Essay 1-2: Meaning, Quality, and Rigor of the Degree / Graduation Proficiencies

What do we, the faculty at the University of California at Davis, want to be able to say are the qualities of a graduate of our institution? What are the qualities of a "well-educated" person, and how do those qualities prepare the undergraduate to live in a community, state, nation, and world increasingly complicated by scientific and technological change, by shifting demographics of ethnicity, and by the movement of people and ideas across national boundaries?

We resolved to take seriously the mission of a public university to educate its students toward becoming thoughtful, civically engaged participants of society.

Report of the Task Force on General Education

The UC Davis Mission and Vision [CFRs 1.1, 1.2, 1.3, 3.5, 3.10, 3.11]

As a University of California campus, UC Davis is committed to the systemwide mission to meet society's most pressing needs by providing accessible higher education to Californians, developing new technologies, and cultivating leaders. The UC Davis Philosophy of Purpose articulates more fully our campus's unique mission and character, while remaining aligned with the UC mission of "research, teaching, and service."

These values underlie a UC Davis education at all levels and in all disciplines: students across the colleges are encouraged to participate in a culture of research and innovation, and have ample opportunities to engage in service and leadership. Our graduate programs are known for productive laboratories, progressive spirit, and the collaborative and interdisciplinary curricula offered by department graduate programs, graduate groups and designated-emphasis options, which bring together students and faculty from various academic disciplines to address the most pressing issues facing our state, nation and the world. Our master's and doctoral graduates become leaders in their fields – researchers, teachers, mentors, policy makers, and entrepreneurs (see Ex. 12). The same commitments to excellence and service echo across the missions of each of UC Davis's professional schools, speaking eloquently to our campus's overarching goal of applying teaching and research to the common good.

While the UC Davis mission is rooted in the land grant tradition, we apply those values and priorities to addressing the challenges of the contemporary world. Our plan for much of the 2000-10 decade, "The UC Davis Vision: The Campus's Strategic Plan," included strategies to develop learning, discovery and engagement; accomplishments toward these strategies can be seen in the related annual progress reports (Ex. 13). The efficacy of the plan to increase extramural funding is demonstrated in a 150% increase in federal research awards over the decade.

The new decade has brought a new chancellor, a new provost, and an enhanced vision for the

campus. The current [Vision of Excellence](#), developed in 2010, presents a framework of action intended to inspire distinction. Its six principles speak with a renewed voice to the commitments of research, teaching, and service, while also prioritizing campus sustainability and expanding global outreach. The Senate Task Force on the Future of UC Davis made specific recommendations toward implementing the Vision of Excellence in its [November 2010 report](#). The Vision of Excellence serves as a broad blueprint for planning and a guideline for accountability: administrative and academic departments are held accountable to it through annual reporting; see reports by [Office of the Provost and Executive Vice Chancellor](#), [Administrative and Resource Management](#), [Student Affairs](#), and the [Office of Research](#).)

Looking toward the next decade, the [2020 Initiative](#) is a commitment to examine possibilities for sustainability and growth in accordance with the Vision of Excellence during the current climate of economic challenge. Those aspects of the Vision of Excellence and 2020 Initiative that address institutional planning and sustainability are addressed in more detail in Essay 4.

Responsibility for Degree Programs [CFRs 2.2, 2.4, 3.8, 3.9, 3.10, 3.11]

As a major research university, UC Davis offers a full range of baccalaureate programs, is committed to graduate education through the doctorate, master's, and professional degrees, and gives high priority to research as well as undergraduate and graduate student learning.

Under shared governance, the University Regents explicitly delegate to the faculty responsibility for courses and curricula of all degrees. Through the [Bylaws of the Academic Senate](#), the faculty have placed authority for undergraduate programs with each campus's Divisional Academic Senate committees responsible for undergraduate education. Authority for graduate programs is held by the systemwide [Coordinating Committee on Graduate Affairs](#) (CCGA), which has stringent minimum standards for maintaining the quality and rigor of UC graduate degrees, as expressed in its [handbook](#). At the divisional (campus) level, the [Graduate Council](#) has authority over graduate programs and reports to CCGA. At UC Davis, both the Senate's [Undergraduate Council](#) (UGC) and Graduate Council provide a strong link between the Academic Senate and the administration. The Dean of Graduate Studies and the Vice Provost of Undergraduate Education are non-voting ex officio members of Graduate Council and UGC, respectively. (The specific responsibilities and authorities of the Graduate Council and UGC are found in Divisional Senate Bylaws [Section 80](#) and [Section 121](#).)

A bachelor's degree from UC Davis signifies attainment of foundational subject-area knowledge in a chosen degree program; equally important, it indicates a breadth of knowledge and a range of literacies or competencies which are crucial both for a creative and productive career, and for thoughtful, engaged civic participation. Thus, [college](#) and [major](#) (subject-area) requirements are accompanied by an expanded [GE requirement](#) designed to develop competencies across the disciplines, as well as topical breadth. The undergraduate educational objectives and the GE requirements, described in detail below, address the UC Davis approach to an undergraduate education with both breadth and depth.

Graduate degrees presuppose literacies, breadth and subject-matter knowledge, and a bachelor's degree comparable in quality to a degree from the University of California. While all master's and

PhD degrees must meet certain broad requirements, the meaning of graduate degrees varies with the array of graduate programs offered (see below for a description of degree requirements). Some programs admit students only for the PhD; others such as the MBA and the MFA admit students for the master's degree. Master's degrees other than the MS and MA are nearly always considered to be terminal degrees. A significant number of academic programs offer only the master's degree. Professional master's degrees (e.g. MBA, MPAc, MPH) and first- professional doctorates (e.g. JD, MD, and DVM) signify in-depth mastery of a focused subject area and preparation for practice in a profession requiring an advanced body of knowledge.

Undergraduate Degree Requirements [CFRs 1.2, 1.7, 2.1, 2.2]

UC Davis confers the Bachelor of Arts (A.B.) or Bachelor of Science (B.S.) degree in 101 programs in four Colleges of Engineering (CoE), Agricultural and Environmental Sciences (CAES), Biological Sciences (CBS), and Letters and Sciences (CLS). The latter encompasses the Divisions of Mathematical and Physical Sciences (MPS); Social Sciences (DSS); and Humanities, Arts, and Cultural Studies (HArCS).

The University requirements of Entry-Level Writing and American History and Institutions indicate an expectation for all students of functional competency in written communication and awareness of the principles of American government and society – a context for developing social thought – as groundwork for college-level work. Residency requirements ensure sufficient time on campus to earn a UC Davis degree. College requirements set standards specific to each college (CAES, CBS, CoE, CLS) for credits taken in the major, credit limits, pass-fail options, and similar issues. Major Requirements are the concentration of discipline-specific courses that together give an undergraduate student the knowledge essential to their field of study. While all undergraduates must complete 180 units to graduate, the number of units required in major subject coursework varies by discipline, and in some instances by degree objective (e.g., the AB in Anthropology has 60-66 required units while the BS in Anthropology requires 99-105). Requirements for all undergraduate degree programs are available online, along with information about the programs and lists of affiliated faculty.

Graduate Degree Requirements [CFRs 1.2, 1.7, 2.1, 2.2, 2.4, 2.6, 3.11]

Graduate Council reviews and approves all degree requirements developed by graduate programs. Any changes to the degree requirements must be approved before adoption, and all approved degree requirements are archived by Office of Graduate Studies. Graduate degrees must meet specific criteria as well as the systemwide CCGA requirements. The MA and MS degrees require a minimum one year in residence and 30 (thesis-based) or 36 (comprehensive examination-based) units of graduate level coursework, and demonstration of a level of mastery through a capstone requirement (most commonly a thesis, project, or comprehensive exam).

The doctoral degree signifies the highest level of academic achievement through both advanced learning and original research. As doctoral degree programs are research-oriented, courses of study are less prescribed, allowing faculty to help doctoral students tailor the program of study to match individual research interests. There is no minimum unit requirement for the doctorate, although most programs range between 36 and 72 units (one to two years of full-time coursework), of which

16 units might typically be in courses required by all students in the program. Doctoral degrees also require a minimum of two years of resident study. PhD candidacy requires passing of qualifying examinations administered by a five-member faculty committee; the degree requires completion of a dissertation bearing on the principal subject of study and of such character as to show ability to prosecute an independent investigation. Most programs also require an exit seminar or examination.

Graduate student education and the graduate school experience are modeled on the apprentice or intern tradition. The mentor transfers knowledge and skills to the student, who then develops new knowledge and skills through work on independent and joint projects. Mentors provide advice on academic programs and issues related to professional and career development to guide graduate students toward the completion of their degree and the onset of their professional career. (Mentorship is discussed further in Essay 3 of this report.)

Professional degrees require significantly more coursework than the academic graduate degrees. Subject matter in these programs is often prescribed by disciplinary accrediting agencies, although our faculty develop programs that draw on the strategic advantages of UC Davis. Most UC Davis professional programs are separately accredited by one or more professional organizations (Ex. 6.1_PR), indicating that our graduates perform to rigorous, nationally set standards; for example, see the American Bar Association Standards and Rules of Procedure for Approval of Law Schools. UC Davis law school graduates recently ranked fourth in the state for Bar exam passage rates (89.1%), with a first-time passage rate of 78.9%.

In addition to degree requirements, every graduate program at UC Davis is required to maintain a set of bylaws approved by the Graduate Council. The bylaws are typically based on a standard template (Ex. 15) and describe how the program is to function, especially the criteria for membership in the program and a committee structure that is designed to oversee the educational effectiveness of the program. Many UC Davis graduate programs are designed as interdisciplinary graduate groups, bringing together faculty from different departments, schools and colleges around a shared academic interest and vision to offer a free-standing graduate degree program. Bylaws are particularly important in defining the operation and governance of graduate groups, although department-based programs benefit from the clarity on operational details.

Institutional Educational Objectives

Educational Objectives for Undergraduate Students [CFRs 1.7, 2.3]

The UC Davis Educational Objectives for Undergraduate Students broadly articulate our campus expectations for undergraduate learning. The seven objectives address the acquisition of competencies and subject-area knowledge; cultivation of character; and preparation for lifelong learning. The objectives were drafted by faculty and administration participants at the 2001 Chancellor's Fall Conference; the Committee on Educational Policy (CEP) approved the final version during spring 2002. Soon thereafter, the newly established UGC replaced CEP, and was charged with the continued oversight of the application of educational objectives in the curriculum.

The Educational Objectives have been deliberately integrated into academic programs, both through

the 2004 and 2008 revision of the Academic Program Review process (Ex. 16), and the new GE requirements, effective Fall 2011 (Ex. 10). The educational objectives are published in the General Catalog (p. 96) and on the VPUE website, and they inform cocurricular planning (see Essay 3). These objectives were the starting point for establishing learning outcomes for our undergraduate degree programs. Exhibit 5.1_UG documents the publication of program learning outcomes (PLOs) in all UC Davis undergraduate programs.

Educational Objectives for Graduate Education [CFRs 1.7, 2.3]

The objectives for graduate education approved by Graduate Council in 2005 provide a broad statement of campus aspirations for graduate program outcomes. The five objectives address the importance of fostering ethical behavior and an appreciation for the diversity of scholarship, especially through collaboration; cultivating independence, creativity and leadership; and fostering communication, teaching and mentoring skills. The objectives have been articulated through expectations of the program review process (see below for details). Graduate program degree requirements integrate specific learning outcomes that build on these campus objectives. Exhibit 5.1_GR summarizes programs' learning outcomes and documents where they are available.

General Education [CFRs 2.2, 2.3, 4.4]

As noted in the Introduction, GE revision and assessment has been an ongoing area of development in the campus's reaccreditation history. In response to feedback from the 2003 WASC Review Team, the Academic Senate created a GE Task Force to reconceive the GE Requirement. Rather than "tinker with the pieces of a failing program," the GE Task Force took seriously the mission of a public university to educate its students toward becoming "thoughtful, civically engaged participants of society who might be asked to consider matters requiring a critical understanding of science, economics, history, social relations, and global forces." The Task Force developed core "literacies" it wanted UC Davis undergraduates to acquire and further develop. These literacies form the core of our undergraduate competencies as discussed in the Task Force's January 20, 2007 Report (pp. 4-5). The resulting GE plan comprises 35 units of core literacies as well as 52 units of topical breadth courses.

Implementation of the new GE [CFRs 1.7, 2.2, 3.8]

The Academic Senate created a GE Implementation Task Force to develop course qualifications for GE credit. At present, qualifications for each literacy are listed in the course approval descriptions. An undergraduate course is eligible for assignment to a topical breadth area if it takes a critical, analytical perspective on knowledge in that area. In Spring 2011, advisers from all colleges attended training sessions led by the CLS assistant dean. In addition, a well-designed GE Search Tool helps students and advisers identify GE courses that meet their needs. In Fall 2011, the revised GE requirement went into effect, requiring all incoming undergraduates to complete the revised GEs in addition to their college-specific and major course requirements. From 2010-2012 the Academic Senate Committee on Courses and Instruction (COCI) systematically reviewed and approved about 4,000 courses to conform to the new GE requirements. COCI continues to review courses with GE impact as academic departments propose new or revised versions of their GE courses.

Assessment for the new GE [CFRs 2.3, 2.4, 4.4, 4.6]

The assessment of GE objectives has been taking place for several years, albeit indirectly. The campus GE literacies and objectives largely align with the institutional educational objectives (see Ex. 19) and for the past seven program review clusters, the majority of programs have analyzed survey evidence regarding student attainment of these objectives. In 2010-11 the General Education Committee (GEC) of the UGC initiated a formal approach to assess the revised GE requirements (see Ex. 10). The effort was constrained by limited campus resources; nevertheless, instructors of approved GE courses from across the colleges were sampled in regard to their plans for meeting the new GE criteria. From this information, some courses were surveyed to assess how specific core literacies (writing experience; scientific literacy; and American culture, history and governance) are met. Three graduate student researchers were supported on a grant obtained by the committee chair from the Spencer and Teagle Foundations to assess specifically the "writing experience" sample (see Ex. 34).

While work on assessment continued into 2011-12, the GEC had to focus attention on the review of remaining GE courses and adapting review procedures to address inconsistencies revealed during the implementation of the new GE requirements. In Fall 2012, the GEC returned to GE assessment and reviewed assessment tools, approaches, and rubrics of other institutions of higher education. The Director of Academic Assessment made a presentation to the GEC (Ex. 50). The UGC has adopted a resolution on GE to formalize assessment of campuswide GE requirements by integrating the assessment at both the program level and campus level. The approach complements program review, using similar methods and overall goals whenever possible. To facilitate this similarity, campus programs are encouraged to consider aligning PLOs with the GE requirements. The resolution contains a broad timetable to evaluate each of the eight literacies that make up GE and establishes mechanisms whereby samples of student work will be included in the assessment. When the resolution receives Executive Council approval, the Senate and administration will cooperatively determine optimal means by which to implement the assessment plans.

Cocurricular Pathways [CFRs 2.11, 4.4]

At UC Davis, experiences both in and outside of the classroom allow students to "cultivate the virtues," and develop leadership skills and a global perspective. As is appropriate at a residential university, diverse opportunities for participation in education abroad, internships, campus clubs, and undergraduate research provide important elements of the degree. The role of cocurricular activities in accomplishing the educational objectives and in supporting student success, and the university's commitment to offering high quality cocurricular programs, are discussed at length in Essay 3.

Quality and Integrity of the Degree [CFRs 1.7, 2.1, 2.2, 2.6, 2.7, 3.8, 4.4-4.8]

The Davis faculty are engaged in maintaining the quality and rigor of both their own particular courses, and of the UC Davis degree at the program level. Graduate Council and UGC and their various associated committees, along with the Committee on Courses of Instruction (COCI), are charged with oversight of program and course establishment, review, and changes. The UC Compendium includes a detailed description of the system level requirements of the creation,

modification and termination of academic degree programs and academic units to which all such actions at the divisional level must conform. This includes a system of regularly performed reviews for existing programs, and rigorous, multi-layered review processes for the establishment of new programs and changes to existing ones, which are in large part driven by faculty.

Program Review

Undergraduate Program Review [CFRs 2.4, 2.6, 2.7, 2.10, 3.8, 4.4, 4.5, 4.6, 4.7, 4.8]

Following the 2003 reaccreditation process, the Academic Senate specifically charged the UGC and its subcommittee, the Undergraduate Instruction and Program Review (UIPR) committee, to incorporate the newly adopted campus educational objectives, and to increase educational effectiveness by looking more closely at results and less at inputs. The revised guidelines (Ex. 16) adopted in 2004 assert the importance of educational objectives and evidence of educational effectiveness; the report on that process reiterates that importance, while asserting that the UGC believes that the programs themselves are most qualified to select methods for evaluating educational effectiveness that are appropriate and meaningful to them. The guidelines and template for program review were revised in 2008 (Ex. 17). The current template calls for analyses of institutional data about students and faculty, curricular analysis, alumni surveys conducted by Budget & Institutional Analysis (BIA), and data from the University of California Undergraduate Experience Survey (UCUES). Similar to the National Survey on Student Engagement (NSSE), UCUES is a survey commonly used by the UC campuses to evaluate the undergraduate student experience.

The current undergraduate review process is a multi-year procedure that involves faculty at all levels: department/program, college, and Academic Senate, and administration (see Ex. 17). Program review is a process that includes the undergraduate programs in CAES, CBS, and CLS. College of Engineering (CoE) undergraduate programs have their own program review under a separate ABET accreditation process, and are not included in the UIPR. However, because the quality of undergraduate programs affects all undergraduates, CoE faculty are represented on the Academic Senate UIPR committee.

The UIPR program conducts systemic analysis across colleges of similar programs by grouping the programs into seven clusters, reviewed by faculty outside of the department/program on a scheduled rotation. Because similar programs housed in different colleges (e.g., Managerial Economics in CAES and Economics in CLS) are reviewed concurrently in a cluster, the timing allows faculty from other departments and colleges to share the examination of relevant curricula and student learning experiences.

The UIPR committee is responsible for the review of 8 to 16 undergraduate degree programs per year; the exact number of programs reviewed each year varies by cluster. Undergraduate programs also engage in some form of self-assessment or curriculum review on an ongoing basis; some examples are given in the "Teaching and Learning" section below. The UIPR process reinforces these self-assessments and provides an outside perspective on the undergraduate degree program.

The objective is to complete a UIPR cluster review within three years from initiation to completion.

Since the inception of this review process, three cluster reviews have been completed. The fourth will be completed by the end of 2012-13; Cluster 5 is moving from the colleges to UIPR; Cluster 6 reviews have been completed (for the most part) at the departmental level and are moving to the college level; and Cluster 7 reviews are just beginning (The Budget and Institutional Analysis division has generated the data for departments; programs began their self-studies in February 2013). In the event that an expedited review is needed, UIPR has established a review process that could be completed within one academic year. This expedited review process is currently being used on a trial basis for two program reviews.

The UIPR assessment process includes the examination of undergraduates' learning experiences at the college level by the Faculty Executive Committees (FECs), administrators, and multiple levels of Academic Senate review committees. These conversations across colleges about undergraduate learning experiences would not happen in the same manner without the UIPR process. The process and changes enacted as a result of a thorough program review highlight faculty involvement with assessing undergraduate learning.

Effecting Change with Undergraduate Program Review [CFRs 2.7, 4.4, 4.5, 4.6, 4.7, 4.8]

Program review is intended to identify and effect changes for the improvement of factors related to educational effectiveness within each program. In a number of documented instances, the campus followed up on program review recommendations and implemented changes (see Ex. 21).

The iterative and informative nature of program review can be seen within a single review. The 2010-11 Community and Regional Development (CRD) program review exemplifies how feedback from the program review process helps faculty reshape students' learning experiences. This process occurs both across multiple program reviews and within the three-year process of a single program review moving from departmental self-study to the UGC and the provost's Office.

For instance, the 2010-11 CRD review notes that the previous review conducted in 2005-06 had identified concerns with grade inflation, access to required courses, problems with the content on the department's website, and a lack of rigor in the major. The 2010-11 self-study noted how each of these issues was addressed by departmental faculty and had led to changes in grading, website content, and curriculum (i.e., two mathematics and/or statistics courses were added as requirements). The CAES program review committee and the UIPR committee both acknowledged and commented on CRD's changes in response to the previous program review.

However, the 2010-11 CRD data brought areas where additional improvements could be made to the faculty's attention. The student survey data and the student interviews indicated that under-explanation of the major still lends itself to confusion among students considering CRD as a major and resulted in potentially delayed entry into the major. In part, the changes to the website were not sufficient to address student concerns. To overcome this problem, CRD took two steps:

- Introduced a quarterly "All-Hands Meeting" at which the faculty are introduced and former students talk about how they navigated their academic career in the major; this meeting works along with creating a process where experienced students from the CRD Club could

provide mentoring to incoming students.

- Examined the different mechanisms for explaining CRD requirements to students enrolled in the major as well as mechanism for promoting and advertising the CRD major.

The UIPR reviewed the steps taken by CDC. UIPR committee reported to UGC and commented favorably on actions taken; UGC found them acceptable, but had some questions about FTE ratios on some tables. Those additional questions were answered as well by CRD. The CRD program review shows how the process of review and correction takes place and how changes can be implemented as departments, college committees, and UIPR reviews materials and provides feedback to programs.

Informing College Planning [CFRs 4.1, 4.3, 4.4]

At the college level, faculty decide how to make use of the findings of the program reviews. After a cluster review by the Faculty Executive Committee in CAES, a 2012 CAES *ad hoc* Curriculum Planning Committee was appointed to provide a comprehensive review of that college's curriculum to make recommendations on issues raised via program review in addition to other issues affecting majors (see Ex. 22, pp. 20-23). The committee's analysis and recommendations across all CAES program reviews exposed repeated needs throughout a single college. The report cites a need for improvements (and makes several recommendations), such as additional advising resources for programs; critical need for sufficient teaching assistants to support laboratory, field, studio, and writing intensive courses; and improved inter- and intra-college coordination of courses and prerequisites. The findings of this report, which provides evidence of college-level assessment and deep thinking about the continuous improvement of student learning, will guide the strategic planning in that college.

"Closing the Loop": Making the Undergraduate Program Review Process More Meaningful [CFRs 3.8, 4.1, 4.3, 4.4, 4.6, 4.7]

The review process itself is undergoing regular assessment by the UIPR committee. In the last year, UIPR committee has observed that while the cluster system of program reviews has the intention of creating cross-college synergies, this objective is not always achieved because reviews have run behind schedule. A second concern is that, in contrast to the graduate program reviews, UC Davis is the only UC campus that does not use off-campus external reviewers for undergraduate program review. The UIPR committee has recommended that the undergraduate review process incorporate external review and that resources be made available for that purpose. The provost is strongly supportive of the deployment of external reviews becoming standard in this process. Toward this objective, external reviewers are being used in the two expedited reviews we are piloting this year, and these reviews will serve as test cases for possible change to the process for all program reviews. The Executive Council will make a determination about the capacity in which external reviewers will be used in the future. Finally, a third concern is that evidence exists of insufficient follow-through on recommendations that are developed during the review. The UIPR committee, reporting to the UGC on January 25, 2012, noted that recommendations made by faculty at the department and college levels are not implemented effectively at the administration level and are not acted upon (Ex. 20). Several suggestions were offered for more explicit actions to improve accountability and responsiveness to recommendations as the program review moves from Faculty Executive

Committees (FECs) and deans to the Academic Senate and the provost.

In Spring 2012, the UGC began officially copying department chairs and program directors when the full program review documentation was turned over to the provost. Having the full program review documentation available after the UIPR committee and UGC have reviewed it allows the department to implement changes recommended not only by the college-level committee but also by university-wide committees.

Also in Spring 2012, UGC decided to invite deans to attend a UGC meeting following completion of a cluster review of programs. This meeting would facilitate a conversation in response to issues raised during the review process. While the deans' offices have been involved in the existing process (i.e., signatory approval alongside the colleges' FECs), the deans and UGC have not had discussions of how resource allocation issues impact suggested changes to programs. This lack of collaboration can yield disconnections between the recommendations that emerge from the program review process and the day-to-day support for undergraduate programs within a college.

In Fall 2012, the Executive Council of the Academic Senate charged the UGC to conduct a comprehensive review of the existing processes for undergraduate program review and assessment, and to make recommendations for improvements. This proposal will be reviewed by Executive Council in the near future. The provost has indicated his strong support for these attempts to better align the reviews of programs' academic content with ongoing assessment of units' administrative effectiveness and use of resources.

Program Learning Outcomes and Assessment [CFRs 2.3, 2.4, 3.1, 3.8, 3.11, 4.4, 4.6]

The Academic Senate and VPUE have worked in partnership toward the now achieved goal of having PLOs in all undergraduate majors. Initially, the Center for Excellence in Teaching and Learning provided training to departments, and reference materials used the institutional educational objectives as a starting point. The WASC 2010 action letter recommended that the campus go beyond developing PLOs to include the development of corresponding assessment plans. In 2010-11, we added the goal of identifying what evidence might be used to determine that students have achieved the stated learning outcomes. As a result, a number of programs piloted assessments, including the Department of French and Italian in upper division French (Ex. 23). Some programs, such as Chemical Engineering and other CoE majors, have had highly developed assessment plans in place for some time. (See Ex. 5.1_UG for a full accounting of educational effectiveness indicators across all undergraduate programs.) In 2011-12, recognizing the complexity of a university of our size and the importance of conducting meaningful assessment, the provost approved the creation of a new Office of Academic Assessment (OAA) to support faculty engagement in the process (see Essay 4 and Ex. 24 for further discussion).

In Fall 2012, the Executive Committee formally charged the UGC with reviewing and developing guidelines for PLO assessment. All majors have now established PLOs and a preliminary analysis using the WASC Rubric for Program Learning Outcomes was performed in early January by a group of faculty and staff led by the OAA, and then presented to the UGC (Ex. 25). It is vital to the UGC that the preliminary learning outcomes analysis be placed in proper context. The Academic Senate

encouraged a faculty–led effort to create PLOs, securing them for 100% of our programs, despite limited resources. During this process, the priority was on identifying outcomes that reflect the specific missions of our various departments, rather than developing a one-size-fits all or top-down approach. Still, there is room for improvement. The UGC's next steps for PLOs will focus on refinement as they consider how to align outcomes with methods for evaluating student performance, where appropriate, and will also more closely align PLOs with institutional and GE priorities. In these efforts, UGC will engage in a process consistent with the iconic AAHE "Principles of Good Practice for Assessing Student Learning," which both recognizes the uniqueness of our programs and students, and ensures partnership between faculty and administration on assessment. The UGC has now approved a resolution on learning outcomes assessment that directs departments and programs to assess the degree to which their majors are attaining the stated learning objectives and requires programs to report progress to the Chair of the Academic Senate by the beginning of Fall 2013. The resolution notes that assessment results also are to be evaluated at the time of program review (Ex. 26). Finally, a pilot program initiated by the VPUE Office and Academic Senate in Winter 2013 aims to encourage programs in the course of future program reviews to utilize direct evidence and incorporate an analysis of student work reflecting attainment of these objectives (Ex. 27).

Graduate Program Review [CFRs 2.4, 2.6, 2.7, 2.10, 3.8, 4.4, 4.5, 4.6, 4.7, 4.8]

UC Davis's graduate program review is a robust process that includes both quantitative and qualitative measures. It focuses on specific criteria for individual student success in each program and assesses the progress and success of students who are enrolled, and who have graduated during the period since the prior review. Graduate programs are reviewed every 8-10 years according to a published schedule and guidelines. Reviews are grouped by similar disciplines in a given year in order to facilitate comparison across programs. The review process has been in place for more than 4 decades and is regularly examined and updated by the Graduate Council. Most recently, Graduate Council formed a Program Review Revisions Committee in 2009-10. The current process is depicted in Exhibit 28.

Graduate Council is responsible for the review of 94 graduate programs, 18 designated emphases, and four graduate academic certificates. The only degree programs which are not reviewed by Graduate Council are the DVM, JD and MD degrees. Oversight of these three first-professional doctorate degrees has been delegated to their respective professional schools, and the reviews are performed by well-established outside accreditation agencies (see Ex. 6.1_PR). All other graduate degrees are under the jurisdiction of the Graduate Council of the Academic Senate, and are subject to the normal program review procedures of the Council. However, where a professional degree is accredited by an external disciplinary organization, the Graduate Council reviews the accreditation report and may elect to accept it in lieu of its own review provided that the agency addresses the issues of interest to Graduate Council. Alternatively, Council may elect to conduct a separate review under its normal procedures.

Two subcommittees of Graduate Council coordinate the reviews and prepare recommendations for final action by Graduate Council. The Program Review Committee initiates graduate reviews, assists programs during the preparation of review materials, coordinates the review logistics, and finally makes recommendations to Graduate Council. The Program Review Closure Committee is

responsible for collection and review of responses to the recommendations, and for recommending to Graduate Council whether a review should be closed, or whether additional action is needed.

The review process results in a formal report issued by Graduate Council, acting on behalf of the divisional Academic Senate faculty, with a set of recommendations targeted to those who are in a position to act (e.g. the program faculty, program chair, Academic Senate chair, deans, provost and/or chancellor). Specific deadlines for follow-up are imposed and the review is formally closed only after satisfactory responses are received. The cycle of preparation, review and follow-up normally takes about three years.

Reviewers external to the campus are used for all PhD and MFA degrees. For all reviews, three faculty with expertise in the area being reviewed, but with no formal connections to the program, are appointed to an *ad hoc* review committee which conducts a two-day onsite review. The *ad hoc* committee is joined during this period by the external reviewer, although each provides a separate report to the Program Review Committee.

The reviewers are provided with the program's detailed self-review report ([Ex. 28](#)), in which the program's faculty must articulate program goals and expected outcomes and the means of assessing achievement of intermediate and final goals of each degree, such as mandatory annual progress reviews, required research presentations, preliminary exams, oral qualifying exams, capstone activities (dissertations, theses, projects, examinations, professional performances, exhibits, etc.), job placement, and a description of where the program is ranked within the UC system and nationally.

The review by Graduate Council includes an assessment of the extent to which the program has implemented recommendations generated during the prior review. Because the Office of Graduate Studies retains records dating back 40 years, reviews can expose long-term trends and deficiencies that need to be addressed.

Data on program performance are routinely collected and analyzed as part of the regular graduate program review process. The Office of Graduate Studies provides detailed statistics to the program and the review team, including GPAs and GRE scores of entering students, where the undergraduate degree was obtained, the number of applicants, number of admits, and number of matriculating students on a yearly basis since the last review. In addition, the percentage of students completing the program of study and time-to-degree are provided, and the review committee frequently comments on these if they vary from the norm. Finally, programs receive information about fellowship and stipend support received by each enrolled graduate student. During the review, this information is analyzed at the program level by the faculty, the reviewers and finally the Program Review Committee.

Employment opportunities and placement of students completing the program are important facets of the review that both the program, in its self-assessment, and the reviewers in their appraisal, are asked to comment upon. Students and faculty are asked to complete a confidential questionnaire which is intended to gauge their satisfaction with the management of the program. Students are asked to comment on their satisfaction with funding, mentorship from the faculty and the quality and availability of coursework.

The external reviewer and the *ad hoc* committee prepare separate reports. The *ad hoc* committee members are provided an optional template (Ex. 28) for preparing their report and are asked to comment on the standing of the program within UC and nationally. The review committee is specifically tasked with assessing the availability and adequacy of coursework, the quality and adequacy of existing faculty, faculty mentorship, student morale, whether facilities and space are adequate to support the graduate program and the research of graduate students, and whether student financial support is appropriate for the field. In those disciplines where students are expected to publish their work, the committee is asked to comment on the quality and productivity of student/faculty publications. The committees are then asked to summarize the strengths and weaknesses of the program. The *ad hoc* committee chair presents the review reports to the Program Review Committee.

Based on the external and *ad hoc* reports, Graduate Council reviews the strengths and weaknesses of the program and submits their findings and recommendations to the program, the lead dean for the program and other administrative units as needed. Graduate program reviews are geared toward improving the quality of each program. Thus, the normal outcome is a set of recommendations for action as suggested above. If the Graduate Council's concerns are significant (especially regarding faculty availability and commitment) the next review may be scheduled earlier than the normal eight-year cycle. However, some reviews uncover more serious deficiencies that require significant changes to the program. In those instances, the Graduate Council suspends admissions to the program pending correction of identified deficiencies. In most cases, the program is provided time to correct any identified deficiencies but the review is not formally closed until all issues have been cleared. In more serious cases, the Graduate Council can and does close a program completely with the review and approval of the systemwide Academic Senate Coordinating Council on Graduate Affairs.

Effecting Change with Graduate Program Review: Academic Quality [CFRs 2.7, 3.8, 3.11, 4.4, 4.6, 4.7]

While program closure is a dramatic action, it is used by the Graduate Council to ensure that the overall quality of graduate programs at UC Davis is maintained. The near-closure of the Geography Graduate Group (GGG) following its 2007 review provides an illustration. The review of the GGG raised concerns regarding the overall quality of the graduate program, the rigor of its admissions requirements, and financial support for its students. The most important issues identified were a lack of focus in the training of students, the absence of a clearly defined curriculum, and an inability to articulate a key set of disciplinary concepts that all students emerging from the program should have mastered. Since these findings were similar to those raised during the graduate program review conducted in 2001, Graduate Council limited Fall 2008 admissions to 15 students and provided the program an opportunity to take corrective action.

Following the review of the materials submitted by GGG, the Educational Policy Committee (EPC) and the Program Review Closure Committee (PRCC) of Graduate Council concluded that GGG had not made significant progress in addressing the concerns arising out of the last two program reviews and that their plans for addressing the concerns raised during the review were inadequate. Based on the recommendations of the EPC and PRCC, Graduate Council suspended admissions to the GGG in October 2009. The GGG was provided with an opportunity to appeal the discontinuance by the end

of Winter 2010 by submitting a proposal that addressed all concerns raised, but was notified that an unsuccessful appeal would result in disestablishment of the graduate program. As per policy, Graduate Council informed the Coordinating Council of Graduate Affairs (CCGA) of this action.

The GGG submitted an appeal in Winter 2010 with extensive documentation of planned changes in the program and with firm commitments from interested faculty with appropriate expertise in the field to rethink and revitalize the program. The appeal was reviewed in a manner that mirrors the review process used by CCGA for new graduate program proposals. Effectively, the faculty in GGG were expected to demonstrate that the program should be re-established, just as the faculty must demonstrate that a new program should be established, and demonstrate that it will meet campus and university-wide expectations for graduate education. Graduate Council appointed a faculty review coordinator with extensive experience in the graduate program review process. The review coordinator recruited three external reviewers from major research universities. In May 2010, the review coordinator presented the findings of the reviewers of the appeal of the proposed discontinuance to Graduate Council. Based on their findings, Graduate Council voted to reopen admissions to the program for Fall 2011, pending approval of revised degree requirements and bylaws by Graduate Council. The review process resulted in a revitalized program in geography with faculty - including several new hires - who are committed to maintaining a robust graduate program. Consistent with the process for new programs that have been approved by CCGA, the GGG was placed on an accelerated review scheduled for 2014.

Overall, the review of the Geography Graduate Group demonstrates that the system of graduate program review used by UC Davis is thorough, and in cases where serious concerns regarding the educational rigor of the graduate program are raised, processes are in place to either bring the program to an appropriate standard or to disestablish the program.

Effecting Change with Graduate Program Review: Student Safety [CFRs 3.8, 3.11, 4.4, 4.6, 4.8]

During the 2008 program review of the Art Studio MFA program, it was found that the facilities used by students were unsafe and unhealthy. In July 2008, Graduate Council sent a recommendation to the Dean of Humanities, Arts and Cultural Studies (HArCS) and the Director of Environmental Health and Safety to investigate and correct the identified problems. During the summer of 2008, extensive cleaning and maintenance was done in the MFA Studio Building, including a clean-up effort to eliminate all extraneous debris, furniture, and old materials inside the building; in addition, the heating/cooling and ventilation/exhaust systems were upgraded. The program implemented an ongoing pest control maintenance program, a regular trash pickup system, and safety procedures to dispose of hazardous materials. The building was then inspected by the Fire Marshall and passed inspection. In November 2008, Graduate Council received confirmation from the Dean of HArCS that immediate problems had been addressed, and that responsibility for the continued oversight of safety and cleanliness of the building rests with the Art department's safety coordinator. In April 2009, the Program Review Closure Committee confirmed that this and all other recommendations had been addressed, and the Graduate Council closed the review in May 2009.

Student input during the 2011 program review of the Anthropology graduate program indicated that

students felt unsafe in the basement of Young Hall where they are assigned office spaces. In July 2011, Graduate Council directed a recommendation to the vice chancellor for Administrative and Resource Management and the dean of Social Sciences requesting that "a safety audit be performed by the Police Department (and/or other appropriate safety unit) that will result in a substantial improvement in the safety conditions for graduate students." In August 2011, the Police Department performed a physical security survey that identified safety measures to be corrected. In parallel, the Dean charged the space planner and safety officer for the division to investigate and correct the problems. In January 2012, the Dean requested funding in the amount of $13K to address the Program Review Committee's concerns about improving interior lighting and restricting access to the basement of the building. In March 2012, $20K was allocated to address these and other high priority facility issues in the building. All safety related items were addressed immediately (e.g., lighting). In addition, some painting, ceiling tile replacement, and repairs were performed. The work was completed in early September 2012.

These two examples illustrate that program reviews conducted by the Graduate Council not only rectify academic issues, but also serve to remedy non-academic concerns that arise from solicited input from students. While the examples show that the administration is proactive in correcting problems once they are brought to their attention in order to ensure that graduate students are able to work in an environment that facilitates learning, more consistent oversight and assessment of facilities should help all levels of the administration, including deans, vice chancellors and the provost, focus on resource needs and means to investment in maintenance before conditions become severe.

Curricular Integrity

Establishment and Revision of Academic Degree Programs [CFRs 2.1, 2.2, 3.8, 3.11]

Proposals to establish, reconstitute, or discontinue a degree program undergo a thorough review process as outlined in the UC Davis policy on Establishment or Revision of Academic Degree Programs, summarized in the Approval Process for Academic Programs flow chart (Ex. 29).

New undergraduate degree programs require a proposal (see Ex. 29) formulating plans for the program, establishing a series of core and elective courses, anticipated faculty needs, projected impact on other programs, and bylaws. The proposal must be approved by the relevant college's executive committee and recommended by its dean, who forwards approved proposals to the Academic Senate for review by the UGC. Upon UGC approval, the proposal is forwarded to the VPUE for recommendation to the senior administration and campus approval. (The proposal for one of our newest majors, Sustainable Agriculture and Food Systems, for example, underwent extensive revisions to gain approval at these various levels of review prior to its official launch in 2011; the major is described in detail in Essay 4.)

Systemwide approval for changes to undergraduate curricula is required only for programs involving a title unique to the campus, or undergraduate/graduate hybrid degree programs.

The Procedures for Establishing a New Graduate Degree Program provide a detailed description of

what is required by Graduate Council to create a new graduate degree. Programs approved by the Graduate Council are forwarded to CCGA, the systemwide Academic Senate committee charged with review and approval of new graduate programs. This review normally involves a thorough assessment by four experts in the field, two from universities outside the UC system and two from other UC campuses. Reviewers are asked to comment on the: 1) quality and academic rigor of the program; 2) adequacy of the size and expertise of faculty to administer the program, 3) adequacy of the facilities and budgets, 4) availability of an applicant pool and 5) expected program outcomes and placement prospects for the graduates. A new program is approved only when its need and quality are established.

In the period 2008-2011, fifteen new graduate degree proposals were approved for UC Davis, three programs were discontinued, and changes requiring CCGA review were made to four programs. One proposed degree was recently approved (M.S. in Pharmaceutical Chemistry), one is pending (M.S. in Environmental Policy and Management), and one was recently rejected.

Course Approval Process [CFRs 2.1, 2.2, 3.8, 3.11, 4.3]

The course approval process provides several review levels to ensure a course's quality and rigor, compliance with university standards, and the significance of its contribution to learning at UC Davis. Course changes must adhere to clear standards set by the Academic Senate governing the creation, discontinuation, and significant changes to courses (including prerequisites, mode of grading, or changes that affect its GE status). Tracking the progression of course approval is managed by the Integrated Curriculum Management System (ICMS).

At each level of review, the proposal may be approved and forwarded to the next level, or relegated to the previous level for revision or clarification (see Ex. 29). The process is initiated by faculty by submitting a request to the department or program chair, who may then relegate or forward the proposal to the appropriate college's courses committee. Graduate level courses are reviewed by the campus Graduate Council Courses Subcommittee (GCCS). The final review level is the Senate Committee on Courses of Instruction (COCI), which reviews all campus course proposals according to strict criteria upholding the level and emphasis of courses, as well as their scope and organization, limiting proliferation and overlap between departments. COCI criteria also govern course credit, based on the "Carnegie rule" which specifies one unit of credit for three hours of work by the student per week. Courses approved by the COCI are forwarded to the Registrar's Office for integration into the campus catalog. By Standing Order of the Regents professional schools that offer work at the graduate level only retain their own authority over course-approvals and grading policies, but are otherwise subject to the same Senate oversight as any other graduate program.

The campus course approval process is currently under review. An Academic Senate Special Committee examined the process providing recommendations for enhancing and streamlining the overall process to reduce workload and overall timeliness of review. The Academic Senate Office has identified additional temporary resources to provide short-term assistance to faculty and departments proposing courses. Additionally, the colleges and Courses Committee are currently reviewing a proposed workflow to streamline the process. Campus progress toward streamlining this process is dependent upon both faculty endorsement of the revised review process as well as on the ability of

the campus to identify the resources necessary to support a revised process.

Teaching and Learning

Faculty and Instructor Training [CFRs 3.3, 3.4]

- New Faculty Orientation: Each fall, new faculty attend a day-long New Faculty Workshop on campus-specific issues and policies such as shared governance, the Faculty Code of Conduct, Principles of Community, family-friendly policies, dossier evaluation and advancements to tenure, as well as best practices and campus resources for effective teaching. There, faculty are introduced to the Center for Excellence in Teaching and Learning (CETL), Academic Technology Services (ATS), and the University Writing Program (UWP).

- TA Training: CETL helps graduate students improve their teaching skills through the mandatory campuswide TA Orientation for New Teaching Assistants, regular offerings of the introductory Seminar on College Teaching I, the advanced Seminar on College Teaching II, the Graduate Teaching Community, and peer mentoring and peer-led workshops offered by fellows in the TA Consultant Program. Some departments and programs that hire TAs also have an internal, discipline-specific orientation for graduate student instructors and assistants. Finally, TAs are provided with additional guidance in the TA Handbook published by Graduate Studies.

- Assessment of Instruction: Instructors at UC Davis engage in a continuous process of improvement in teaching and learning through formative and summative assessment processes. Every undergraduate and graduate course at UC Davis is evaluated by students every quarter (with the exception of special courses such as independent studies and internships which typically have a 1:1 faculty-student ratio). Evaluations provide information to instructors and departments about students' perceptions of the quality of instruction, the quality of the course content, opportunities for students to participate in class, and other factors related to quality of the educational experience.

- Peer Evaluations: The outcomes of the student and peer (faculty) evaluations are used during ladder-rank faculty and adjunct instructor performance reviews. Faculty who are eligible for promotion (from assistant to associate and from associate to full professor) are evaluated by a senior faculty member in the department, via an in-person observation of teaching. The evaluator writes a separate letter which is used by department chairs in formulating their recommendations for promotion. They are evaluated along with research and service components of the candidates' records by departments, the deans' offices and the campus Committee on Academic Personnel (CAP) as they are developing recommendations for higher administration with respect to tenure and promotion.

Instructional Improvement [CFRs 2.6, 2.8, 2.9, 3.4, 4.4, 4.6, 4.7, 4.8]

Center for Excellence in Teaching and Learning (CETL)

CETL's programs enable faculty and other instructors to engage in inquiry into the conditions and

practices that promote student-centered teaching for all levels of instruction. CETL staff facilitate inquiry-based instructional improvement efforts, assessment of teaching and learning, and long-term collaboration among campus instructors with shared interests and varied expertise. Other CETL goals include enriching campus resources for teaching and learning, and promoting effective teaching and assessment strategies in concert with the Office of Academic Assessment.

- Formative assessment for instructors at all levels: CETL faculty developers offer mid-quarter interviews, videotaping, and consultations to faculty for the improvement of teaching; 40 faculty teaching consultations were conducted in 2011-12 (Ex. 30). The TA Consultants program enables UC Davis graduate students with significant teaching / TA experience to serve as peer consultants under the supervision of the CETL staff. This program provided 146 consultations during 2011-12, including 70 mid-quarter interviews, 51 videotaping sessions, 15 teaching philosophy consultations, and 9 miscellaneous consultations.

- Workshops: In Winter 2012, TA Consultants offered a certificated workshop series entitled "Teaching Your Own Course: From the Basic to the Advanced," with topics including designing effective syllabi, and creating activities that promote critical thinking. Their Winter 2013 workshop series, Powerful Pedagogy: Using Research-Supported Methods to Teach Effectively, covered topics including meaningful assessment and teaching technologies. At UC Davis exceptional graduate students are allowed to be instructors of lower-division undergraduate courses.

- Instructional Improvement Grants: CETL administers the Undergraduate Instructional Improvement (UIIP) Grants which supports instructors who develop and implement new course content and methods of instruction. These funds are part of CETL's core budget. Proposals that address strategic campus needs are given special consideration in the UIIP review process. In recent years, grants developing student learning outcomes and assessment strategies for undergraduate majors and large-enrollment undergraduate classes have been emphasized. As an example, with UIIP support, the Acting curriculum (leading to the AB in Dramatic Arts with Theatre Emphasis) has been overhauled specifically to improve the alignment between courses based on student learning objectives. (See Ex. 31 for Selected UIIP Impact Reports.)

- CETL staff provides curriculum development support for hybrid and blended courses. The center's deep involvement with the campus's and UC system's online instruction course development is discussed in greater depth in Essay 4 on institutional capacity and sustainability. The CETL also administers the new Provost Hybrid Course Award, now in its second year. These awards, funded by the Office of the provost, support the development of hybrid courses through both financial and consultative support.

College and Departmental Efforts [CFRs 4.1, 4.3, 4.4, 4.6, 4.7, 4.8]

In addition to institutional-level quality assurances such as program review, programs and colleges give regular attention to the effectiveness of curriculum and implement various efforts to improve structures, processes, curricula, and pedagogy, and to evaluate those efforts. Attention is also given to new ways to achieve the Educational Objectives and the new GE literacies. The examples below in

Biological Sciences, Physics and Chemistry illustrate this practice.

Biological Sciences Curriculum Assessment

One example is the College of Biological Sciences' assessment of lower-division and upper division curriculum in Biological Sciences (BIS). Assessment of the introductory BIS 2 series resulted in a number of changes, including an innovative collaboration across disciplines and colleges. Recognizing a language comprehension weakness in their students, biology and classics faculty worked together to create a classics course for STEM students that would meet general education requirements and target this specific learning challenge. Among other changes, the BIS program assessment resulted in concerted efforts to enforce prerequisites, use online quizzes, and enhance laboratory preparation in introductory level courses to increase student success.

Physics Department Assessment

The Physics department has applied creative adaptation of courses for the continuous improvement of student learning, and has actively engaged the new GE requirements by adding courses to address the new literacies.

- Physics 7 series: Established in 1995, the Physics 7 series of introductory physics courses rapidly became the standard introduction to physics for bioscience (and many agriculture) majors, and now serves over 1,700 students per year. A central feature of this strongly student-centered class is sense-making by the students during organized discussion/labs in which the students take part in peer-peer discussions, argumentation, and presentations of ideas. While the purpose and the structure of the course has been consistent throughout its existence, all aspects of the class – including the topics covered, the organization of those topics, the instructional delivery, and the exam questions and their grading – have evolved through constant feedback and assessment. A paper published on the course, Sixteen years of Collaborative Learning through Active Sense-making in Physics (CLASP) at UC Davis, details the course's evolution and assessment using pre- and post-tests; differences in outcomes (MCAT scores and upper division GPAs) and survey results indicate the success of this wide-reaching course.

- Physics 9: There have been two experiments to evaluate the effectiveness of alternative approaches to teaching PHY 9; one of those studies is under review by the American Journal of Physics.

- Physics 12: improvements represent GE assessment as well as program assessment. Visualization in Science is a completely new GE visual literacy course teaching the production, interpretation, and use of images in physics, astronomy, biology, and chemistry as scientific evidence and for communication of research results. This lecture course is limited to a class size of 20-50 students. The upper division lab courses 122 (required of all majors) and 116C have been extensively modified to greatly improve attention to writing and to give them GE writing experience credit. There has been an increase in the number of undergraduate majors involved in research and in writing honors theses. The research experience serves several campus educational objectives. Writing and presentation are a major evaluation factor for the theses.

Chemistry Department

The Chemistry Department is a good example of how some programs implement evidence-driven, outcomes-based assessment of learning. In addition to well-developed program learning outcomes that include knowledge-based, performance/skills-based, and affective outcomes, each course syllabus must specify learning outcomes. Other related department efforts (Ex. 33) include:

- A UIIP grant-supported project testing for correlation between specific assessments of student learning and other measures (course final grade, GPA, etc.).

- Checking for evidence of grade inflation. An examination of complete records of grade distributions in all Chemistry courses dating back to 1969 indicate that there is no grade inflation over that period; in fact, grades in some of our freshman and sophomore courses have gone down on average over this period.

- Correlating scores that graduating seniors attain on the standardized American Chemical Society Diagnostic of Undergraduate Chemistry Knowledge (DUCK) exam with their overall and in-the-major GPAs. Current data, though limited to one year and 13 students, suggests a plausible correlation to motivate an expanded study.

- The chemistry curriculum is reviewed on an ongoing basis and revised as needed. Most recently, the CHE 2C course was reconfigured to meet increased enrollment demand for the CHE 2 series, without adversely affecting the content or delivery thereof. The changes were approved by the entire Chemistry faculty, without opposition.

- A new requirement in the criteria for certification by the American Chemical Society of the Chemistry BS major triggered a new biochemistry course that is being readied for approval by COCI.

University Writing Program (UWP) [CFRs 2.1, 2.13, 2.6, 2.7, 3.2, 4.1, 4.6, 4.7]

The University Writing Program illustrates faculty involvement with undergraduate student learning across disciplines; seriousness about implementation of the educational objectives; and application of the principle of continuous improvement. Established as an independent unit in 2003-04, the UWP provides writing instruction to undergraduates, provides graduate student training in the teaching of writing, and works with faculty to integrate writing more effectively into courses across the curriculum. The program's history and rationale were described extensively in our 2008 Interim Report.

UWP faculty run the Writing Across the Curriculum (WAC) program, which helps faculty and graduate students across campus integrate writing activities into their courses and implement the new GE writing experience requirement. WAC offers consultations for formative assessment for teachers, and workshops presenting student-centered methods for the continuous improvement of the teaching of writing throughout the university.

In 2008, the Graduate Council approved an interdisciplinary designated emphasis at the PhD level in Writing, Rhetoric, and Composition Studies, administered by the UWP. A year later, the Graduate Council officially recommended that the mission of the UWP be expanded to include writing

instruction for students in the graduate and professional schools. This expansion has been included in the new graduate student professional development program, GradPathways. A key aspect of the support for graduate writing is the peer Graduate Writing Fellows program.

In Fall 2009, the Professional Writing Minor was established, permitting undergraduates from all majors to study writing intensively and receive documentation on their transcripts. The minor requires 20 units of upper division work, including 4 units of writing internship in which minors develop their writing in real world contexts ranging from journalism, grant-writing, and public relations to writing technical manuals and scientific lab reports. As of 2012, there are 175 minors. Since 2009, 117 students from all four undergraduate colleges have graduated with minors in writing.

In 2011-12, UWP began exploring the possibility of proposing a Professional Writing major. After researching programs and curricula from universities nationwide, that proposal is being formalized and will move from the program to the college and Academic Senate.

The number of UWP ladder faculty has increased from two in 2005-06 to five in 2012-13, adding specialists in second language writing, technical communication, and the rhetoric of science.

Student Standards for Achievement [CFRs 1.2, 1.7, 2.1, 2.2, 2.10]

Throughout this essay, we have indicated that the course of study for undergraduate students reflects an integrated approach intended to cultivate educated graduates. At the graduate and professional levels, programs prepare students for a broad range of careers in academic, industry, government, and other organizations by providing both breadth and depth of study in the various disciplines. Faculty support the university mission and vision through excellent teaching in high-quality programs and curricula, ensured by systems of review, assessment, and feedback.

Students are held accountable for fulfilling their educational responsibilities in a number of ways.

- Graduation Requirements: Undergraduates are held accountable to the Degree Requirements and college requirements (College of Agricultural and Environmental Sciences; College of Biological Sciences; College of Engineering; College of Letters and Science) and cannot graduate without successfully completing a rigorous program of coursework. Graduate and professional students are held to the approved degree requirements for their individual programs. The capstone experience is particularly critical to the successful completion of graduate academic degrees. Normally, the capstone consists of a dissertation (PhD or EdD), a professional performance or exhibit (MFA), a thesis or comprehensive examination (MA and MS), or a project report (professional master's degrees). These capstones provide a critical opportunity for a faculty committee to assess the individual abilities and accomplishments of each student.

- Grades: Most courses are letter graded; Pass/Fail (undergraduate) or Satisfactory / Unsatisfactory (graduate) options are limited both by curriculum policies and by the college or Graduate Council requirements. Scholastic deficiencies for undergraduates, either qualitative (grades) or quantitative (minimum progress) result in Probation and Dismissal. At the graduate level, grades are monitored by Graduate Studies quarterly and poor academic performance may result in a warning, Academic Probation (for a given term or overall), or Disqualification.

Students must be in good academic standing to take oral examinations and advance to candidacy for a degree. Per Academic Senate Grade Change Guidelines, students may petition the Grade Change Committee, which will review all petitions on a case-by-case basis to determine appropriate action. Student Judicial Affairs publishes guidelines for student grade grievances. There is no university requirement for class participation; rather, they vary by course, and may or may not impact grades.

- Academic Integrity: At UC Davis, students, faculty, and Student Judicial Affairs (SJA) share responsibility for maintaining academic integrity under our Code of Academic Conduct, which requires students to act fairly and honestly. The Campus Judicial Board (CJB) is a body of twelve students appointed annually by the Vice Chancellor for Student Affairs to hear cases of suspected student misconduct and to initiate outreach and education projects to the campus community. In addition to campus policies, a systemwide Policy on Student Conduct and Discipline lists grounds for dismissal from any UC. Graduate students engaged in research may also be subject to review under research misconduct policies if they violate the standards and principles of scholarly integrity.

Public data on student achievement are available on the UC Davis Profile, UC Davis Facts, the systemwide 2012 Accountability Report: Undergraduate Student Success, Student Activities and Educational Outcomes; 2012 Accountability Report: Graduate Academic and Professional Degree Students, and in Graduate Studies Data Reports. The Undergraduate Retention, Graduation, and Time-to-Degree Narrative (Ex. 36) submitted to WASC in August 2012 gives current and comparative data, and describes our new goals for undergraduate students: to achieve 6-year graduation rates of over 90% for all students (a 9% increase from 81%) and 80% for URM students (a 7% increase from 73%), and a first-year retention overall rate of over 95% (a 3% increase from 92%). The Graduate Retention, Graduation, and Time-to-Degree Narrative (Ex. 37) submitted to WASC in September 2012 gives current and comparative data. Most of the metrics compare quite favorably with UC and non-UC comparison institutions. Nevertheless, we are concerned that overall PhD completion rates of 66% are too low and have begun discussions in Graduate Council about desired goals (as well as goals for the related metric of 3-year advancement to candidacy rates).

The above sections have covered the requirements, learning outcomes, and extensive processes and procedures that assure the meaning, quality and rigor of the UC Davis degree. Campus efforts to ensure and improve student success are described in the essay that follows.