BIOTECH) [26]	BS
BIOLOGY [3]	BS
CHEMICAL ENGINEERING [23]	BS
CHEMISTRY [34]	BS
CHEMISTRY - BIOCHEMISTRY [19]	BS
CHINESE STUDIES [63]	BA
COGNITIVE SCIENCE [10]	BS
COMMUNICATION [4]	BA
COMPUTER ENGINEERING [40]	BS
COMPUTER SCIENCE [8]	BS
COMPUTER SCIENCE - BIOINFORMATICS [73]	BS
CRITICAL GENDER STUDIES [94]	BA
DANCE [81]	BA
EARTH SCIENCES [64]	BS
ECOLOGY, BEHAVIOR & EVOLUTION [31]	BS
ECONOMICS [2]	BA
ELECTRICAL ENGINEERING - BS [18]	BS
ENVIRONMENTAL CHEMISTRY [92]	BS

UC SAN DIEGO (90)	
MAJOR NAME [RANK]	**DEGREE**
ENVIRONMENTAL ENGINEERING [46]	BS
ENVIRONMENTAL SYSTEMS - EARTH SCIENCES [87]	BS
ENVIRONMENTAL SYSTEMS - ECOLOGY, BEHAVIOR, EVOLUTION [30]	BS
ENVIRONMENTAL SYSTEMS - ENVIRONMENTAL CHEMISTRY [85]	BS
ENVIRONMENTAL SYSTEMS - ENVIRONMENTAL POLICY [69]	BA
ETHNIC STUDIES [33]	BA
HISTORY [13]	BA
HUMAN BIOLOGY [5]	BS
HUMAN DEVELOPMENT [15]	BA
INTERDISCIPLINARY COMPUTER & THE ARTS [52]	BA
INTERNATIONAL STUDIES [89]*	BA
INTERNATIONAL STUDIES - ANTHROPOLOGY [70]	BA
INTERNATIONAL STUDIES - ECONOMICS [24]	BA
INTERNATIONAL STUDIES - HISTORY [58]	BA
INTERNATIONAL STUDIES - LINGUISTICS [78]	BA
INTERNATIONAL STUDIES - POLITICAL SCIENCE [22]	BA
INTERNATIONAL STUDIES - SOCIOLOGY [42]	BA
JAPANESE STUDIES [72]	BA
LATIN-AMERICAN STUDIES [86]	BA
LINGUISTICS [48]	BA
LINGUISTICS (COGNITION & LANGUAGE) [67]	BA
LINGUISTICS (LANGUAGE & SOCIETY) [83]	BA
LINGUISTICS - LANGUAGE STUDIES [91]	BA
LITERATURE, SPANISH [59]	BA
LITERATURE/WRITING [29]	BA
LITERATURES IN ENGLISH [49]	BA
LITERATURES OF THE WORLD [65]	BA

UC SAN DIEGO (90)	
MAJOR NAME [RANK]	**DEGREE**
MANAGEMENT SCIENCE [6]	BS
MATHEMATICS [37]	BS
MATHEMATICS - APPLIED SCIENCE [93]	BS
MATHEMATICS - COMPUTER SCIENCE [80]	BS
MATHEMATICS/ECONOMICS [27]	BS
MATHEMATICS/SECONDARY EDUCATION [88]	BA
MECHANICAL ENGINEERING [11]	BS
MICROBIOLOGY [50]	BS
MOLECULAR BIOLOGY [43]	BS
MUSIC [57]	BA
NANOENGINEERING [55]	BS
PHARMACOLOGICAL CHEMISTRY [16]	BS
PHILOSOPHY [39]	BA
PHYSICS [53]	BS
PHYSICS - BIOPHYSICS [90]	BS
PHYSICS WITH SPECIALIZATION IN ASTROPHYSICS [84]	BS
PHYSIOLOGY & NEUROSCIENCE [12]	BS
POLITICAL SCIENCE [9]	BA
POLITICAL SCIENCE - AMERICAN POLITICS [35]	BA
POLITICAL SCIENCE - COMPARATIVE POLITICS [68]	BA
POLITICAL SCIENCE - INTERNATIONAL RELATIONS [17]	BA
POLITICAL SCIENCE - POLITICAL THEORY [66]	BA
POLITICAL SCIENCE - PUBLIC LAW [38]	BA
POLITICAL SCIENCE - PUBLIC POLICY [76]	BA
PROBABILITY AND STATISTICS [71]	BS
PSYCHOLOGY [1]	BA
SOCIOLOGY [20]	BA
SOCIOLOGY - CULTURE AND COMMUNICATIONS [61]	BA
SOCIOLOGY - ECONOMY AND SOCIETY [82]	BA

*USCD submitted a report of major requirements for the combined five-year BA/MIA for the International Studies major. Due to the Majors Requirements Initiative's focus on undergraduate majors, the analysis and final report only include the requirements for the BA.

UC SAN DIEGO (90)	
MAJOR NAME [RANK]	**DEGREE**
SOCIOLOGY - INTERNATIONAL STUDIES [75]	BA
SOCIOLOGY - LAW AND SOCIETY [51]	BA
SOCIOLOGY - SCIENCE AND MEDICINE [62]	BA
SOCIOLOGY - SOCIAL INEQUALITY [60]	BA
STRUCTURAL ENGINEERING [14]	BS
STUDIO ART [47]	BA
STUDY OF RELIGION [74]	BA
URBAN STUDIES & PLANNING [25]	BA
VISUAL ARTS - MEDIA [21]	BA
UC SANTA BARBARA (58)	
MAJOR NAME [RANK]	**DEGREE**
ACTUARIAL SCIENCE [47]	BS
ANTHROPOLOGY [11]	BA
AQUATIC BIOLOGY [31]	BS
ART [23]	BA
ASIAN AMERICAN STUDIES [43]	BA
ASIAN STUDIES [60]	BA
BIOCHEMISTRY [35]	BS
BIOCHEMISTRY- MOLECULAR BIOLOGY [39]	BS
BIOLOGICAL SCIENCES [9]	BS
BIOLOGY [50]	BA
BIOPSYCHOLOGY [14]	BS
BLACK STUDIES [38]	BA
CELL & DEVELOPMENTAL BIOLOGY [36]	BS
CHEMICAL ENGINEERING [25]	BS
CHEMISTRY [28]	BA & BS
CHICANA AND CHICANO STUDIES [20]	BA
CLASSICS [58]	BA
COMMUNICATION STUDIES [3]	BA
COMPARATIVE LITERATURE [32]	BA
COMPUTER ENGINEERING [37]	BS
COMPUTER SCIENCE [18]	BS
DANCE [53]	BA & BFA
ECOLOGY & EVOLUTION [49]	BS
ECONOMICS [15]	BA

UC SANTA BARBARA (58)	
MAJOR NAME [RANK]	**DEGREE**
ECONOMICS AND ACCOUNTING [10]	BA
ELECTRICAL ENGINEERING [26]	BS
ENGLISH [8]	BA
ENVIRONMENTAL STUDIES [6]	BA & BS
FEMINIST STUDIES [30]	BA
FILM STUDIES [13]	BA
FINANCIAL MATHEMATICS & STATISTICS [46]	BS
FRENCH [55]	BA
GEOGRAPHY [27]	BA
GEOLOGY [57]	BS
GLOBAL STUDIES [4]	BA
HISTORY [12]	BA
HISTORY OF ART AND ARCHITECTURE [22]	BA
HISTORY OF PUBLIC POLICY [54]	BA
ITALIAN CULTURAL STUDIES [59]	BA
LANGUAGE, CULTURE, AND SOCIETY [51]	BA
LATIN AMERICAN & IBERIAN STUDIES [56]	BA
LINGUISTICS [40]	BA
MATHEMATICAL SCIENCES [41]	BS
MATHEMATICS [24]	BA & BS
MECHANICAL ENGINEERING [19]	BS
MICROBIOLOGY [44]	BS
MUSIC [48]	BA & BM
PHARMACOLOGY [45]	BS
PHILOSOPHY [16]	BA
PHYSICS [21]	BA & BS
POLITICAL SCIENCE [5]	BA
PSYCHOLOGICAL AND BRAIN SCIENCES [2]	BS
RELIGIOUS STUDIES [29]	BA
SOCIOLOGY [1]	BA
SPANISH [17]	BA
STATISTICAL SCIENCE [42]	BA & BS
THEATER [34]	BA & BFA
ZOOLOGY [33]	BS

UC SANTA CRUZ (48)	
MAJOR NAME [RANK]	**DEGREE**
ANTHROPOLOGY [8]	BA
APPLIED PHYSICS [45]	BS
ART [11]	BA
ASTROPHYSICS [44]	BS
BIOCHEMISTRY- MOLECULAR BIOLOGY [23]	BS
BIOENGINEERING [37]	BS
BIOLOGY [12]	BA & BS
BUSINESS MANAGEMENT - ECONOMICS [2]	BA
CHEMISTRY [27]	BA & BS
COGNITIVE SCIENCE [36]	BS
COMMUNITY STUDIES [25]	BA
COMPUTER ENGINEERING [34]	BS
COMPUTER SCIENCE [21]	BA & BS
COMPUTER SCIENCE: COMPUTER GAME DESIGN [19]	BS
EARTH SCIENCE [22]	BS
ECOLOGY & EVOLUTION [20]	BS
ECONOMICS [13]	BA
ECONOMICS - MATHEMATICS [49]	BA
ELECTRICAL ENGINEERING [35]	BS
ENVIRONMENTAL STUDIES [6]	BA
ENVIRONMENTAL STUDIES/BIOLOGY [40]	BA
ENVIRONMENTAL STUDIES/ECONOMICS [31]	BA
FEMINIST STUDIES [26]	BA
FILM AND DIGITAL MEDIA [10]	BA
GLOBAL ECONOMICS [38]	BA
HEALTH SCIENCES [16]	BS

UC SANTA CRUZ (48)	
MAJOR NAME [RANK]	**DEGREE**
HISTORY [7]	BA
HISTORY OF ART AND VISUAL CULTURE [24]	BA
HUMAN BIOLOGY [5]	BS
LANGUAGE STUDIES [30]	BA
LATIN AMERICAN & LATINO STUDIES [32]	BA
LATIN AMERICAN & LATINO STUDIES - POLITICS [48]	BA
LATIN AMERICAN & LATINO STUDIES - SOCIOLOGY [50]	BA
LEGAL STUDIES [14]	BA
LINGUISTICS [29]	BA
LITERATURE [3]	BA
MARINE BIOLOGY [15]	BS
MATHEMATICS [18]	BA
MUSIC [39]	BA & BM
NEUROSCIENCE [41]	BS
PHILOSOPHY [17]	BA
PHYSICS [43]	BS
PLANT SCIENCE [46]	BS
POLITICS [9]	BA
PSYCHOLOGY [1]	BA
SOCIOLOGY [4]	BA
TECHNOLOGY AND INFORMATION MANAGEMENT [47]	BS
THEATER ARTS [28]	BA

Appendix C
Unit Guideline for Two Sets of Majors on Each Undergraduate Campus

The "Unit Guideline" for the majority of the 623 majors reviewed as part of the Major Requirements Initiative is defined as the required upper division major coursework (expressed as units) that could be completed in no more than the equivalent of one academic year of full-time coursework. For the University of California, the standard definition of full-time undergraduate work for an academic year is either three quarters with at least 15 units of coursework each quarter (45 units total) or two semesters with at least 15 units of coursework each semester (30 units total). Consequently, the basic Unit Guideline for quarter campuses is 45 units, and for semester campuses it is 30 units. The total number of units varies somewhat according to whether the campus offers primarily 4-unit courses or a range of units (usually 3, 4, or 5) per course.

Following a systemwide convening of campus leaders in engineering and computer sciences with UC Office of the President staff for the Major Requirements Initiative, a separate Unit Guideline was established for engineering and computer science majors. All campuses offer engineering majors and computer science majors, and most of these majors have accreditation requirements that make it very difficult if not impossible to require no more upper division coursework than can be completed in the equivalent of one academic year. By agreement, a Unit Guideline that reflects the equivalent of one and one half academic years of full-time upper division coursework was established.

In addition to engineering and computer science, there are other pre-professional and/or accredited undergraduate majors (e.g., BA and BS in architecture, BS in clinical nutrition, BFA in dance – performance, and BS in nursing) for which the responsible faculty are likely to find the one academic year guideline untenable. Because such majors are varied and small in number, campus point people and UC Office of the President staff agreed these majors would be reviewed with the presumption that their requirements could be completed in the equivalent of one academic year. If faculty concluded that was not feasible, then they would provide a strong rationale for the major's greater number of units needed to complete the major's requirements.

The results of these various considerations are presented in Table 1 (below). These Unit Guidelines for streamlining provided guidance to faculty. They did not serve as a requirement, cap, or benchmark, nor did they or should they override the best judgment of the faculty responsible for the major as to what are both appropriate and feasible upper division requirements for the major(s) for which they were directly responsible.

Table 1. The Unit Guideline for each campus for majors in eight disciplines for which upper division coursework requirements could be completed in the equivalent of one academic year or less and for engineering and computer sciences disciplines for which upper division coursework requirements could be completed in the equivalent of one and one half academic years or less.

Campus	Quarter/ Semester System	Unit Guidelines	
		Arts, Health Sciences, Humanities, Life Sciences, Multidisciplinary/ Interdisciplinary, Physical Sciences/Mathematics, Professional Fields, and Social Sciences Majors N=533	Engineering and Computer Science Majors N=90
UC Berkeley	Semester	30	48
UC Davis	Quarter	45	68
UC Irvine	Quarter	48	72
UCLA	Quarter	45	68
UC Merced	Semester	32	48
UC Riverside	Quarter	45	68
UC San Diego	Quarter	48	72
UC Santa Barbara	Quarter	45	68
UC Santa Cruz	Quarter	45	68

Appendix D
Review by the University Committee on Educational Policy of Majors that Began Over the Unit Guideline and Were Not Changed During the Review

Of the 282 majors included in the Major Requirements Initiative that were above their Unit Guideline when the review began, the faculty responsible for 109 of these majors did not propose any changes to the requirements that would have resulted in a change in units needed to complete the requirements. In this Initiative, change in units needed to complete requirements is the mark of change. None of these 109 majors had changes after faculty review in the number of units needed to complete the majors' requirements, both when the lowest and highest units were the same and also when lowest and highest units were different and lowest units were examined. For these 109 majors only, the University Committee on Educational Policy agreed to provide an independent review of the decision faculty responsible for each major made not to change the units needed to complete each major's requirements.

The University Committee on Educational Policy is a standing committee of the systemwide Academic Senate. It considers the establishment or disestablishment of curricula, colleges, schools, departments, institutes, bureaus, and the like and deliberates on legislation or administrative policies involving questions of educational policy. Its members are all UC faculty: one per campus drawn from an analogous campus committee, a committee chair and vice chair, and the chair and vice chair of the systemwide Academic Council ex officio. There are two student representatives to the committee, one an undergraduate student and one a graduate student. The committee is staffed by an experienced committee analyst, and consultants from various units in the UC Office of the President are readily available to the Committee.

For this special review activity, UC Office of the President staff for the Major Requirements Initiative assisted the University Committee on Educational Policy as needed. The staff member sat in when the Committee discussed the majors, provided explanation when asked, conveyed any requests the Committee had to the campus point person for the Initiative, and brought any responses back to the Committee. The Office of the President staff member also provided to the Committee at the outset the following information:

1) a rationale completed by the academic leader responsible for the degree program as part of the data submission to the campus point person, as follows:

   "35. COMPLETE THE NEXT SECTION IF BOTH THE OUTCOME OF THE FACULTY REVIEW OF THE MAJOR RESULTED IN NO STREAMLINING OF THE UPPER DIVISION REQUIREMENTS AND ALSO THE REQUIRED UPPER DIVISION UNITS ARE GREATER THAN THE EQUIVALENT OF ONE FULL YEAR OF ACADEMIC WORK [NOTE: Faculty reviewers for engineering and computer science majors submitted rationales if the outcome of the faculty review resulted in no changes and the required upper division units were greater than one and one half years of academic work.]

Provide a strong rationale for this outcome. You have already affirmed that the faculty acted in good faith. Now explain their reasons for this one particular outcome. The rationale might be based on the requirements of peer institutions, the requirements of relevant professional organizations, an analysis of the coursework needed to prepare an undergraduate in the major, or any other reasons for the faculty decision about upper division major requirements. Finally, identify the person who has sufficient responsibility for the major to provide the rationale."

2) the reported lowest and highest units needed to complete majors' requirements before and after the faculty review, and
3) a database of comparable UC majors that were included in the Major Requirements Initiative.

The University Committee on Educational Policy considered a compelling case to have been made for the faculty decision not to change upper division major requirements if there was evidence of department faculty meeting to deliberate the decision, comparison with the requirements for the major at other peer institutions and/or with expectations of graduate degree programs or future employers, and identification of any restrictions on altering requirements (e.g., those of an accrediting agency).

The University Committee on Educational Policy discussed 92 of the 109 majors. Seventeen majors were omitted because of the six-year gap between their review as part of UCLA's Challenge 45 beginning in 2009 and when the rationale would have had to be created in 2015 at the time the Major Requirements Initiative began. The Committee determined that the faculty decision not to change upper division requirements for 77 of the majors was well justified; for 15 of the 92 majors the decision was not well enough justified. The responsible faculty for each of these 15 majors chose to provide additional information, better addressing the Committee's criteria, and each succeeded in convincing the Committee that the decision not to change the requirements was well justified.

Upon review of the rationales and revised rationales, the University Committee on Educational Policy Chair advised the Initiative staff member that the faculty responsible for the major had followed a good review process, researched other similar majors, and provided a strong rationale for the upper division major requirements exceeding the Unit Guideline and remaining unchanged.

Appendix E
Timeline for Review of Majors, Approval of Changes to Requirements, and Implementation of Revised Requirements

Depending on decisions made by faculty responsible for each of the 623 majors included in the Major Requirements Initiative, two to five actions were needed, regardless of whether the review of a major was conducted prior to or during the Major Requirements Initiative. All majors had to be reviewed by the responsible faculty and the outcome of the review had to be reported to the UC Office of the President. If the responsible faculty recommended changes to the upper division major requirements, then those changes had to be approved by the campus Academic Senate committee responsible for undergraduate courses and curricula or by its designee, the date on which the changes became or would become effective had to be set, and the approval and implementation date had to be reported to the UC Office of the President. In addition, information about the upper division requirements for every major offered by the campus had to be widely available.

As specified in the Major Requirements Initiative charter, a campus was able to submit a faculty review that took place prior to the start of the Major Requirements Initiative if it met all of the following conditions:

1. the major was reviewed in the recent past (i.e., academic years 2009-10 through 2014-15, which would include UCLA's Challenge 45);
2. both quality of the major and streamlining, however defined, were explicitly considered;
3. the campus point person for the Major Requirements Initiative affirmed that the earlier review included explicit consideration of the possibility of reducing the number of upper division courses/units required for the major; and
4. adequate, if not complete, information on the course and unit requirements prior to and after the review was available and the campus would share it with staff in the UC Office of the President.

Table 1 (below) details the pertinent timeline components; specifically, as described in the first column, the date of completion of the first and last faculty reviews of majors included in the Initiative, the date of first and last submission of the faculty decisions to the UC Office of the President, the date of the first and last approval of any proposed changes by the campus Academic Senate committee responsible for undergraduate courses and curricula (or its designee), the date of first and last submission to the UC Office of the President of the decision of the responsible campus Academic Senate committee or its designee, and finally when approved changes to a major became (or would become) effective. The second column of Table 1 presents this information for the 211 (34%) majors that were reviewed prior to the start of the Major Requirements Initiative, and the third column presents the same information for the 412 (66%) majors that were reviewed during the Major Requirements Initiative.

Table 1. Timeline for accomplishments for review of majors prior to the start of the Major Requirements Initiative and during the Major Requirements Initiative.

Accomplishment	Majors Reviewed Prior to Start of Major Requirements Initiative	Majors Reviewed During Major Requirements Initiative
Number of Majors Included in Initiative	211	412
When Campus Faculty Completed Review		
First Major	October 2009	September 2015
Last Major	August 2015	November 2016
When Faculty Decisions Submitted to UC Office of the President		
First Major	January 2016	January 2016
Last Major	January 2017	January 2017
When Campus Academic Senate Committee (or Designee) Approved Changes		
First Major	October 2009	January 2017
Last Major	October 2015	December 2017
When Approval of Changes to Major and Effective Date of Changes Submitted to UC Office of the President		
First Major	May 2016	May 2016
Last Major	March 2017	December 2017
When Changes to Majors Effective	By Fall 2015	By Fall 2018

For the majors reviewed prior to the start of the Major Requirements Initiative, the faculty on each campus decided which to submit in lieu of a new review during the Major Requirements Initiative. The campus point person agreed that the prior review could be included. The time period within which the review was carried out was set to begin Fall 2009 so that majors reviewed as part of UCLA's Challenge 45 could be included and to end August 2015, just before the Major Requirements Initiative began. These 211 majors could have been reviewed as part of a campus initiative, a departmental or school/college decision to review its majors, the regular Academic Senate review process, or other reason. Review of these 211 majors spanned a time frame that is noticeably longer than that for the review of 412 majors during the Major Requirements Initiative itself. Table 1 makes clear that the same steps were taken regardless of when the review took place.

The review of majors during the Major Requirements Initiative was carried out in a comparatively short time and simultaneously on all nine undergraduate campuses. Deadlines for faculty reviews and reporting the outcomes to UC Office of the President were established for the percent of all majors reviewed by the responsible faculty and reported to the UC Office of the President staff: by March 1, 2016 at least 30 percent, by July 1, 2016 at least 60 percent, and by November 7, 2016, 75 percent of all majors (which would be 100 percent of the majors included in the Major Requirements Initiative). As shown in Table 1, campus faculty met the agreed upon deadlines for reviewing the majors. Most results were also submitted by the November 7, 2016 deadline, and the last ones were submitted in January 2017, following

winter break. The changes responsible faculty approved were all approved by the campus Academic Senate committee responsible for courses and curricula or its designee. However, several of the changed majors that were reviewed during the Major Requirements Initiative were not approved by the campus Academic Senate committee or its designee until the end of 2017, later than expected. Consequently, they could only become effective in the Fall Term of 2018.

Typically, changes to major requirements become effective at the start of a new academic year. There is no central site that tracks changes to requirements, but records of former major requirements are available as needed. Most important, each campus manages a central website that provides information for one academic year at a time about the requirements for each major, the website may provide links to other sites for details, and the website is kept up-to-date (see Table 2). The majors changed during the Major Requirements Initiative would have become effective starting Fall Term 2010 and continuing through Fall Term 2018. Once changes have been approved, students are informed by their advisors, in information sessions, and/or in electronic communications. Staff are informed during staff meetings and through notices and memos. New students are informed during orientation.

Table 2. Public website maintained by each campus to convey information about the undergraduate majors offered by the campus. Each website includes all active majors and either describes all current requirements and options for successful completion of each major or provides basic information and refers interested students to another site for details.

Campus	URL for Online Information about Requirements For All Active Undergraduate Majors
UC Berkeley	http://guide.berkeley.edu
UC Davis	http://catalog.ucdavis.edu/programs.html
UC Irvine	http://catalogue.uci.edu/
UCLA	http://catalog.registrar.ucla.edu/
UC Merced	http://catalog.ucmerced.edu/
UC Riverside	http://registrar.ucr.edu/registrar/schedule-of-classes/catalog.html
UC San Diego	http://www.ucsd.edu/catalog/index.html
UC Santa Barbara	https://my.sa.ucsb.edu/catalog/Current/CollegesDepartments/
UC Santa Cruz	https://registrar.ucsc.edu/catalog/