

Berkeley 4.0

May 2013

Re-imagining the Undergraduate Experience at a Public Research University

NOTE: *The first draft of Berkeley 4.0 was prepared by College of Letters and Science Executive Dean Mark Richards in late 2011 in an attempt to cast the recommendations of the L&S Faculty Forum on Undergraduate Education in a campus-wide context of ongoing innovation in undergraduate education. This concept paper has since benefitted from important contributions from Vice Provost for Teaching, Learning, Academic Planning and Facilities Cathy Koshland, Graduate Dean Andrew Szeri, and L&S Associate Executive Dean Robert Jacobsen, as well as from the editorial advice of English professor Donald McQuade. The Berkeley 4.0 document is framed as both an aspirational statement and as a work-in-progress to help focus campus discussion on the trajectory of undergraduate education at UC Berkeley.*

UC Berkeley is out to change the world again – this time by engaging its best minds in a comprehensive re-conception of what constitutes excellence in undergraduate education at a research university.

In the traditional model for research universities, professors and graduate students are dedicated to creating new knowledge, and undergraduates are cast mainly as recipients of that knowledge. This hierarchical model is not well suited to the dynamic and open intellectual and technological landscape of the 21st Century world.

Both experience and educational research demonstrate that all students benefit from participatory, hands-on learning and discovery, whether in the classroom or the laboratory, or through independent study, community service, or study abroad. Berkeley’s graduate research programs have responded to the persistent challenges of changing times and flourished, often magnificently. Our remarkably talented undergraduates should expect nothing less — a principled re-imagining of the depth and breadth of their experience here.

We are therefore designing and implementing changes to ensure that our undergraduate students become fully integrated into the community of scholars – not after years of lectures, labs, and examinations, but from the moment they enter the university. Our goal is to create a profound and

exciting undergraduate experience – an example that could remake the landscape of undergraduate education in research universities.

Historical Perspective

University communities are both generators of new knowledge and conservators of that knowledge; as such these two roles create a tension in the institution. So on the one hand, the institution may evolve reluctantly in response to external change – Exhibit A: the still-dominant lecture/scribe format of undergraduate education derives from medieval European universities, and has persisted through waves of social and technological upheaval. On the other hand, universities may also lead the way in promoting change. For example, during colonial times changes such as the mass production of books and journals, increasing secularization, and the rise of the natural sciences set the stage for establishing a new breed of colleges in the United States. Even at that time, there were intense debates about the disciplines to be supported and the curriculum to be studied.

The 19th Century saw a flourishing of liberal arts education, influential experiments with electives at Harvard, the rise of professional education (law and medical colleges), and also the emergence of research universities – the latter bringing graduate students, costly laboratories, and professors devoted increasingly to research, often at the expense of formal teaching. This second wave of change was accelerated in the US by the historic Morrill Land Grant Act of 1863, and in turn a flourishing of state-supported research universities, including the University of California.

A third wave arrived almost a century later in the form of the intense demand for college education driven by the GI Bill, and massive post-World War II federal investment in university research. The latter exacerbated the divide between the resources lavished upon graduate level research and the waning attention given to undergraduate education. Indeed, even Clark Kerr, the seminal architect of the much-emulated University of California system, famously lamented in his foundational manifesto *The Uses of the University* that undergraduates were destined to get the short end of the stick as American research universities expanded aggressively in the 1960's. Kerr expressed only feeble hope that this situation would be remedied by a future generation.

That future has arrived in force, bringing about a fourth wave, indeed a torrent, of change that confronts higher education: Vast amounts of information, including much of the content of the world's great libraries, now lie at our students' fingertips via Google. The mind-bending pace of innovation in social media is altering how we interact with our fellow human beings, expanding the concept of the "classroom of the future" well beyond ivy-covered walls. Massively-delivered online education and other forms of "asynchronous learning" are challenging established paradigms for instruction. Perhaps more importantly, students must prepare for fluid careers in a future where *what you know* is less important than *how you think, learn, and discover* on your own. And, although perhaps cliché, it is nevertheless true that students must prepare for cultural and linguistic fluency to compete in an ever more globally-connected world.

At Berkeley we are leading this fourth wave of innovation in undergraduate education with an unflinchingly bold set of initiatives. *Welcome to Berkeley 4.0!*

Elements of Berkeley's Re-conception of Undergraduate Excellence

Our academic leaders have developed a comprehensive array of initiatives to transform the undergraduate experience at Berkeley that can be grouped under three overarching themes – mentoring, teaching and learning, and academic support services.

I. A Pervasive Culture of Mentoring: Personalized Education at a Research University

Images of the undergraduate experience throughout the post-war period of expansion all too often featured alienated students, distant from their teachers and struggling through an impersonal system. Success most often came with personal initiative and perseverance in the face of an indifferent and paternalistic institution. Even today, as we seek to engage Berkeley alumni in a conversation about the University's future, the memory of this difficult situation lingers in their minds.

But, in fact, that dynamic began to change forty years ago. At that time, Berkeley pioneered personalized mentoring and tutoring through the establishment of the Student Learning Center. In the 1990's, Berkeley Chancellor Chang-lin Tien led American research universities by establishing Freshman Seminars for all entering students, ensuring them of close intellectual contact with faculty as part of their first-year experience. Since the 1990's we have also developed pioneering programs for mentored undergraduate research and independent scholarship, such as the University Research Apprenticeship Program (URAP). Today more than 40% of all Berkeley students engage in undergraduate research, with more than 60% of students in the sciences able to participate. These and numerous other programs have improved opportunities for undergraduate students to benefit from a more personalized, discovery-based education.

Now we are preparing to take personalized education within the context of the research university to an entirely new level with two complementary initiatives.

Berkeley Connect – Learning from the Lives of English Majors

Three years ago Berkeley alum Peter Chernin (*English '73*) challenged the Berkeley English Department to effect a quantum leap in the quality of the undergraduate experience by connecting students more intimately to future career paths, their faculty, the department's graduate students, and to each other. The resulting Chernin Fellows Program has since become an inspiring example of what can happen when the creative juices of our faculty and students are unleashed with the help of a generous donor on a mission.

Structurally, the Chernin Fellows program consists of a faculty Director and oversight committee, Graduate Fellows, and small discussion groups of undergraduate students. The program is flexible and varied, consisting of one-on-one advising, discussion groups on topics ranging from career opportunities to scholarly research in language and

literature, larger events (special lectures, visiting speakers, career panels), and visits to important Berkeley resources such as the Bancroft Library, the Art Museum, and many other local attractions for the arts and humanities.

The Chernin Fellows program has achieved astonishing success during its first two years: The survey organization contracted to evaluate the program had never before measured such high rates of participant satisfaction, reflecting the enormous enthusiasm on the part of undergraduate participants. The five participating Graduate Fellows who have gone on the academic job market over the past two years have all gotten coveted positions.

What's good for improving the educational experience of English majors is surely good for all of our students, especially in large departments where personal engagement with faculty and graduate students can be challenging. Currently, Berkeley is in the process of creating a campus-wide "Berkeley Connect" program, patterned on the Chernin Fellows program, whose stated goal is "to combine the world-class intellectual facilities of the University with the nurturing inclusiveness of a small liberal arts college." Thanks to Peter Chernin's vision and generosity, as well as the English department's creativity, we know how to do this, and we know how much it costs – only about \$350 per student per semester. In other words, for a tiny fraction of the cost of a Berkeley education we can achieve a complete transformation of the undergraduate experience. Those familiar with the Chernin Fellows program would question how we could afford *not* to do this!

Getting SMARTer

Berkeley's Graduate Division aims to make mentored research possible for every Berkeley undergraduate student via the groundbreaking SMART (Student Mentoring and Research Teams) program. This program matches up advanced graduate students (and their faculty advisors) with undergraduate students to work on research of mutual interest, thus leveraging Berkeley's brilliant graduate students to bring the excitement of discovery to our equally brilliant undergraduates.

Private donors have provided funding to pilot SMART in two large departments within the College of Letters and Science – History and Physics. In the second phase of the pilot, the program is also reaching students in Sociology, Chemistry, and Public Health. The purpose of the pilot program is to create and fine tune models adaptable to any department on campus, before the program is taken to scale. Both undergraduate and graduate student participants receive research stipends for their work. The landscape of possibilities for engagement is as vast as Berkeley itself, ranging from working with anti-reflection coatings to measure the cosmic microwave background radiation following the Big Bang, to analyzing the popular media representation of German technological advances during World War II. As for Berkeley Connect, assessment data from the first year of implementation of SMART indicate very high student satisfaction and program effectiveness.

We know that SMART works, and it's a win-win-win – undergraduate students receive additional financial support while exploring the pathways to fundamental discovery,

graduate students become better teachers and mentors, and Berkeley's research enterprise is infused with the energies of a virtual army of new talent. A fully-funded SMART program, costing \$10,000 for each mentorship pair or group, will make Berkeley the leader in mentoring undergraduate research and scholarship.

A Vision as Big and Bold as Berkeley

The goal here is simple, but hardly modest: we want to make the Berkeley Connect and SMART programs available to all Berkeley undergraduate students, leveraging their complementary approaches to career and research mentorship to ensure that all of our students are able to chart a course of personalized education and discovery. Our initial evaluations show that these programs work, and we know how to adapt and scale them to every department on campus. Their full implementation will set an example that holds the potential to ripple through the academic world.

II. Teaching and Learning for the 21st Century: An Agenda of Continuous Innovation

Over the past several years the College of Letters and Science convened a select group of some of the campus' best teachers – the L&S Faculty Forum on Undergraduate Education – to re-imagine the landscape of undergraduate education at Berkeley, especially those elements that pertain to all students across all majors. The campus has also made important commitments to improving undergraduate teaching and learning at every level.

Re-vitalizing the Fabric of the Curriculum: Course Threads and Big Ideas

Did you ever fantasize about returning to college with the freedom to learn more about Shakespeare, Sanskrit, history, paleontology, or astronomy? Although competence in the major field remains paramount, the enrichment obtained from liberal education lies at the heart of undergraduate education. Yet as the world changes, and approaches to teaching and learning adapt, Berkeley must continuously examine how we deliver our general curriculum, or “breadth” requirements.

Curriculum as developed by our faculty represents a major institutional investment, part of our intellectual endowment. As such, it requires careful consideration: what is the purpose and value of asking our students to study and engage with its content? How should we allocate resources for its implementation and its renewal?

In response to the recommendations of the L&S Faculty Forum on Undergraduate Education, the campus is undertaking a fundamental re-examination of the breadth courses we require of all undergraduates. Under our current requirements students may choose among literally thousands of courses, most of which were not designed with general education in mind, as long as they fulfill the categories of Arts and Literature, Historical Studies, Philosophy and Values, Social and Behavioral Sciences, Physical

Sciences, Biological Sciences, and International Studies. In order to bring greater meaning and coherence to these core requirements the campus is:

- (1) Expanding the popular “Course Threads” program pioneered under a Mellon Foundation grant to Berkeley’s Townsend Center for the Humanities. Course Threads provides a faculty-supervised planning tool that helps students choose a logically-connected sequence of breadth courses – a “breadth minor” if you will – spanning broad areas such as Human Rights, Humanities and the Environment, Science and Society, Human-centered Design (<http://coursethreads.berkeley.edu>).
- (2) The College of Letters and Science is introducing a new set of “Big Ideas” courses focusing on fundamental and important ideas that bear on multiple disciplines, and, importantly, are co-taught by faculty representing at least two distinct disciplines.
- (3) Reviewing all courses fulfilling the breadth requirements to ensure that they provide an appropriate intellectual grounding in the area of interest. To ensure sufficient rigor in these requirements, only courses carrying three or more semester credit units will likely qualify in the future.

This year L&S launched its first set of broad-themed Big Ideas courses under seed support from the Lisa and Douglas Goldman Fund, and we have developed an exciting lineup: “Time” offered by a string theorist and a philosopher, “Origins” courses by two paleontologists, an astrophysicist, and a biblical scholar, “Societal Risk and the Law” by faculty in six departments ranging from Statistics to Political Science, and “Music and Meaning” by a philosopher and a musician. Recent Nobel Laureate Saul Perlmutter and philosopher-of-mind John Campbell are teaming up with social psychologist Rob MacCoun for “Sense, Sensibility, and Science,” examining “the role of rational and a-rational thought in science.” In accord with the overall plan, these breadth-by-intention courses are providing springboards for new Course Threads designed under the guidance of the Townsend Center.

We could not be more excited about the Big Ideas courses, and the spectacular faculty who have stepped forward to teach them. Now, how about those fantasies of returning to your undergraduate days?

Teaching Excellence Required

Excellence in teaching and research go hand-in-hand, and more often than not Berkeley’s best teachers are our best scholars. However, to be frank, research universities tend not to be as relentless in preparing faculty to be excellent teachers as they are in supporting and critically evaluating their research. Although this situation is common at large research universities, Berkeley is making teaching excellence the new norm.

Just this year the College of Letters and Science and the new Center for Teaching and Learning began a mandatory series of Teaching Excellence Workshops for all new faculty arriving at Berkeley. Funded in part by donors, this pilot program began with an intensive pre-semester workshop introducing new faculty to the joys and art of teaching

Berkeley students, and to the array of campus resources that support teaching excellence. This day-long session was followed by regular monthly meetings exploring everything from instructional technologies and online education to the modern fundamentals of good course design. The resulting cohort of young faculty from across the campus attending these workshops are giving rave reviews such as, “When I arrived at Berkeley I thought I already knew how to teach. It turns out I didn’t, but now I do! These workshops have completely changed my approach to teaching (for the better).” With additional philanthropic support we can extend this opportunity to all Berkeley faculty, and the big winners will be our students. Simultaneously, the campus is increasing the level of expectations for teaching excellence for faculty come promotion time – we do not give tenure to mediocre teachers.

The adage that “what you measure you can improve” applies to teaching as well as research. Yet it is no secret that American universities have become almost exclusively reliant upon student course evaluations (SCE’s) in judging teaching effectiveness. Although SCE’s are informative and the ease of tabulating SCE results is attractive, research shows that student evaluations are strongly biased by factors such as grade expectation and instructor likability, which are hardly primary criteria for teaching effectiveness. Therefore, hand-in-hand with our efforts to instill and reward teaching excellence, we are piloting more rigorous peer evaluation of teaching in several departments (Statistics, Math, Physics), including input from faculty, teaching assistants, and alumni. Interestingly, although the need for peer evaluation is widely acknowledged, it appears that Berkeley is likely to be the first major research university to achieve universal implementation.

The world of teaching and learning is evolving rapidly. Disruptive technologies such as massively open online courses (MOOC’s) play to Berkeley’s strengths as the world’s leading public university, and skyrocketing enrollments in our new edX offerings (>50,000 for single courses) demonstrate that the future belongs to teachers who are innovative and nimble in adapting new technologies. The predictable constant in this otherwise-unpredictable world will be the excellence and dedication to teaching we instill in our faculty, and Berkeley is moving aggressively to ensure that this foundation is firmly in place.

Teaching Excellence Rewarded

In 2007, as part of the Hewlett Foundation Challenge, Chancellor Robert Birgeneau set out to establish the Undergraduate Teaching Collegium at Berkeley. The idea is both simple and game-changing: Matching new seven-figure commitments from donors along with resources from the Hewlett Challenge, the University created a set of endowed chairs to be awarded to the institution’s most renowned teachers. That concept alone was not entirely new – there have been several endowed chairs at Berkeley for some years that recognize fine teaching. What is new about the Collegium is that the holders of Collegium Chairs – ten of them – meet and work as a group to think about, examine, and improve the overall quality of teaching, not only in their own individual classrooms, but throughout the university.

The Collegium is the campus's most visible entity committed to enhancing the quality of the undergraduate experience by constantly modeling and encouraging creative and effective teaching. The collection of endowed chairs that constitutes the core of the Collegium brings with it a certain amount of money each year that can be deployed in support of innovative projects. And the authority of the Collegium to speak on behalf of excellent teaching at Berkeley has been enhanced by the inclusion in the Collegium membership of a number of recent winners of the campus-wide Distinguished Teaching Award. Now in its first full year of operation, the Collegium holds the promise of helping to transform Berkeley's culture into one where teaching excellence is made permanent.

Preparing Global Citizens

The most famous distinguishing characteristic of Berkeley students is that they want to make a difference in the world. Not surprisingly, Berkeley has placed more graduates in the Peace Corps and Teach for America than any other university. Berkeley students also bring an increasingly diverse set of ethnic backgrounds and languages with them – a walk across our campus is to see and hear the face and voice of the world. This cultural and linguistic diversity is a major contributing factor to Berkeley's excellence.

Following recommendations of both a recent campus International Strategies Task Force and the L&S Faculty Forum, the campus is moving rapidly to increase our students' participation in education abroad, in-depth study of other cultures, and foreign language proficiency. Measures include strengthening the basic foreign language requirements in recognition of the fact that a mere two-three years of high-school study is rarely sufficient to ensure proficiency, and also ensuring that the International Studies breadth courses provide students with a deep level of cultural fluency.

However, the greatest challenge in this area is to provide increased opportunities for education abroad, an area where Berkeley has not been so successful in the past. In the future, the campus has decided to rely less upon UC-system programs, which are chronically-underfunded, and instead build up more programs via our own strong international relationships. We will also be trying to greatly increase opportunities for study abroad during summers, since this will cause less disruption for many students pursuing science and engineering degrees with nested prerequisite courses. With these structural changes, the main need will be for more philanthropic support, especially for the many Berkeley students whose families have not traditionally been able to afford education abroad.

Our goal is again both simple and ambitious: We want all Berkeley students to have the opportunity to study abroad, learn in-depth about other cultures, and acquire high-level foreign language skills. No longer a luxury for wealthier students, these skills are now "required learning" for the global citizens we are educating to be our next generation of leaders.

A Culture of Academic Integrity

A bedrock assumption in the academic world is that researchers and scholars are honest and fair to their colleagues. Unfortunately, we do not live in a world that conforms to this ideal. The internet age has brought increased plagiarism, and our students come from very heterogeneous backgrounds when it comes to learning basic notions of originality. Furthermore, in an educational environment that increasingly emphasizes group projects and teamwork, the boundary lines of academic integrity have become increasingly blurred.

The L&S Deans, the Academic Senate, and the Associated Students at UC Berkeley (ASUC) have worked together to develop a new Academic Honor Code for the campus. The wording of the Code is simple and clear: “As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others.”

We are proud that Berkeley is the first UC campus to adopt an honor code, and are working hard to bring it to full life with the arrival of the Fall 2013 Freshman class. From signing statements on exams (“On my honor, I have neither given nor received assistance in the taking of this exam...”), to placards in classrooms and residence halls, to discussions at student orientation week (CalSO), this student-driven initiative will serve as a constant reminder to everyone on campus – students, faculty, staff – of the values of Berkeley as a university and as a community.

A common concern in higher education is grade inflation, and more generally the meaning of grades, which may vary greatly among disciplines and instructors. Although new approaches to teaching are, if anything, creating an even more heterogeneous environment of grading practices, the campus is proposing to adopt a low-key but effective approach by reporting mean and median class grades along with individual grades on student transcripts. This “contextual grading” approach will make for more informative transcripts, and, quite frankly, will help ensure that the performance of Berkeley students gets a fair shake, since we typically have tougher grading standards than other institutions, especially private colleges and universities.

The new Honor Code and more meaningful reporting of grades are intended to promote and reward academic integrity on our campus, and to help instill a deep culture of personal honesty among our graduates.

Harnessing Technology for Teaching

At Berkeley, we wish to support rich educational experiences by supporting innovative course design, along with the physical and online spaces for learning. Computing and the Internet have transformed the ways in which we create and consume information, how our citizens interact with one another, and, therefore, how we teach and learn. New pedagogical techniques are evolving on the campus, such as “flipping the classroom,” where much of the traditional knowledge transfer activities are moved into the online environment, with faculty then using classroom time to mentor students, guide

discussion, and engage in more hands-on learning. Some Berkeley courses have moved practice and assessment activities online. For example, by using extensive online practice material, Statistics 21 builds statistical intuition in students who are not generally convinced by more formal mathematical arguments. As new teaching techniques are developed using these technologies, our faculty will be using them to improve our on-campus educational offerings. This is the real promise of online education at Berkeley.

These activities require support of many kinds. The needs and solutions will evolve with time, but current emphasis is on:

- (1) Creating and delivering a series of workshops on course design, educational technologies and related topics that will help faculty understand recent progress in these areas, and when useful deploy them in their own courses. Replication and dissemination of new methods has always been difficult in academia, and this is our consciously-chosen approach to doing so within the Berkeley teaching culture.
- (2) Gearing up to offer state-of-the-art instructional studio facilities to all teachers on campus. Technology and support are needed to create quality online teaching materials, and central provision of this by a small cadre of skilled people is the best way for us to provide it.
- (3) Upgrading our learning facilities, including formal (classroom) facilities and the increasingly important informal learning facilities (libraries, “collaboratory” spaces, even foyers and hallways). Beyond projectors in classrooms, this involves updating the spaces themselves. As new teaching methods move toward more in-class activity and interaction, fixed-row seating needs to be replaced by more flexible layouts, and more white boards and working space need to be available.
- (4) A new online academic commons (CalCentral) has been developed and is being deployed this year. This provides a common online space for courses, administration, advising and other activities involving students, faculty and staff. It includes tools for collaboration, teaching and learning, and key support services. This new system is key to offering Berkeley faculty and students the tools they need to exploit the rapidly expanding array of educational technologies available for both mixed and fully online instruction. Traditional courses will immediately benefit from improved scheduling, better routine communications with students, and integrated processing of rolls and grades. At the same time, CalCentral will offer tools and technology that can be adding piece-wise to courses as the instructors find them valuable, continuing up to and through the online provision of part or all of a course.

III. Academic Support from Orientation through Graduation

The mentoring culture provides deep connections within the student's chosen field of study. The agenda of continuous innovation will provide high quality educational opportunities for our students across the campus. This third part of the Berkeley 4.0 initiative provides educational support to help our students take advantage of these opportunities, and to both broaden and deepen their experience at Berkeley.

Our students come from a wide variety of backgrounds, but few have been previously exposed to the huge variety of opportunities available here. Students need advice and support starting at orientation, or even before, to get the most out of these opportunities. Being a student at a large public research University like Berkeley also requires handling routine business for registration, housing, financial aid and all of the other service functions needed by the student body.

Advising as the Gateway to a University Education

Strong academic advising helps our students develop into independent, focused learners who take full advantage of Berkeley's educational opportunities. The Berkeley 4.0 vision is to move beyond advising about requirements and regulations, to advising aimed at maximum academic achievement for students.

Berkeley has already made steps in this area. The L&S College Advising office recently gained additional advisors to work with incoming students from particular backgrounds, such as international students, to help them benefit from the entire breadth of Berkeley's educational opportunities from the start. Advising groups in Residence Life, the campus wide academic support groups, and certain large departments are also moving their programs in this direction. Links are being forged to the Student Learning Center, which provides academic support to all students with a particular emphasis on those in large enrollment common good curriculum courses, to improve engagement in the first year.

Work has already started on the next step: greater coordination of the advising activities across the campus so that incoming students get consistent and effective advice from their first contact with Berkeley through (at least!) graduation. We are creating an on-going focus on strengthening our advising capabilities and their impact on our student's success. A campus-wide Advising Council has been created, charged with ensuring students receive high-quality advising in all their contacts across the campus. They are starting by developing professional standards for performance, communication and assessment in advising, from which programs will be developed for training and other needs. Work is also starting on updated support systems (see below) that will help advisors coordinate their efforts as they work with individual students across the campus.

From this upgraded base, advisors across the campus will be improving how they are organized and how they work with students from orientation through graduation.

Together, these are steps toward the key goal for advising: developing students as active learners who can take the best possible advantage of Berkeley's educational opportunities.

Support Services for the 21st Century University

When new students arrive at Berkeley, they're thrown into a larger and more complex environment than they have ever seen. They are smart, hard-working people, and they grow to master it; it's common to hear young alumni say things like "Dealing with Sproul Hall equipped me to handle the real world". We don't want to, and there's no need to, coddle them. But we do need to make sure that, from the moment they first arrive, they can effectively get done what needs to get done, so that they can focus on getting the most of their educational opportunities. The creation of a one-stop student-services center in Sproul Hall last year allows students to do routine business functions quickly and efficiently in a single place.

The next task is to improve campus computer systems so that all student-serving parts of the campus can effectively communicate and co-operate. The new online academic commons (CalCentral, mentioned above) is being deployed this year. As a common online space for, faculty and staff, CalCentral will include an important online advising "toolkit" for student advisors, registration and academic planning, financial planning, and bill paying. In addition, work has started on extending the L&S Advising student record system across the College so that all advisors will have access to the same underlying information on their students' issues and the work that's been done to resolve them. This will provide a way for advisors in the College, departments and other offices to work coherently with students, all focused on the same picture. Finally, the underlying student systems used by the Registrar, Financial Aid office, and student-related campus business services are in the initial phases of a upgrade that should take place over the next four years.

Together, these efforts will establish a new reputation for excellence in student support systems and services rivaling and enhancing Berkeley's unchallenged academic excellence.