The fifteen departments and two programs that constitute the College of Liberal Arts share a focus on the human experience and its expression. Faculty and students in the college pursue – and will continue to pursue – excellence in arts, humanities, communications, and social sciences. Through its degree programs, coursework, and co-curricular opportunities, the college empowers Cal Poly students to confront the future’s challenges.

As disciplines broadly interested in understanding the human condition and the myriad forces that shape it, all of the changes the future brings will impact our college. In what follows, we highlight those areas with the greatest potential for the college and the university to be leaders in higher education and in meeting tomorrow’s challenges.¹

Higher Education Today: What forces are shaping Cal Poly and the CLA?
Predictions of a coming “avalanche” in higher education have become commonplace.² CLA faculty experienced first-hand some of the changes that prompt such predictions and expect to see many new developments within higher education during the next fifteen years. We see public disinvestment in education, the often linked questions of the value and affordability of a college degree, and the impact of technology on instruction as the most important challenges before us. Yet such challenges also present great opportunities. We remain confident that the CLA and, more broadly, Cal Poly are well-positioned to thrive in 2030 by building on our current strengths and by evolving to meet new challenges. In these ways, we will avoid being buried in the avalanche.

In recent years, the state of California has shifted more of the cost of higher education from taxpayers to individual students and their families. The overall aging of the state’s population and the impending retirement of the Baby Boom generation suggest that such trends are unlikely to reverse. By 2030, education and other social services that benefit the youngest Californians will increasingly be in competition with social services for the state’s oldest residents. Therefore we expect that state funding and student debt will continue to be major concerns. Such an expectation highlights the importance of continuing to pursue alternative funding models and adds to the pressure to make better use of our existing resources.

The rising cost of a college degree has recently prompted many discussions about its value. By urging students to prioritize starting salaries when choosing their majors, some commentators have suggested that the value of a college education can be reduced to immediate earning potential. While we share the belief that students should make informed decisions about their choice of college and area of study, we also understand that a starting salary is an inadequate measure of the value of a college degree.³ Therefore, discussions about the value of higher education present us with an opportunity to better articulate the benefits of a broad and rigorous liberal arts education. A liberal arts education offers an excellent “return on investment” for both the individual student and the broader community. It instills graduates with a solid grounding in skills essential for their success, including critical and creative thinking, effective oral and written communication, empathy and compassion, understanding of the causes and consequences of human behavior, and the ability to be life-long learners. It prepares them to excel in highly-competitive graduate programs and for advancement within their chosen fields. It also prepares them to be engaged citizens, socially-responsible leaders, ethical professionals, and fulfilled individuals. While many CLA graduates achieve great financial success, others choose to pursue their passions and forego greater financial compensation in order to work in education; the arts; social work; local, state, and federal
government; NGOs; and other non-profits. Along with UCLA Chancellor Gene D. Block, we worry that focusing too much on salaries sends “a message that college is something people do just for themselves, not also for their communities.”

One of the most striking changes in higher education over the last decade has been the way technology has reshaped our relationship with and access to information. Students now have nearly unlimited access to information in ways that were unimaginable a generation ago. As a result, the model of higher education is evolving. No longer can universities understand their mission to be primarily that of disseminating information. Instead, they need to empower students to be sophisticated users of information and producers of new content. The analysis, interpretation, critique, effective communication, and creative expression that we hold as central to our disciplines mean that we have long understood our role to be much broader than disseminating information. The bodies of knowledge upon which such activities rest have traditionally been communicated to students through a combination of lectures and readings. We can anticipate that by 2030 faculty will ask students to learn even more of this information from online readings, datasets, videos, screencasts, and other means, and thus free class time for mentoring student research, supervising collaborative class projects, and engaging in additional discussion and analysis than we currently have time to undertake. However, a flexible pedagogical approach requires equally flexible classroom spaces. Such approaches require classrooms with robust and reliable internet connectivity, dependable audio-visual equipment, and desks that can be rearranged to facilitate group learning. They also require support for faculty training to ensure effective teaching with and about rapidly evolving technology.

Nationally, online education is of growing importance within higher education. There remains debate, however, about the role Cal Poly will play in this trend. Among the reservations faculty voice regarding online education are concerns about losing the interactions and relationships that come from in-person learning environments, a perception that online classes will increase faculty workload, a recognition of the need for specialized training in order to do it well, and issues surrounding intellectual property rights over course materials. Yet we can anticipate that our students will continue to take online classes, especially during the summer, in even greater numbers than they do today. The question remains whether they will have the opportunity to take Cal Poly classes online or if they will continue to transfer in online credits earned elsewhere.

The combination of the rising cost of higher education and the technical feasibility of online education has led some commentators to predict the end of the residential college. Although we anticipate that technology will enable instruction to continue to evolve and to take new forms, we also believe that Cal Poly will remain primarily a residential campus. The technologies of distance education may help us to develop mechanisms to enrich that residential experience by introducing greater flexibility for students and faculty to study, research, and work beyond San Luis Obispo, including abroad. In addition, such approaches may offer creative ways to utilize our space on campus more fully. We also believe that remaining a vibrant residential campus will require confronting the issue of the affordability of the San Luis Obispo area for students, faculty, and staff.

Broader trends within higher education also lead us to believe that our vibrant residential campus in 2030 will be more international in its composition, curriculum, and outlook. We expect that our student body will include more international students, particularly from China and India. We also anticipate that many of our students will continue to study abroad but expect that where they choose to do so will change, with more going to China and Latin America, for example.
Projections to 2030: Who will our students be?

Our students in 2030 will be more diverse, with a larger proportion among them who are first generation, from historically under-represented groups, and/or native-born children of immigrants. We expect that our student body will also include more transfer, non-traditional, international, and out-of-state students than it does today. More uncertain is whether the student body in 2030 will be as diverse as California’s college-age population is projected to be. Achieving this represents both a challenge and an opportunity. The composition of the student cohort who started at Cal Poly this fall reflects recent gains made by the university, as well as the work that remains to be done.

These demographic changes, particularly an increase in first generation, transfer, and international students, will require new services to ensure the success of all Cal Poly students in 2030. We can anticipate requiring additional resources to offer students guidance, mentoring, and advice about classes, academic success and study skills, financial aid, graduate school, and career planning. A more diverse student body in 2030 will also mean that it will be even more important than it is today to hire faculty and staff versed in issues of identity, cultural competence, and inequity. The projected composition of the 2030 student body may also place new demands on campus housing. For example, more non-traditional aged students could create greater demand for housing that can accommodate students’ partners and/or children. A larger international student population would create opportunities to internationalize campus through programs such as an international house that offers students a way to extend their learning about global languages and cultures beyond the classroom.

We believe that a more diverse student body in 2030 will require a curriculum that reflects and engages with this diversity by connecting to students’ identity and harnessing their potential; it demands a curriculum that is culturally and socially relevant. Regardless of the specific demographic composition of the Class of 2030, we will need a curriculum that introduces and trains all students in social competencies, particularly around race, culture, class, gender, and sexuality. Recent assessment of the Diversity Learning Objectives revealed large gaps in Cal Poly students’ exposure to and knowledge of issues surrounding race and culture.

Some commentators have suggested that students in 2030 may be less prepared than they are today for college-level academics. While we expect that Cal Poly will continue to attract many of the state’s top students, we also understand that a state-wide decline in college preparedness would be felt here. This would create a greater need for developmental (previously called remedial) services and place greater demands on faculty, particularly those teaching general education courses in the impacted areas. It would reinforce the importance of employing pedagogical approaches shown to be the most effective for developing essential skills like critical thinking, writing, and visual and oral communication, such as small class sizes.

We anticipate that Cal Poly students in 2030 will be “digital natives,” but we also recognize that this does not necessarily mean that they will be technologically literate. Even today, most college students are immersed in a digital world and rely on a wide range of technologies in their daily lives. Yet most also do not fully understand, critically engage with, produce content for, or analyze how such technologies shape and are shaped by society. Further, recent research has shown great variability and unevenness in digital nativity, suggesting that it is a mistake to assume universal levels and modes of technological use within the “Net generation.” We also anticipate that while students in 2030 will have access to an astounding range of information, many will lack the skills necessary to evaluate, analyze, and critique this information. These trends highlight the paramount importance of cultivating information and technological literacies among all Cal Poly students.
Projections to 2030: What will the global, state, and regional economy be like?
The global, state, and regional economy will be shaped by a wide range of forces, including many that we cannot foresee today. Among those we can anticipate are issues surrounding the environment and sustainability, globalization, health and disease, and California’s aging population. More broadly, we expect that our graduates’ jobs, career trajectories, and even workplaces will look different than they do today. Irrespective of these changes, we believe that our graduates will flourish in this new economic context because of the essential skills they develop through our programs, courses, and co-curricular activities.

Liberal arts students, faculty, and disciplinary expertise will be crucial to solving the complex environmental challenges facing our state and our globe. In order to develop innovative approaches to climate change, resource management, and sustainability, Cal Poly graduates will need to understand the social, cultural, political, legal, and ethical contexts and implications of these issues. Similarly, in order for CLA graduates to be effective leaders in developing policies, laws, educational programs, technical innovations, and other solutions, they must understand the science on which such concerns rest. The environmental issues confronting us demand an interdisciplinary response. As the organizers of a 2007 conference on sustainability at Yale concluded, “we have many sophisticated scientific and policy analyses of climate change, species loss, and other environmental issues but our situation also requires the knowledge and wisdom of psychologists and philosophers, poets and preachers, historians and humanists to help us see and communicate hard truths and inspire individual and social change.”

The broader issues of sustainability will also shape our future economy. As defined by the UN’s Brundtland Commission in 1987, sustainable development is that which “meets the needs of the present without compromising the ability of future generations to meet their own needs.” Sustainable development requires that we consider economic development, cultural preservation, and social justice as well as the environment. This creates opportunities for us to engage students across the curriculum in considering sustainability from a variety of perspectives. In the disciplines of the liberal arts, faculty have the expertise to teach students the myriad ways that political and social issues such as poverty and gender inequity are entangled with sustainable development.

Issues like sustainability and climate change are just two examples of how globalization will challenge us to develop students’ cultural and global competencies. Students need to be globally literate, not just globally aware. Cal Poly graduates will require knowledge of global cultures and languages in order to understand, communicate with, and effectively interact with people from diverse cultures and backgrounds. Study abroad, student exchanges, international visiting scholars, and international service projects represent opportunities in this area.

Today’s headlines remind us of how quickly a local problem can become a global concern. Efforts to stem global pandemics of diseases such as Ebola and HIV/AIDS have demonstrated that cultural knowledge can be as important as scientific or medical expertise. For example, the director of the CDC recently argued that one of the “three key preventive interventions” necessary to halt the spread of Ebola is “educating and supporting the community to modify long-standing local funeral practices…This is a culturally sensitive issue that requires culturally appropriate outreach and education.” Liberal arts graduates and disciplines will therefore be indispensable partners in efforts to promote global health and combat pandemic disease. We need to empower all Cal Poly students, not just those of the CLA, with the global and cultural knowledge and understanding necessary to develop effective solutions to tomorrow’s global crises.
Healthcare will also be an important issue within the domestic economy. The aging of the Baby Boom generation will create greater demand for healthcare and social services, and for graduates who can work in these areas. By 2030, we can expect robust demand for public health officials, social workers, mental health clinicians, registered nurses, physicians, dentists, and other health service providers. Although CLA graduates already work in these areas, there is also great potential to expand the number of students we prepare to pursue these occupations. For example, historically students at Cal Poly have not pursued pre-med coursework in conjunction with a CLA major. Yet nationally, fifteen percent of applicants to medical school in 2013 majored in the humanities or social sciences. More striking, these students did better on the MCAT and were admitted at a higher rate than students who majored in the biological sciences (who represented over half of applicants). Further, recent changes in medical education emphasize skills and knowledges found within the CLA. Beginning in 2015, the MCAT will include a new section on social and behavioral sciences that will comprise twenty-five percent of the exam. It reflects the increased emphasis medical schools place on aspiring physicians’ abilities to work with diverse populations and to understand the impact of behavior on health. Medical schools also increasingly urge their students to take medical humanities courses that employ creative writing, theater, and art to develop future doctors’ capacities for empathy.

The aging of the Baby Boom generation is also one cause of the projected shortage of one million college-educated workers in California by 2025. If not addressed, this shortage could function as a check on the state’s economic growth. It therefore represents both an opportunity and a challenge for Cal Poly to help close this gap. To do so, we must continue to improve our graduation rates while exploring alternative means to serve student populations in addition to those we serve today, such as non-traditional and/or mid-career students desiring further education.

The working world our graduates will enter will be quite different from that which greeted previous generations. We can expect that graduates will change jobs at least a dozen times during their careers. They are also more likely to work from home or in co-working spaces, and to be self-employed, freelancers, or contingent workers who take a modular approach to jobs (working on specific yet often short-term projects). In such an environment “the ability to learn is something of a survival skill. Education never stops, and the line between working and learning becomes increasingly blurred.” This will require graduates who are adaptable and prepared with transportable skills such as critical thinking, written and oral communication, and the ability to quickly learn new things. Unlike many so-called “hard skills,” these competencies do not lose their currency among major technological or economic transformations.

**Projections to 2030: What will we be preparing our graduates to do?**

Through an emphasis on creative thinking, human understanding, and innovative action, the CLA will continue to prepare Cal Poly graduates to confront tomorrow’s challenges responsibly by understanding the historical, cultural, social, behavioral, ethical, aesthetic, technological and philosophical complexities of global and local communities. We will inspire and empower graduates to create a robust, vibrant, diverse and responsible culture that sustains progress, beauty, and justice for the larger society.

CLA graduates will work in a wide range of fields, including many that do not exist today. Given that the essential skills cultivated by our disciplines are crucial in all sectors of the U.S. economy, there are few industries where you cannot find our alumni employed. Among the fields our graduates enter are advertising, banking, heritage resource management, education, geospatial
technology, government, health care, journalism, law, marketing, packaging, public policy, public relations, publishing, sales, social media, and social work. Our graduates also include archaeologists, artists, behavior therapists, congressional aides, curators, dentists, game developers, graphic designers, librarians, musicians, nurses, pastors, project managers, poets, theater techs, technical writers, toy creators, web developers, and winemakers. Motivated by an interest in social justice, many chose to work for a few years after graduation for Americorps, Peace Corps, Teach for America, and similar organizations.¹⁶

Yet our students often are not aware of the multiplicity of careers open to them. While they know that many humanities and social science majors, for example, become teachers and lawyers, they often are surprised that others become CEOs, Google employees, and NASA mission specialists.¹⁷ In some departments, such as Graphic Communication, strong links to industry have already enabled them to communicate such possibilities to their students. Given the multiplicity of potential careers in the liberal arts, we need to ensure that all CLA students are acquainted with the full array of possibilities before them. This need will become even more acute if in 2030 our student body includes more first generation students. Collaborating with Career Services presents us with the opportunity to meet this need. Students will enrich their college careers (and prepare for their future ones) by integrating into them professional experiences such as internships, informational interviews, and meetings with alumni.

Regardless of the myriad changes likely to occur in technology and the broader economy, we know that the essential skills will remain essential. Graduates will need to communicate effectively, write clearly, think critically and creatively, make ethical decisions, solve complex problems, and be behaviorally, socially, and culturally competent. Many of our students will need to employ the expressive, technical, and research skills taught by our majors. Our graduates will be expected to facilitate interactions between diverse groups of people and to work productively with team members who bring varied technical and non-technical skills and who come from a variety of racial, cultural, ethnic, and socioeconomic backgrounds.

While these essential skills will remain important, we also expect that our students’ working lives will be different in key ways by 2030. In particular, we anticipate that it will be increasingly critical that our graduates have the ability to work with large quantities of information, to be entrepreneurial, to communicate across multiple platforms, and to bridge the social and the technical. Our students will need to be able to extract, analyze, synthesize, and communicate large quantities of data. Many will find themselves tasked with tracking, mapping, or visualizing social, cultural, and economic trends based on Big Data. We also expect that it will be increasingly important that our students be entrepreneurial. The projected decline in traditional, permanent jobs will reward individuals willing to take risks and create their own opportunities. Such skills have long been necessary for self-employed artists and performers. Many students will need to employ the tools of social media and other forms of communicating across diverse platforms. They will need to understand the diverse and constantly evolving tools available to tell their stories. More broadly, students who can bridge the gap between the technical and the social and humanistic will be well-poised for success in many different fields.

Recent trends suggest that on average our graduates in 2030 will be employed by smaller organizations than they are today.¹⁸ Smaller organizations often ask their employees to fill a greater range of roles. It will therefore be increasingly important for students to have wide knowledge and skill bases to draw upon. The breadth of our students’ education will enable them to be crucial contributors at smaller companies and non-profits.
Regardless of their particular major or chosen career path, a liberal arts education prepares all Cal Poly graduates for success. A recent survey found that eighty percent of employers agreed that students needed broad knowledge in the liberal arts and sciences. And ninety-three percent agreed that “a candidate’s demonstrated capacity to think critically, communicate clearly, and solve complex problems is more important than their undergraduate major.”

Projections to 2030: What will our students need to learn to be successful, happy, and fulfilled? What level(s) of education will they need?
To become successful, happy, and fulfilled alumni, Cal Poly students will need to learn the core knowledge, skills, and habits of mind of the liberal arts. They will require both deep disciplinary expertise and a broad interdisciplinary perspective. This combination will also prepare many CLA students to attend highly competitive graduate schools in a variety of fields.

Employers, graduate admission boards, and alumni themselves all stress the indispensable importance of developing students’ critical thinking skills. In the disciplines of the liberal arts, students hone their critical thinking abilities through interpretation, comparison, evaluation, synthesis, and critique of sources and data. They enrich their understanding by exploring background assumptions, biases, and conflicting interpretations, as well as the consequences and implications of their analysis. Our students’ analysis is frequently based on quantitative and qualitative data collection; close readings of texts, objects, or other cultural artifacts; and reasoning focused on real-world contexts and challenges.

Through CLA classes and programs, students develop their written, oral, and visual communication capacities and expertise. They learn how to adjust their messages in response to multiple audiences and in diverse contexts. To become better communicators themselves, students need to be exposed to and wrestle with great works of art, literature, music, philosophy, theater, and other expressions of the human condition. This promotes aesthetic appreciation and empathy. It also cultivates students’ own creativity and innovation.

To be happy and successful, our students will need to have engaged in sophisticated discourse and analysis about ethical dilemmas. Additionally, they should have the opportunity to engage with issues of ethics as applied to their discipline or desired career path. The Jim Hayes Symposium sponsored by the Journalism Department and the lecture series run by the Ethics + Emerging Sciences Group housed in the Philosophy Department are good examples of such opportunities.

Our students’ success will also be rooted in the value and understanding they have for global languages and cultures. CLA students must be globally literate, having analyzed global issues and challenges from diverse perspectives. Many will enrich their global competencies through study abroad, international service projects, or language study. CLA graduates will be aware and engaged citizens of their cities, regions, nations and globe; they will be prepared to lead in an increasingly interconnected and interdependent world.

Our students will need to develop disciplinary expertise as well as an ability to think and collaborate across disciplines. In order to master their chosen area of study, students will require faculty mentors who themselves are engaged experts in their respective fields and who are committed to the university. The breadth of general education combined with the depth of scholarly expertise within students’ chosen majors will foster intellectual curiosity, passion for learning, and the joy of scholarly discovery and creative expression. As discussed in more detail below, we see an
opportunity for Cal Poly to enhance interdisciplinary initiatives, faculty collaborations, and course offerings.

We also see a growing imperative to develop students’ information and technological literacies. The rise of Big Data and employers’ demand for graduates who can bridge the liberal arts and technology highlight this need. CLA students in 2030 will need to understand, employ, analyze and contextualize new technologies. But they must also be producers, as well as users and critics of technology and technological knowledge. At the same time, it will become increasingly important that students from other majors traditionally strong in technical skills understand the social, cultural, behavioral, and aesthetic context of science and technology. All Cal Poly graduates will require the ability to integrate technology into the broader humane, aesthetic, and social context.

The rapid pace of technological change that we anticipate will continue into 2030, will require that our students be adaptable, resilient, and engaged in life-long learning. We believe that students’ ability to be reflective, self-directed, socially-responsible, and aware of their mental and physical health needs is essential to their future success, happiness, and fulfillment.

To be effective team members, leaders and advocates, our students will require project management and team-building skills. Their ability to work with diverse colleagues and clients will hinge on the cultural competency and empathy developed through our programs. They will also need to understand how structural legacies, opportunities, values, and constraints produce relationships of power in our society.

Intellectual curiosity, along with the quest for success and fulfillment, will lead many of our students to graduate school. One in four CLA students enrolls in a graduate program within six months of graduation. National trends suggest that an even greater proportion of them (approximately forty percent) will attend graduate school at some point in their careers. The projections of the U.S. Bureau of Labor Statistics and trends within our respective disciplines lead us to conclude that graduate education will become more common among our alumni by 2030. We believe our students will continue to attend graduate school in a wide-range of disciplines, often in fields not directly related to their undergraduate major. The broad and rigorous education they receive in the CLA enables this diversity in their chosen areas of graduate study. Liberal arts disciplines also prepare students to excel on graduate admissions exams such as the LSAT, GRE, GMAT, and MCAT. The CLA prepares our students not only to get admitted to graduate school, but also to succeed once they have matriculated. In particular, learn-by-doing opportunities to conduct original research, publish or present their findings, and complete a senior project prepare students for success at the graduate level.

**Projections to 2030: What are the implications for interdisciplinary and integrated learning?**

We expect that Cal Poly students will desire an integrated, interdisciplinary experience, as multifaceted as the digital devices they now carry in their pockets. The CLA has long identified interdisciplinarity as one of our core values. Our college houses interdisciplinary courses, faculty research, and departments. We therefore welcome the opportunity to collaborate more extensively within the broader university and within our own college, while also recognizing that such efforts must be rooted in disciplinary expertise.

Many of our conversations about the future have highlighted the importance of interdisciplinary initiatives the college is developing at present. The need for graduates who can integrate liberal arts with science and technology may in part be met by the four proposed Science, Technology, and
Society minors (Ethics, Public Policy, Science & Technology; Gender, Race, Culture, Science & Technology; Media Arts, Society & Technology; and Science & Risk Communication). Through these minors, students will explore the complex relationships between science, technology, and society from interdisciplinary perspectives. Similarly, the Integrated Marketing Communication minor jointly proposed by Graphic Communication, Journalism, and Marketing offer students the chance to break down traditional barriers between content-creation, design, and market analytics. The proposed minor will enable students to develop integrated marketing campaigns that create and deploy visual, graphic, and written content across diverse platforms, as well as to analyze their impact.

The varied expertise and interest of CLA faculty make them natural partners for a wide-range of potential interdisciplinary collaborations. Among the new areas of potential collaboration that we discussed this quarter were cognitive science, critical design, data communication, media innovation, public humanities, and global sustainability. Cognitive science brings together faculty interested in basic research into how the brain works with those interested in questions about the applications of such research, including interfaces with technology and the design of human artifacts. In a closely related area, critical design would bring together individuals across colleges engaged in design and its analysis to investigate the social implications of design and the ways certain designs serve (or do not serve) different populations. Collaborations in the area of data communication would build upon the excellent work already being done by the library’s GIS Center and Data Studio. It would aim to provide students and faculty with the tools to collect, analyze, and communicate the increasingly large quantities of data available. In particular, it would highlight the techniques of data visualization through maps, graphs, and other visual means. Similarly, a center for media innovation would provide students and faculty new tools for telling their stories by employing new and emerging technology, platforms, and channels. Collaborations in public (and digital) humanities would aim to use new technologies to tell enduring stories about the human experience while simultaneously engaging the public. Often such projects take the form of online exhibits and archives. Global sustainability returns the issue of sustainability to its international roots. By emphasizing the foundational definition of sustainability, it challenges students to broaden their understanding of the concept to include issues of development, cultural heritage and equity, and to consider such issues within the context of global studies.

Among the barriers we see to greater interdisciplinary collaboration are the course approval process, the logistics of team-teaching, concerns about its implications for the retention and tenure process, and a shortage of collaborative spaces. Faculty have frequently expressed a desire to see the course approval process streamlined and shortened in order to make our curriculum more nimble. Although team-teaching will always include logistical challenges, some of these could be minimized through clear guidelines about how WTUs will be divided and how other resources will be shared. Both team-teaching and interdisciplinary research collaborations push faculty beyond their expertise and comfort zones. We believe a mechanism in the RTP process that recognizes this and gives faculty engaged in such activities the “right to fail” would encourage more interdisciplinary collaboration. Additionally, shared and flexible collaborative spaces in which all members of the campus community feel equal ownership would encourage interdisciplinary work.

We are optimistic that such barriers can be overcome in order to provide our students with the sorts of interdisciplinary learning opportunities that solving the problems of the 21st century will require. We see an opportunity to enhance these experiences by encouraging more CLA students to work in interdisciplinary (including cross-college) teams for their senior projects. But we also understand that interdisciplinary perspectives should be integrated throughout students’ time at Cal Poly and that the
value of interdisciplinary collaboration needs to be stressed consistently across units on campus. We believe that it is worth exploring whether admitting students to disciplinary clusters or to the college as a whole would enhance students’ appreciation for and willingness to engage in interdisciplinary, holistic learning.

Conclusion
Interdisciplinary collaboration and learning represent just one of the exciting possibilities we see before us in 2030. While we anticipate that the future will bring many challenges locally, nationally and globally, we also remain confident that the knowledge and skills of the liberal arts combined with a holistic, interdisciplinary experience will prepare our graduates to solve tomorrow’s problems. Our commitment to student success and to providing the students of the CLA and of all colleges with the essential skills they need in order to become successful, happy, and fulfilled will remain constant. So, too, will our commitment to creating a rich culture of diversity and inclusivity, on campus, in our local community, and beyond. In these ways, the College of Liberal Arts will be an indispensable partner as the university community works together to become the nation’s premier comprehensive polytechnic university.

1 This narrative, submitted on November 21, 2014, is based on faculty feedback and discussion at the department, college, and university level during Fall Quarter. In addition, other key stakeholders, supporters, and collaborators were consulted, including the CLA Dean’s Council, Cal Poly Career Services’ CLA specialists, and the Cal Poly International Center. The discussions and contributions of departmental representatives on the CLA College Planning Committee and College Council were particularly influential in shaping this narrative.


11 Association of American Medical Colleges, “Table 18: MCAT and GPAs for Applicants and Matriculants to U.S. Medical Schools by Primary Undergraduate Major, 2013,” https://www.aamc.org/download/321496/data/2013factstable18.pdf. Applicants’ mean MCAT scores in 2013 were: 29.5 for humanities majors, 28.5 for social sciences majors, and 28.2 for biological sciences majors. Humanities majors matriculated at a rate of 48.5% and social science majors at a rate of 42.2%, compared to 41.4% for biological sciences majors.


13 Hans Johnson and Ria Sengupta, Closing the Gap: Meeting California’s Need for College Graduates, (San Francisco: Public Policy Institute of California, 2009).


16 See Cal Poly Career Services Graduate Status Report tool for more information about the wide range of careers CLA students embark upon within six months of graduation, https://www.careers.calpoly.edu/search.php


19 Association of American Colleges and Universities, “It Takes More than a Major: Employer Priorities for College Learning and Student Success: Employer Priorities for College Learning and Student Success,” (2013), 2.

20 Data derived from the Cal Poly Career Services Graduate Status Report tool shows that 25.4% of CLA respondents who graduated between 2005 and 2013 were enrolled in graduate school at the time they completed the survey, https://www.careers.calpoly.edu/search.php. Nationally 40% of humanities and social sciences majors go to graduate school at some point in their lives, compared to 30% of professional and pre-professional majors and 53% of physical science, natural science, and mathematics majors. See Association of American Colleges and Universities, “Liberal Arts Graduates and Employment: Setting the Record Straight,” (2014), p. 3 of 4, https://www.aacu.org/nchems-report.


# Table of Contents

College of Liberal Arts Narrative ................................................................. 1

References ................................................................................................. 10

Appendix A: Table of Contents ................................................................. 13

Appendix B: Graphic Communication Department Narrative .................. 14

Appendix C: Journalism Department Narrative ........................................ 19

Appendix D: Modern Languages and Literatures Department Narrative ....... 20

Appendix E: Political Science Department Narrative ................................ 21

Appendix F: Science, Technology & Society Minors Program Narrative ........ 24

Appendix G: Social Sciences Department Narrative .................................... 31

Appendix H: Women’s & Gender Studies Department Narrative ................. 37
INTRODUCTION: THE RELEASE OF GRAPHIC COMMUNICATION 3.5

The Graphic Communication community over the years has had a heck of a run since Gutenberg, 500 years—printing indulgences, bibles, and everything else. And, Senefelder helped bridge us over into the world of lithography that took us to even newer and unmatched heights. Graphic Communication 1.0 was the beginning of a solid and persevering discipline that required a highly skilled workforce of both creative talent and manufacturers dedicated to the craft. However, in 1984, the advent of the Macintosh dawned a whole new world, one that included digital typography, self-publishing, and computer-assisted design. Graphic Communication 2.0 forever changed the landscape of an industry in need of creatives able to assist customers in making their print collateral stand out from the rest. And, that went well until the mid-1990s and the evolution of the Internet provided a venue in which to communicate and view information instantaneously from every computer interface connected to it. It provided a means for creating, disseminating, archiving, accessing, and viewing mass volumes of data that was once printed and archived on bookshelves across the country. Graphic Communication 3.0 challenged every graphic communication enterprise, and educators alike, to rethink core competencies and develop markets that leveraged—or at least complimented—print media. The Web, in need of talented creatives capable of both design and coding have forged ahead to intricately analyze human interaction on all of the electronic interfaces (and gizmos) that consume countless hours of time from the newly emerged bastion of knowledge workers known today. The quandary, however, is looking through the chaotic shifts that have defined the graphic communication curricula of the future—or in other cases, caused institutions to fade away. The release of Graphic Communication 3.5 is upon us. Unfortunately, we don’t have 500 years. In fact, we probably have only a couple of years, considering the enactment of Murphy’s Law and the continuous changes made through the advancements in technology.

To help us get through this, however, is the student of the future who will become the product of the institution. These students will compose the future workforce of an industry in flux. They will also be quite different from any other generational cohort in that the technology will not have to be learned because it will already be deeply rooted to their genetic make-up. They will, however, require essential skills that will allow them to communicate, relate, empathize, process, appreciate, cogitate, reason, and act in the spirit of a humanist destined to make the world a better place. This is where the foundation of Liberal Arts comes to play.

Graphic Communication is a discipline within the College of Liberal Arts. Students and alumni from Graphic Communication are, in essence, the quintessential “Frankensteins” of the Liberal Arts. GrC students and alumni learn, study, and apply theoretical concepts delivered by all disciplines within the Liberal Arts. Steeped in a very rich and proud history, Graphic Communication and the evolution of printing technology are considered to be a catalyst of modern civilization. Founded within the social sciences through graphically displayed testaments as archeological artifacts, the conditions of the past could be studied and analyzed. Print media and graphic communication were significantly responsible for the advancements in the fields of communications, political sciences, and journalism. Music, Theatrical Arts, and the field of Art & Design have relied heavily on the skills and practice of graphic communication professionals to promote the very events and talented performances of the past and future. Principles of
psychology are most often required in the development of campaigns with regards to color, structural imagery, typography selection, and user experience. Ethnic and Gender studies have assisted in driving a national awareness of diversity and inclusivity through expanded promotion and customized packaging. The disciplines of English and Communication Studies remain as the core to success for GrC graduates and alumni in that, the content and rhetoric that is displayed and represented within a print or web campaign require an advanced understanding in the theory and practice of writing and oral communication. To purvey highly sought critical thinking skills—in compliance with University Learning Objectives — students and alumni of the future will continue to require deep appreciation and understanding of philosophical principles needed to influence decision and promote ethics in a discipline experiencing great changes. And finally, as a global industry, never has the necessity to engage in foreign cultures been in such great demand for students and alumni in the field of graphic communication. A broad and expansive $600B industry inclusive of a vast supply chain (that consists of content developers, graphic designers, product developers, project managers, production engineers, chemists, physicists, environmental engineers, sales people, business managers, logistics planner, marketers, and web developers to name only a few) the essential skills of a solid Liberal Arts education is simply an imperative for the future of the Graphic Communication industry. The Graphic Communication Student (and program) of the future shall remain the bastion of the Liberal Arts represented not as an ugly and grotesque monster, but as a dashing, professional, well-educated, and empathic human dedicated to improving the human condition and advancing civilization.

TIERS 1 – HIGHER EDUCATION TODAY

- What forces are shaping Cal Poly and Graphic Communication today?
- What new forces may come into play by 2030?
- Please address challenging forces to higher education and opportunities stemming from higher education trends.

Graphic communication has witnessed great change over the past 25 years. From a print-based culture the digital world has evolved and changed the cultural reliance on print media as a primary vehicle to distribute mass publications. What was once static and mass-produced, can now be customized and distributed instantaneously through electronic media. As a result, the GrC Program—once heavily rooted in traditional printing technology—has emerged into the field of web-development and design, digital reproduction technology, and graphics for packaging. In fact, over the past year the Graphic Communication department has met numerous times in strategic planning sessions to evaluate curriculum of the future. As a result, the faculty within GrC have concluded that—although highly relevant—printing technology curriculum must now further include web and digital media. Where course work was focused upon more heavily in printing technology, now web development, user-interface, user-experience, and back-end coding will replace some printing courses in order to adjust for the demands of the industry and ensure the employability of future graduates.

Challenges to higher education, with regards to financial constraints as primary concern, will remain in the areas of physical facilities and retrofitting existing old and antiquated buildings to handle the technological advancements made in the area of printing technology and the expansion of digital interface computing (static desktop stations arranged in classroom environments)—should this remain to be the model of content delivery. The infrastructure of many of the older buildings on campus, including Building 26, Graphic Arts, will require...
significant financial resources in order to bring them into specification that will be congruent with industry and in compliance with incoming student needs (fast and vast internet connectivity, digital signage, interactive classroom structures, etc.).

TIER 2 – PROJECTIONS TO 2030

1. Who will our students be in 2030? What are their expectations and interests likely to be?
   GrC students of the future will be design-centric and web-savvy. They will want to learn how to design products that will be distributed throughout the web and through mobile apps and they will be interested in designing packaging for many consumable products placed on the market. They will also remain intrigued with traditional and digital printing technology and will appreciate learning about them from an applications perspective.

2. What will the global and regional economy be like in 2030?
   The economic status of the Graphic Communication Industry is currently based at $600B. It is projected that the commercial printing and publication sector will decrease 8% over the next 10 years and then stabilize into the year 2025. The publication and commercial printing market is currently at $158B, therefore, it will stabilize at about $144B. However, with the rise of interest in the areas of Printed Electronics and Functional Imaging (including 3D Printing)—this sector is projected to jump into a market of $24B by 2025.

3. What will we be preparing our graduates to do in 2030?
   A study conducted in the Netherlands in 2013, by Richard Leloux (A&O fonds Grafimedia) and Ruud Schets (BTB fonds Uitgeverij)—in conjunction with GOC, an educational consulting organization specializing in the Graphic Communication and Media Discipline—concluded that in the feverishly changing landscape of the graphic communication and printing industry, educational institutes must be cognizant to the needs of the future of media which ultimately falls heavily into the space of the Web, Big Data, marketing, and design. Print will inevitably remain relevant—and necessary—but not primary in a world of many forms of media.

   In the Grafimedia and BTB study (2013), organizations, employers, and employees alike were surveyed about the future needs of their businesses, and their projected skill set requirements respectively. As a result, the survey concluded that there are 10 distinct and prominent talents and positions that will emerge as outcomes for educational institutions by the year 2020.
   1. Content Engineer
   2. Content Logistics Engineer
   3. Content Logistics Manager
   4. Interactive Marketer
   5. Web Care Assistant
   6. Community Manager
   7. Concept Manager
   8. Data Journalist
   9. Data Visualization-Designer
   10. 3D Print Designer
According to the survey, “In 2020, media communication companies work together in networked relationships. They earn their money by producing, advertising, realizing, and combining content. The greatest qualities of this sector are attributed to the 4 Cs: Creating, Curating, Communication, and Converting.”

4. What are the implications for emerging fields and integrated learning that goes beyond traditional disciplines?

**Graphic Communication and Computer Science**
We have been engaged with computer science and have held two successful Hack-a-Thons where GrC students meet with computer programmers (computer engineers and computer science students) to develop and propose a new mobile app or web site. The students congregate for an extended period of time and at the end of the designated amount of time they meet in front of panel of professionals who then critique their work and offer awards and potential employment opportunities. These have been quite successful and have leveraged continued interest in partnering between the two (and other applicable) disciplines.

**Graphic Communication and Industrial Technology (Packaging)**
Graphic communication and Industrial Technology students often share classes and engage in shared research that pertain to the packaging industry. There will be extended opportunities for both programs as more industry initiatives evolve.

**Graphic Communication and Electrical Engineering**
We have developed and launched a certificate program and Masters Degree of Science in Printed Electronics and Functional Imaging. This has fused many relationships with multiple disciplines that play in this space, i.e. EE, ME, Chemistry, Physics, etc.). This is inevitably an area that will generate growth as an emerging field.

**Graphic Communication, Marketing (Business), and Journalism**
The three departments have developed a minor program in the emerging area of Integrated Marketing Communication. The purpose is to provide the student with an opportunity to understand how to develop, launch, design, create content for, and analyze various marketing initiatives that include all media. This program tentatively set to accept applications in Fall 2015.

**CONCLUSION**
Graphic Communication is preparing to accept, acculturate, educate, and train students of the future. It is obvious that more relationships with traditional and non-traditional entities will continue to evolve as most industries are accepting and in need of graduates that possess skills that advance digital (web, mobile app, printed media) and traditionally printed media (publishing, manufacturing, packaging, and printed electronics).

This cannot be done successfully, however, unless the parent educational institution is prepared financially to develop adequate classroom, lab, and testing space and provide the necessary educational resources (faculty and staff) to facilitate such endeavors—and—the culture of the
campus rallies to advance the College of Liberal Arts (through financial commitment) as a
necessity to producing a well-rounded, contributing and participative Cal Poly Graduate of the
future.
Journalism Department Priorities in Academic Plan for Enrollment:

Overview:

The field of journalism has been in a state of constant change and adaptation for at least 100 years, but the pace has accelerated with the digital revolution; this acceleration will only continue in the coming decades.

What will stay the same:

- The need for journalists to serve audiences
- That serving audiences can only happen if we consistently maintain and enhance the credibility of both ourselves and our news organizations
- That good journalism is essential to a functioning democracy
- That journalists must learn from other disciplines in order to succeed

Concepts that will guide Cal Poly Journalism efforts in the coming decades

- New (tech) tools but enduring (ethical) rules
  - Emphasizing credibility and ethical conduct
  - Students, faculty and graduates are in a state of continual learning and training
- Diversity
  - In traditional terms
    - (race, ethnicity, gender, age, sexual orientation, social class, political points of view, income class, etc.)
  - But also, in terms of managing a diverse newsroom
  - And a diversity of locations where learning happens
  - And a diversity of approaches to how students learn best
- Increased need for journalists to have specialized knowledge and expertise, and increasing demands that experts in other fields be skilled in communication tools and rules. This leads to partnerships with programs both in and beyond CLA. *Examples already in place:*
  - New Integrated Marketing Communications minor with MKTG and GrC
  - California Fruit & Vegetable Report produced with AGB and AEC
  - Data Journalism course developed with Computer Science and Art & Design
  - Digital Copyright and Trademark course that spans all of Cal Poly
  - Putting our students in the center of university life, via:
    - Plans for a media center in a renovated University Union
    - Public streaming of interviews with influential people
- Recognizing that news media consumption will increasingly be audience-driven
  - Exploring how journalism can serve democracy in this context
  - Exploring alternative storytelling forms to draw attention to important stories
Modern Languages and Literatures Department Narrative

By this document, the Modern Languages and Literatures department wishes to reaffirm the vision expressed in our college’s collective statement “Envisioning the Future.” As more and more universities seek to emphasize internationalization to give their students broader perspectives and professional opportunities, we see our discipline’s present and future role as that of an intermediary.

As the current and future trends in higher education as well as the future demographics in the U.S. and California move towards increased diversity and inclusivity, we see our language and culture programs as being more and more integrated with other programs across campus. To accomplish this, we envision an increasingly flexible language curriculum that allows students from majors across campus to meet their own discipline-specific goals while at the same time opening their fields of study onto different perspectives through international experiences. This will provide them, for example, with opportunities to work with companies and institutions locally and abroad where linguistic and cultural skills will be crucial to their personal and professional success. We see our department as facilitating linguistic and cultural immersion by various means, tailored to each student’s academic and professional goals.

With respect to future changes in demographics in California, which projects a change in our student body as coming from a smaller and more diverse pool of potential applicants, our department will provide students with academic and professional opportunities in languages other than English which are spoken in California, particularly Spanish and Chinese. We see our department offering more courses designed for native and heritage speakers of those languages as well as opportunities to pursue their broader educational and professional goals in an environment that reflects their cultural backgrounds, by, again, providing students with flexible and efficient ways to diversify and internationalize their curricula and future careers, as they pursue study and work here and abroad.

In this way, we see ourselves creating bridges between different languages and cultures and between different fields of study. In harmony with the College of Liberal Arts’ vision which emphasizes global competency and awareness, we here wish to reaffirm our vision of a university of cross-disciplinary programs which fully integrate scientific and technical knowledge together with cultural and linguistic fluency in order to prepare our students for global sustainability.
The Political Science Department discussed the questions below on a number of occasions to hone in on our collective views of the discipline's unique strengths in confronting some of the biggest challenges faced by the College of Liberal Arts, Cal Poly and the state of California in the next fifteen years. We view political science as an especially well-qualified discipline for addressing the causes and consequences of historical change and the distribution of power at home and abroad. Our discipline's emphasis on government operations, social movements, comparative politics, global affairs, and public policy will be in higher demand over the next several decades as societies wrestle with greater diversity, more inequality, enhanced interdependence, and higher resource scarcity. We believe that our answers to the questions below highlight the broad and deep value of the discipline in nurturing and training the next generation of California and national leaders in a range of professions. We look forward to remaining a vital part of Cal Poly's mission to become the premiere comprehensive polytechnic university in the nation.

What forces are shaping Cal Poly (and your discipline) today (which are likely to continue into the future and what new forces may come into play by 2030? We believe that the following forces will shape Political Science at Cal Poly:

- Politics will continue to be an important driver
- Globalization will continue to shape reality
- Changing/realignment US role in global politics
- Increasing demands on citizenship
- Increasing emphasis on localism and community
- Continued need for law school preparation
- Increased importance of and breadth of sustainability as a concept
- Increased speed at which systems have to respond to increasingly interdependent problems
- Heightened importance of skills to navigate technological change as well as ability to participate in discussions about the equity and political economy of its distribution
- Continued and growing importance of power, power dynamics and equity at global, national, regional and local levels

There is a core set of knowledge about politics and power that we expect to be important skill sets for tomorrow's students. We discuss the core of these knowledge and skill sets in our response to question four.

Who will our students be in 2030 (e.g., demographics, pre-college prep)? What are their expectations and interests likely to be?

We identify the following demographic trends important for the field of Political Science and Public Policy at Cal Poly:

- Increased diversity of all kinds in the student body, driven either by external or internal factors,
• Extended Adolescence – potentially changing the role of college and increasing the need for opportunities to center life on campus,
• More transfer students,
• More first generation college students,
• More first generation graduate students,
• More adults seeking to advance their education (graduate, undergraduate, certification, continuing education.),
• More technology of all types available to students,
• More expectation of technology integrated into their educational experiences,
• Students, in general, will come in with less adept writing/communication skills; less breadth across different topics; less knowledge about general historical and social systems,
• More/Fewer international and out-of-state students.

What will the global economy be like in 2030? What will we be preparing our students to do (in general, and in your discipline)?

Following the CLA Vision Statement, we believe the following trends will likely shape the global economy:
• Economy will be larger
• US role in it will be smaller
• Overall world economic growth will revert back to its average 1-2% annual growth
• Increasing importance of international organizations and corporations
• Increasing importance of undergraduate work in Political Science for graduate/law school
Cal Poly Political Science graduates are particularly well suited to participate in future global economies because of our emphasis on developing appreciation for and understanding of global cultures and languages; assessing and evaluating the systems of governance and government; and increasing participation in cross-disciplinary problem solving (e.g., sustainability, energy, technology, health).

What will your students need to learn to be successful (in general, and in your discipline)? What level(s) of education will they need (particularly in your discipline)?

We believe there is an increasing need for post-secondary education and certification, including area specific applied graduate programs as well as continuing education, particularly at the Masters level (MPH; MPP; Sustainability; Ethics, Public Policy Science and Technology). This trend is driven not only by an increasing need for well-trained and critically engaged citizens, but also by an increasing recognition of these types of professionally directed masters degrees and certifications as crucial terminal degrees.

While the National Survey of Student Engagement (2009) shows that Political Science tends to handle questions of inclusion of diverse perspectives quite well and encourage students to apply and analyze theories to problems, the demographic and economic trends identified
above will only increase the need for both political skills and knowledge. In particular, we strive to offer a program that encourages students to learn the following set of political skills:

- Participate in government/governance,
- Identify how to modify institutions and rules to get preferred outcomes,
- Collaborate with others,
- Identify stakeholders and interests,
- Persuade individuals,
- Strategic thinking and competing explanations,
- Manage data including the sorting/analysis/evaluating information and arguments,
- Recognize patterns.

Further, we strive to offer a program that encourages students to develop knowledge in the following areas:

- Institutional and behavioral knowledge of multiple types/multiple sources,
- Power dynamics,
- Explicit understanding of cause effect relationships,
- Competency and fluency in quantitative knowledge,
- Integration of multiple arguments,
- Understanding of social and political problems and their potential solutions.

In order to achieve these goals, the Political Science department emphasizes the following options as potential solutions to address the changing disciplinary, demographic, and economic forces:

- Preservation of student-faculty ratio that does not rely on lecturers or graduate students,
- Development of classes that are focused on the development of practical skills (e.g., nonprofit management, regulatory compliance, municipal financing, lobbying, civil service),
- Creation of creative partnerships with practicing professionals to provide practical learning experiences,
- Seek opportunities for strategic cross-listing – e.g., with CRP, NR, RPTA, BUS, etc.
- Pair internships with classes
- Develop a ProSeminar Skills Class focused on the specific and continued development of professional skills
  - Potentially team taught – interdisciplinary,
  - Focused on skill, law and policy that has broad application, i.e., not just focused on our own students
- Seek opportunities to connect Political Science and Public Policy throughout the University
- Develop undergraduate and graduate certificates (not major tied, courses listed across the university)
Visioning Statement from the Science, Technology & Society Advisory Committee in the College of Liberal Arts at Cal Poly

Throughout Cal Poly, academic programs and departments have been asked to identify the forces that will shape Cal Poly and our disciplines from now until 2030 – including in the areas of higher education; demographics (students, state, nation, globe); and the regional and global economies – and to explore how these changes may create both challenges and opportunities for the university. Second, we have been asked to reflect on the similarities and differences between how we will prepare our graduates now and in 2030 and what students will need to gain from education in order to be successful. Finally, we have been asked to think about the implications of these new forces, needs and desires for emerging fields and integrated learning that goes beyond traditional disciplines.

Within the College of Liberal Arts, we are participants in a college-wide initiative designed to foster enhanced interactivity and productivity at the intersections of science, technology, and society – with an emphasis on the utilization and development of perspectives and tools from the arts, communications, humanities, and social sciences. We believe that learning, teaching, and doing in this area will only become more necessary to the success of all Cal Poly students in all majors and to the well-being of our local, regional, and global communities during the next 15 years. When we look to the future and envision both its challenges and opportunities, we see the Science, Technology & Society Initiative as not only a “good fit” for Cal Poly, but an integral component of Cal Poly’s success as a 21st century comprehensive polytechnic university.

In this visioning statement, we wish to affirm the College of Liberal Arts narrative provided in response to the academic enrollment planning questions. Here, we take the opportunity to describe our motivations for engaging in this work and share our visions and aspirations for the Science, Technology & Society initiative. Second, however, we draw from our experiences and observations to identify unmet needs that, if not addressed, will hamper the success of our initiative and other interdisciplinary and multidisciplinary initiatives at Cal Poly.

The Science, Technology & Society Initiative in the College of Liberal Arts at Cal Poly

Our motivations for engaging in the emerging Science, Technology & Society Initiative in the College of Liberal Arts are multiple, and include recognition that:

1. The shared focus within the College of Liberal Arts on “human experience and expression” necessitates engagement with core STS questions such as: “How do changes in science and technology affect what it means to be human?” and “How do science and technology express human values?” (MIT, 2014).

2. The “grand challenges” of the 21st century – such as climate and environmental change, energy production and use, pandemic disease, terrorism, hunger, poverty, and social global inequalities in the distribution of resources – must be understood in both social and technical dimensions, and thus the development of a rich understanding of these grand challenges necessitates the integration of perspectives and tools from the liberal arts.
3. Contemporary controversies related to science and technology – for example, regarding the role of humans in climate change or the safety of vaccines – must also be understood as simultaneously social and technical. For example, differences in “values, interpretations, and worldviews” (Nisbet, 2014; Nelkin, 1992) provide different answers to the questions like “What counts as scientific knowledge, for whom, and how does this matter?”, “Who should control the development and application of science and technology and why?”, “How do we distinguish between ‘acceptable’ and ‘unacceptable’ risk and who decides?”, and “How do we understand and negotiate tensions between individual rights and community health?”

4. Addressing the “grand challenges” of the 21st century will require solutions that include but are not limited to scientific and technical innovations. Rather, solutions must include attention to and engage with the role of social, cultural, ethical, and political values, practices, and norms.

5. Curricular and co-curricular explorations of the complex relationships between science, technology, and society from the perspectives of the arts, communications, humanities, and social sciences can thus serve as an important resource in the education of all students at Cal Poly. Indeed, ongoing accreditation processes at Cal Poly already demonstrate this recognition. For example, ABET EC 2000 Criteria 3 (1996; 2004) requires that the College of Engineering demonstrate the ways in which students gain

- (c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (f) an understanding of professional and ethical responsibility
- (h) the broad education necessary to understand the impact of engineering solutions in a global and societal context
- (j) a knowledge of contemporary issues

Further support for this argument is provided by recent changes to the Medical College Admission Test (MCAT). In 2015, the MCAT will add a social and behavioral sciences section entitled, “Psychological, Social and Biological Foundations of Behavior.” According to the Association of American Medical Colleges (2015) website, this change “recognizes the importance of socio-cultural and behavioral determinants of health and health outcomes.” This transformation of what counts as pre-medical knowledge in the MCAT to include liberal arts disciplines is in line with data discussed in the College of Liberal Arts narrative: 15% of applicants to medical school in 2013 majored in the humanities or social sciences and these students earned higher MCAT scores and were admitted at a higher rate than students who majored in the biological sciences (who represented over half of the applicants) (AAMC, 2013).

6. College of Liberal Arts graduates with specialized training in STS will be positioned to make important contributions to understanding and addressing the most pressing challenges facing our communities and world. For example, the Harvard Office of Career Services has identified five distinct career paths for STS students (below).
Harvard Office of Career Services: Career Opportunities in Science, Technology and Society

http://www.ocs.fas.harvard.edu/students/careers/science/Science_Technology_Society.pdf

Career opportunities in STS include academic research and teaching, but they also range broadly across the legal, political, economic, and cultural applications of science and technology, including the life sciences (e.g., genetics, biotechnology, neurosciences, and the environment), information and communication technologies, and nanotechnology. Individuals interested in career paths in STS may consider roles such as:

- Government officials responsible for evaluating technical evidence for public policy or for funding research in science and technology;
- Corporate leaders, management consultants, and venture capitalists who seek to promote technologies that affect our interactions with each other, our health and safety, and our environment;
- University researchers and teachers interested in furthering scholarship on science, technology, and society;
- Journalists, museum curators, media consultants and others who seek to connect advances in science and technology with public education and wider social concerns;
- Scientists in public interest groups pressing for social and ethical awareness in science, engineering, and medicine.

Skills gained through STS training are highly transferable across many types of work, and a choice of one direction—e.g., a university professor—does not preclude being active in another—e.g., policy consultant—at the same time.

From our perspective, the career paths identified by the Harvard Office of Career Services are, in fact, too narrow. College of Liberal Arts graduates with specialized training in STS may also consider roles such as artist, activist, ethicist, health professional, or lawyer. CLA students with STS training will also be positioned to work in and lead non-profits and non-governmental organizations and in the arena described by Plaut (2010) as ‘diversity science’, which combines knowledge and methodologies from fields such as psychology, sociology, ethnic studies, and women’s & gender studies to understand and intervene in the “complex ethnic and racial issues of the 21st century” (p. 77).

7. Teaching, learning, and doing in the arena of science, technology, and society will support the development of intellectual, practical, and creative skills for our students, including:

- critical thinking, such as interpretation, comparison, evaluation, and synthesis of sources; awareness and explorations of background assumptions; and the consequences and implications of analysis;
- quantitative and qualitative data collection, analysis, and reasoning focused on real-world contexts and challenges;
- written, oral, visual, and artistic communication capacities and expertise in diverse contexts and for/with multiple audiences;
cultural, ethical, and global competencies;

- project planning and management experience via the design, revision, and completion of individual and team projects; and,
- teamwork and leadership capacities.

Finally, we are also personally motivated to engage in this initiative because we believe that our own learning, teaching, and doing related to science, technology, and society will be enhanced via increased collaborations with each other, our STS students, and with faculty and students from across the university, and we desire mechanisms to facilitate this. We recognize that many students, faculty, and staff across the university are already engaged in exploring and responding to the complex relationships between science, technology, and society. To date, however, learning, teaching and doing in this area have largely occurred in an isolated fashion, siloed at the levels of college, department, course, faculty member, and individual project and with limited access to mechanisms designed to foster interdisciplinary and multidisciplinary interactions and collaborations. We can all benefit by increasing our interactions and our opportunities to learn from and with each other.

**Opportunities to Support, Enhance, and Expand the Science, Technology & Society and Other Interdisciplinary Initiatives**

To date, the Science, Technology & Society initiative in the College of Liberal Arts is focused on the development of four related yet distinct minors (currently undergoing review by the Academic Senate Curriculum Committee and with an intended launch date of Summer 2015):

1. **Ethics, Public Policy, Science & Technology**: The Ethics, Public Policy, Science & Technology (EPPST) minor enables students to understand the complexities of contemporary science and technology issues as they relate to the broader public, ethical theories and applications, and personal and societal values; appreciate the historical influences on existing policies and practices; evaluate current policies and assess the potential outcomes of proposed policy changes. Students completing the EPPST minor will gain important skills for creating, proposing, promoting, and evaluating socially responsible and sustainable policies related to science and technology at local, national, and international levels.

2. **Gender, Race, Culture, Science & Technology**: The Gender, Race, Culture, Science & Technology (GRCST) minor provides students with the opportunity to explore and analyze the historical and contemporary relationships between gender, race, culture, science, and technology in both local and global contexts. Utilizing gender and ethnic studies approaches including critical race feminism, the GRCST minor examines the role of cultural, ethical, social, political, and economic factors in determining the norms, values and meanings of scientific and technological practices that shape and are shaped by understandings of gender, race, class, and sexuality. Students completing the GRCST minor will gain important intellectual and practical skills for creating, enacting, and evaluating efforts to create more socially just, equitable, and inclusive science and technology.
3. **Media Arts, Society & Technology:** The Media Arts, Society & Technology (MAST) minor encourages students to explore the ways in which the media arts are enabled and shaped by progress in science and technology while also being uniquely situated to promote engagement with and critical reflection about the meanings of scientific, technical, and social progress. Through hands-on projects and explorations of media history and theory, students completing the MAST minor will develop and apply knowledge and skills in conceptual and critical thinking, media literacy, teamwork, leadership, interdisciplinary collaboration, and project management to prepare them to function as both cultural commentators and creators positioned to address and respond to the profound challenges and choices we face in the 21st century.

4. **Science & Risk Communication:** The Science and Risk Communication (SRC) minor enables students to investigate how individuals and societies create, disseminate, maintain, and challenge perceptions of science, technology, and risk in multiple contexts, including doctor-patient interactions, public understanding/awareness of global climate change, technology development, and scientific testimony in public policy hearings. Through hands-on projects, SRC students also learn specific skills for communicating scientific and risk messages to a range of audiences via a variety of media. Students completing the SRC minor will be prepared to understand, engage with, respond to, and communicate about the profound challenges and choices we face related to science, technology, and risk in the 21st century.

We are eager to explore opportunities to further develop and expand the Science, Technology & Society Initiative at Cal Poly in collaboration with university and community partners. Growth areas in STS that we are interested in exploring include:

- A Science, Technology & Society Department or Center
- Graduate Certificates, Concentrations, or Programs
- An Undergraduate Major or Majors in STS (BA, BFA, & BS options)
- An Undergraduate Major in partnership with STS (BA, BFA, & BS options)
  - For example, a Health Sciences degree that utilizes one or more of the STS minors as concentration options
- General Education Pathways with STS Themes
- New Interdisciplinary Courses in College of Liberal Arts & University-wide Disciplines
- STS Hires of Tenure-Track Faculty Inside & Outside the College of Liberal Arts

However, like many interdisciplinary initiatives at Cal Poly, the Science, Technology & Society (STS) Initiative would be enhanced by the addition of new resources and the development of university-wide mechanisms designed to facilitate interdisciplinary learning, teaching, and doing. Challenges we have experienced to date in our efforts to work with each other and our students in this interdisciplinary area include:

- **Time:** As each of our faculty and staff has commitments in at least one other department/program, our time with each other, our students, and our existing and potential on-
and off-campus partners is limited, creating challenges for our efforts to build and sustain the personal and institutional relationships necessary to support this initiative.

- **Co-Teaching Mechanisms**: Given the interdisciplinary nature of each of the STS minor programs (and the opportunities and challenges this engenders), we have developed a commitment to co-teach the two courses that are shared across each of the minors: ISLA 123: Introduction to Science, Technology & Society and ISLA 456: Advanced Project-Based Learning in Science, Technology & Society. However, we are concerned that the ways in which WTUs (Weighted Teaching Units) and SCUs (Student Credit Units) are calculated provides explicit incentives to remove this pedagogical commitment from our program.

- **Space**: Given its interdisciplinary nature and the location of its faculty, the STS Initiative does not exist in a particular space. We are eager to ensure that our location in spaces across the CLA (and the university more broadly) does not contribute to an invisibility of the STS minors to students or to our colleagues. We are even more concerned, however, about access to real physical spaces designed to support multi-week or multi-quarter student projects in STS. We are currently trying to figure out how to find space to support interdisciplinary projects in the current Cal Poly context in which studios and labs are largely controlled by departments.

- **Funding**: As a group of minor programs, we will not receive support from College Based Fees. This will limit our ability to fund
  - student research and development projects
  - instructionally related equipment
  - instructionally related activities such as field trips, invited speakers, or workshops
  - student travel to professional development opportunities (e.g., courses, conferences, study or internship abroad)
  - faculty development
  - student assistants

We are currently trying to identify funding mechanisms that exist at Cal Poly to support the costs of interdisciplinary learning, teaching, and doing initiatives that exist outside of specific majors or even specific colleges.

- **Full-time Interdisciplinary STS Faculty**: We are very excited (and grateful) that the College of Liberal Arts was able to hire 3 tenure-track faculty (start date Fall 2014) who are contributors and leaders in the STS initiative, and are eager to complete a 4th planned hire in science and risk communication (projected start date Fall 2015). However, what we learned through this hiring process is that there are limited (or possibly no) mechanisms to hire faculty with 100% appointments in interdisciplinary areas, except if those interdisciplinary areas have achieved department status (e.g., Ethnic Studies and Women’s & Gender Studies in the College of Liberal Arts). While we recognize the important roles that departments play in the university, we are concerned than an inability to make tenure-track hires in programs like ours may, in

---

1 Interdisciplinary Studies in the Liberal Arts (ISLA) will replace the Humanities (HUM) Program designation in the 2015-17 catalogue. Each of the STS minor programs will be located in the ISLA Program.
some cases, limit the ability of the university to hire the “best fit” for the interdisciplinary area (given the needs and desires of the “home” department), as well as perpetuate a situation in which interdisciplinary initiatives are always in competition with disciplinary areas for faculty time and interest, even when faculty have been hired to contribute to the interdisciplinary initiative.

We welcome the opportunity to participate in Cal Poly’s efforts to identify and implement real changes designed to encourage, support, and reward interdisciplinary learning, teaching, and doing. Ideas for better supporting interdisciplinarity, in general, that we have identified include internal faculty fellowships in which awardees (drawn from lecturer and tenure-track faculty) receive a reduced teaching load and the ability to share space and time to support the development of new programs and collaborations; a regularized team- or co-teaching mechanism to support increased interdisciplinary learning, teaching, and doing; regularized access to earn by doing funding to support undergraduate students engaged in interdisciplinary research and action projects, including for programs that do not offer majors.

References

ABET EC-2000 criteria 3.c, f, h, j; approved 1996; revised 2004.


SOCIAL SCIENCES DEPARTMENT: ACADEMIC PLANNING NARRATIVE

The Social Sciences Department includes two programs, Anthropology-Geography and Sociology, that encompass three academic disciplines. Both programs offer their own minors, and the department also offers a minor in Latin American studies. Planning narratives have been developed for each discipline.

Anthropology-Geography

Future Global and regional developments most relevant to Anthropology-Geography:

Demographic developments and challenges (Global and Regional):
  - Continued global population growth
  - Changing local and regional demographics
  - Increased human migrations that are environmental, economic, and conflict driven
  - Increased cultural diversity and awareness of emergent ethnic identities

Environmental developments and challenges (Global and Regional):
  - Climate Change
  - Degradation of soils, fresh water, and air quality
  - Degradation of marine environments
  - Degradation of biotic environments
  - Extreme weather and tectonic events, and related catastrophes
  - The reciprocal interplay between the environment, human biology, and behavior

Economic developments and challenges (Global and Regional):
  - Increased economic globalization
  - Increased need and competition for food and water, and energy supplies
  - Increased development of alternative energies
  - Increased need and competition for raw materials
  - Increasing inequalities in access to resources
  - Differential economic development with continued polarization in individual incomes

Societal and political challenges (Global and Regional):
  - Inequalities in wealth, health care, social services, and education
  - Challenges to health in the context of new pathogens and environmental changes
  - Inequalities in political representation, justice, and well being owing to factors of gender, race, race, economic, environmental, and education
  - Continued intra and inter-state conflict due to resource competition
  - Continued intra and inter-state conflict related to ethnic, religious, linguistic and economic factors
  - Emergence of new political, religious, and economic ideologies/frameworks in response to new socio-technologic-demographic configurations
  - Continued degradation of global heritage resources

Technological developments and challenges (Global and Regional):
  - New technologies to address environmental, economic, and societal challenges
  - New educational, communication, transportation, and economic technologies
  - Changes in political, economic, and societal factors in response to new technologies
  - Inequalities in access to technologies
Anthropology

The Anthropology component of Cal Poly’s Anthropology-Geography program is dedicated to studying humankind in all its aspects through archaeological, biological, demographic, cultural, technological, ecological, and medical research. Our discipline educates Cal Poly students about the full scope of human diversity and empowers them with knowledge of human culture, history, and the full range of human existence. In the last two decades, anthropologists have honed the traditional tools of our discipline to not only understand our increasingly changing and globalizing world, but to use these tools to transform our community and its broader cultural domains, communicate across boundaries and provide our students with the skills needed to meet the inherent challenges in culturally and ecologically appropriate ways. Furthermore, we teach students how best to engage each other and our neighbors around the world to influence the institutions that shape meaning and power in our lives and collectively strategize to meet the economic, social, environmental and political challenges of the twenty-first century. Our commitment to teaching students to apply their education to solving both local and world problems will enhance the Cal Poly community and its teacher-scholar model.

Since anthropology is both global in scope and locally grounded, the discipline is well equipped to study our communities’ challenges and contextualize them in the larger structures of power and institutions that shape the interactions among people and the flow of commodities, technology, resources and politics within and across state and national boundaries. Because anthropologists believe all humans share connections that are biological, cultural, technological, ecological and economic, we will continue to remind our colleagues, students and institutional leaders that our actions (or inaction) impact not only ourselves, kin and local environments, but the whole world.

Anthropology prepares students to take a holistic approach to understanding the world. Cal Poly Social Sciences department will continue to prepare students to be leaders in cross-cultural environments. Our research methods and analytical concepts enable us to celebrate the diversity of human culture. We train students in both ethnographic and quantitative methods for assessing and transforming both local and global cultures in order that they may be fluent in cross-cultural competencies and apply the insights of anthropology to solving world problems. Future jobs and graduate training that we will prepare students for include: enhancing food production, labor parity, social science and behavioral analysis, immigration, law, economic development, disease prevention, health care management, human rights advocacy, market research, heritage resources management, diversity science, the study of human health, human origins and prehistory, and the human costs of global technologies and economic injustice.

Because the core commitment of the discipline is to human dignity and diversity, anthropologists have always been and will continue to be interdisciplinary scholars. Now that over 60% of anthropologists are committed to “applied” or “action-oriented” research, research aimed at transforming inequalities and understanding human agency in the context of transnational structures of power, we are well poised to integrate our knowledge and methods with other fields. For example, anthropologists who study science, technology and society (STS) are collaborating with engineers, artists, media design experts, scientists, doctors, public health
practitioners and policy makers. Anthropologists of gender and race/ethnic studies are working across humanities and science and technology disciplines to better prepare students for the rapid changes in demographics, technology, communication, education and social relations. Anthropologists first developed ethnographic research methods that are now being used in a wide-array of fields and we will continue to share the unique tools and insights of our discipline to augment knowledge production in higher education and the application of this knowledge around the world. We will also continue to complement traditional ethnographic approaches with quantitative analyses including use of increasingly powerful spatial technologies initially developed by our sister discipline, Geography. We also introduce students to the legal background and methodology of heritage resources management.

In sum, Anthropology is a holistic, boundary spanning discipline that engages all elements of the human experience. Anthropology at Cal Poly emphasizes rigorous qualitative and quantitative methods, as well as an appreciation for cultural diversity and heritage. Combined, these tools prepare students to engage in a number of potential career paths. The anthropological tool-kit empowers students first and foremost with a synthetic understanding of humanity in its total biological and cultural diversity, and with the methodological skills needed to understand and solve the problems of contemporary humans in a rapidly globalizing world.

Geography

Geography addresses a major objective of Cal Poly (and the CSU as a whole) by preparing students to be informed citizens of a globalizing world. The major emphasis in geography is the understanding of the Earth's environmental and cultural diversity. International education is inherent to the discipline and provides students with the knowledge and experience to work effectively in culturally diverse settings, as professionals, academics, and citizens.

Geography is an integrative environmental science and is the only discipline in the College of Liberal Arts whose core mission is to bridge the physical and the social sciences. From the local to the global, Geography addresses the most pressing current and future environmental issues related to resource distribution, utilization, and human induced degradation. Many of the challenges facing humanity in the coming decades, such as climate change, loss of biodiversity, water stress, pollution, and cultural conflict, are rooted in human-environmental relationships. By integrating cultural and environment studies– as Geography does – students will be uniquely prepared to take on leading roles in mitigating and adapting to these evolving human-environment relationships. Indeed, they will be prepared to “make [sic] reasoned decisions based on an understanding of ethics, a respect for diversity, and an awareness of issues related to sustainability.”

Geography is the home discipline for Geospatial Technologies such as Geographic Information Systems (GIS), Remote Sensing (aerial or satellite imaging), and Global Positioning Systems (GPS) and employs them to address the issues stated above. The US Department of Labor identified geospatial technologies as one of the three most important emerging fields (along with nanotechnology and biotechnology) and a recent article in the journal Nature stated that geospatial technologies have changed the face of Geography. They are powerful analytical and
decision making tools, and have broadened employment prospects across public and private sectors and will continue to do so in the future.

Current and future trends in Geography include increasing use of Geospatial Technologies, as evident in the library’s GIS Center and Data Study. However, we will require more technological resources such as PC labs and software to meet our current and increasing demand for these courses, as well as offering new advanced Geospatial courses.

Combining the human-environment focus with a technological element, Geography conforms with the Cal Poly mission of providing “a balanced education in the arts, sciences, and technology, while encouraging cross-disciplinary and co-curricular experiences.”

As a holistic and inherently multi-disciplinary field of inquiry, Geography engages other disciplines in the College of Liberal Arts and across campus. Below is a list of departments with which Geography has a current, or potential, engagement:

College of Liberal Arts:
- Social Sciences (with Anthropology and Sociology)
- Political Science
- History

College of Agriculture, Foods and Environmental Sciences (CAFES)
- Natural Resources Management and Environmental Sciences Department
- BioResource and Agricultural Engineering
- Recreation, Parks, and Tourism Administration

College of Engineering
- AeroSpace Engineering
- Computer Science

College of Architecture and Environmental Design
- City and Regional Planning

Orfalea College of Business
- Economics

College of Science and Math
- Liberal Studies
- Biological Sciences
- Physics (climatology)

In sum, Geography is an applied, technically-oriented, internationally-inclusive, and multi-disciplinary field of study intended to prepare students for a wide variety of careers, graduate study, and global citizenship in today’s world and increasingly important in the future. As such, it fits well into the university’s polytechnic character, and integrates into the strategic plans of the university and the College of Liberal Arts in numerous ways, including:

- emphasis on applications of the disciplines to professional activities and academic research,
- a technical emphasis on methodological skills required in the disciplines,
- a focus on international education and diverse cultures,
- a balance of expertise between the physical environment and human societies, providing a
unique opportunity for students to learn about the interactions between people and the natural world.

**Sociology**

**Planning for Change: Bring It On**

The demand for better educated, more skilled, and, importantly, more *practiced* university graduates is growing in California, the United States, and around the world. Although Cal Poly developed and deployed a strategy (learn by doing) to achieve all three things, we need to remodel the model and provide an “Enhanced B.A.” Call it: Learn By Doing 2.0.

Although it is difficult to predict who our students will be in 2030, we know they will be different. They will likely have a different social profile (more women, more ethnic diversity) and they will certainly arrive with a different social-cultural experience. Recall that veterans in the 1950s, baby boomers in the 1960s, first-generation immigrants in the 1980s, and social media millennials brought very different experiences, values, and skills into the classroom. In 2030, for example, students will probably be better prepared in math and science but more poorly prepared at expository writing and critical reading, if the current shift in emphasis in elementary and secondary education persists. Students may use less alcohol and more marijuana because they regard the latter as less harmful, and they may probably abandon football because they see it as too dangerous.* Both developments are already evident. But whatever changes actually occur, we know with certainty only that student interests and expectations will change. As sociologists, we expect change and prepare for it. That’s our job. So we say, “Bring it on.”

Sociologists study social change. We examine how and why social relations and social structures change over time. We analyze the problems associated with social inequality in around the world and prepare students to challenge inequality, promote social justice, and effect social change. To do this, we have advanced two strategies. First, we provide them with the foundational theories and methods that can be used to understand historical and contemporary change in different settings. This “basic training” will not change very much in coming years because the theories and methods developed by classical sociologists were originally designed to analyze social change. Second, we use these theories and methods to analyze social change and social problems in contemporary settings. These classes will need to change a *lot* in coming years. We will have to revise our courses and curriculum on a continual basis so that students can engage the world as it changes. We will also have to engage in ongoing professional (re)development so we can relate to student’s experiences, which will be very different from our own, and conduct research projects that will provide an up-to-date analysis of social change and social problems.

To be successful, to meet the demand for better educated, more skilled, and more practiced graduates, the university and the sociology program will need to provide an education that is both wider (more interdisciplinary) and deeper (more focused within the discipline). For the university, this means offering more interdisciplinary majors (such as ethnic studies, women’s studies and sociology), more minors that students can take to supplement their majors, and more certificate programs that are open to all. For sociology, it means providing new or different concentrations to meet the changing demands of graduate schools, public and private employers, and non-governmental organizations, and provide more focused teaching and student-centered learning opportunities through one-on-one independent studies and senior projects, internships, community service, and study abroad. These two developments—broadening opportunities...
across the university and deepening the focus in the discipline—would contribute to the emergence of what we might call an “enhanced degree” or “Learn By Doing 2.0.”

Visioning Statement from the Department of Women’s & Gender Studies

This Visioning Statement was created by the Women’s & Gender Studies Teaching Faculty at Cal Poly with guidance from our student, alumni, and ally/partner communities.

Throughout Cal Poly, academic programs and departments have been asked to identify the forces that will shape Cal Poly and our disciplines from now until 2030 – including in the areas of higher education; demographics (students, state, nation, globe); and the regional and global economies – and to explore how these changes may create both challenges and opportunities for the university. Second, we have been asked to reflect on the similarities and differences between how we will prepare our graduates now and in 2030 and what students will need to gain from education in order to be successful. Finally, we have been asked to think about the implications of these new forces, needs and desires for emerging fields and integrated learning that goes beyond traditional disciplines.

In this visioning statement, we wish to affirm the College of Liberal Arts narrative provided in response to the academic enrollment planning questions. Here, we have selected to focus on the integral role of the discipline Women’s & Gender Studies in the college’s and university’s ability to transform challenges for Cal Poly and the world – both now and in 2030 – to opportunities for learning, teaching, and doing: safety, diversity, inclusivity, equity, justice, interdisciplinarity, and the global/transnational.

What is Women’s & Gender Studies?

As described by the National Women’s Studies Association (NWSA) in “Women’s Studies Scholarship: A Statement by the National Women’s Studies Association Field Leadership Working Group,” published in 2013, “Women’s and Gender Studies is both an interdisciplinary field in its own right and one that maintains connections to other interdisciplinary fields and to traditional disciplines” (NWSA 2013, p. 6). What distinguishes WGS from other fields, however, is that “Women’s and gender studies is fundamentally about the study of power and societal inequalities” (p. 15) and “[a]n intellectual project committed to challenging and transforming dominant systems of power and privilege, women’s and gender studies recognizes that knowledge is not neutral; it takes multiple forms and emerges from diverse locations” (p. 16). Based on a review of the field, the NWSA has identified and described “four key concepts central to women’s and gender studies scholarship, teaching, and service” (p. 6).

Politics of Knowledge Production: Women’s and gender studies recognizes that knowledge is not neutral. In questioning and transforming conventional disciplinary approaches, women’s and gender studies takes disciplinary, multidisciplinary, transdisciplinary, forms. It develops new modes of inquiry and engagement, asks new questions, creates new knowledge. Women’s and gender studies examines how knowers and systems of knowledge are situated: reflexivity about the impact of social location, power asymmetries, and cultural contexts on the knowledge process are central to the field. Critical awareness of inclusions and exclusions in knowledge production is foundational.

Intersectionality: The multiple systems of inequality, organized around gender, race, socioeconomic position, heterosexism, and other dimensions of inequality, are fundamentally
interdependent. Recognition of this interdependence among systems of inequality and power renders visible how systems of inequality function, and enables transformation of these matrices of power.

**Transnational Analysis:** Transnational analysis in women’s and gender studies considers the continuum of unequal global systems and their impact on structures, cultures, and individuals, resisting binaries such as local/global or U.S./international. “Transnational” is an analytic that enables comprehension of the impact of global processes both across spaces and in distinct locales. This destabilizes “centers” and explores how centers are always multiply constituted through relationships to “peripheries.”

**Social Justice:** Women’s and gender studies, with its roots in the social movements of the 1960s and 1970s, analyzes the social construction and material realities of power and traces the workings of systems of oppression and privilege. The field studies the persistence and tenacity of inequalities, as well as strategies of resistance. With the goal always of furthering social justice, women’s and gender studies faculty often collaborate with community partners—local, national, and global—in transformational action research.

NWSA 2013, p. 16

**What is Women’s & Gender Studies at Cal Poly?**

The Women’s and Gender Studies Department at Cal Poly is an interdisciplinary academic department that promotes a critical understanding of how genders and sexualities shape and are shaped by social, political, ethical, economic, legal, and cultural institutions in historical and contemporary contexts to students across all disciplines at Cal Poly. The department strives to promote scholarly inquiry, education and activism that utilizes an integrative perspective, exploring the intersections of gender, race, sexuality, class, religion, dis/abilities, and other social categories within both national and transnational contexts. We currently offer a 24-unit minor in Women’s & Gender Studies, and a majority of our courses are offered currently via Cal Poly’s General Education program.

Women’s & Gender Studies is an integral component of the College of Liberal Arts and the broader university. Students, faculty, and staff in Women’s & Gender Studies at Cal Poly are visionary feminists whose learning, teaching, and doing is deeply rooted in identifying, explaining, and engaging with social inequalities at Cal Poly and beyond. In her book *Feminism is for Everybody* (2000), bell hooks argued that “[t]o be truly visionary we have to root our imagination in our concrete reality” – what hooks describes as “white supremacist capitalist patriarchy” – “while imagining possibilities beyond that reality” (p. 110). Thus, she continues, “[v]isionary feminism offers us hope for the future” (p. 117). As visionary feminists, our work in Women’s & Gender Studies is on the front lines of many of Cal Poly’s and the world’s current and projected future challenges (and related opportunities). These include the challenges of safety, diversity, inclusivity, equity, justice, interdisciplinarity, and the global/transnational.

Our teaching, learning, and doing in Women’s & Gender Studies at Cal Poly is specifically designed to increase safety, diversity, inclusivity, equity, justice and interdisciplinarity and to integrate attention to and engagement with the global and transnational. We and our students are active as
scholar-activists in multiple areas, and employ a lens that is intersectional, interdisciplinary, and transnational to study and engage with topics such as:

- Activism
- Art
- Bodies
- Campus and organizational climates
- Capitalism and other economic models
- Childbirth and child development
- Classes
- Communication
- Colonialism and post-colonialism
- Criminal in/justice
- Development
- Education
- Environmental in/justice
- Engineering
- Ethical systems
- Feminisms
- Genders
- Global inequalities
- Health
- Heteronormativity
- Historical and contemporary popular culture
- Homelessness
- Homophobia
- Identity
- Immigration
- Language
- Law
- Media
- Medicine
- Militarities and militarism
- Queer/LGBTQIA lives and rights
- Political representation and participation
- Poverty
- Public policy development
- Prejudice
- Race and racial formation
- Reflexivity and self-knowledge
- Religion
- Reproductive politics, practices, knowledges, and justice
- Resistance
- Sexism
- Sexual assault, rape, and other forms of violence
- Sexualities
- Science
- Social systems
- Social movements
- Sports
- Sustainability
- Technology
- War and peace
- Work and workforce

Given the scope and intentions of our work, Women's & Gender Studies as an academic discipline and interventionist program is thus, we argue – in coalition with students, staff, and colleagues in other critical studies fields – one of Cal Poly’s best resources in the creation of the future university towards which we all aspire: a university that is, itself, more safe, more diverse, more inclusive, more equitable, more just, more interdisciplinary, and more global/transnational and a university that produces more knowledge and more products that meet the needs of humanity writ-large. When we look to the future – whether at 2022, 2030, or 2050 – we believe that our courses, co-curricular activities, collaborations, public engagement practices, and research are and will continue to be a key site for the education of
current and future graduates with the capacities to integrate these values and aspirations into their personal, public, and professional lives.

Our Aspirations for the Future of Women's & Gender Studies at Cal Poly

As we imagine Cal Poly and the world in 2030 and in recognition of the important role that Women's & Gender Studies plays at this university, we envision the need for significantly more resources to support the learning, teaching, and doing of our students and faculty. In this section, we discuss the need for:

1. A Women’s & Gender Studies Major
2. Multiple Full-time Lecturer and Tenure-track Faculty
3. Resources for Enhancement and Innovation of Women’s & Gender Studies
4. Women's & Gender Studies Participation in Interdisciplinary Initiatives

A Women’s & Gender Studies Major

For our students, alumni, faculty, staff, and campus and community partners, the number one priority for Women’s & Gender Studies at Cal Poly is the development of a major. Our students want ‘more’: more Women’s & Gender Studies, more content knowledge, more and bigger projects, and more collaborations and interactions with each other and faculty and community clients. Finally, our students want more opportunities to work to increase safety, diversity, inclusivity, equity, justice and interdisciplinarity and to integrate attention to and engagement with the global and transnational with the goal of creating a more just and equitable Cal Poly and world.

We are well aware of resource constraints, and are excited to think creatively about pathways to a Women’s & Gender Studies major and the ‘more’ it represents. Intermediary options on the pathway to a major that we have identified include:

a. The development of a Women’s & Gender Studies major as a double-major, joint-major or duel-degree option only that requires a major in another field and a senior project or capstone experience that integrates both majors.

b. The development of a Women’s & Gender Studies (and/or Interdisciplinary Studies in the Liberal Arts) senior project sequence similar to the existing Interdisciplinary Engineering 3-quarter senior project sequence (ENGR). The ENGR sequence is open for enrollment to students from majors in the College of Engineering who wish to engage in interdisciplinary senior projects as a substitute for their own major’s senior project requirements. (The development of this option would also address one of the current areas of uncompensated labor for Women’s & Gender Studies faculty, as we often now participate as informal advisors to senior project students in other majors who have been directed to us by their in-major advisors given our expertise.)

c. The development of new undergraduate majors in partnership with WGS (BA, BFA, & BS options). We are particularly interested in opportunities for WGS to play a role in the development of new majors focused on the Health Professions and Leadership and Social Justice.

d. The development of an Interdisciplinary Studies in the Liberal Arts major that would allow students to draw from existing minors – like Women’s & Gender Studies, as well as our new collaborative Gender, Race, Culture, Science & Technology minor – to create majors at the
intersection of multiple fields. Potentially, this major might have B.A. and B.S. options, and allow for integration of minors from other colleges.

Multiple Full-time Lecturer and Tenure-track Faculty
We – along with our students, alumni, campus and community partners – believe that the biggest challenge facing Women’s & Gender Studies at Cal Poly is our lack of full-time lecturer and/or tenure track faculty. This lack impedes our ability to collaborate and limits our impacts at Cal Poly and in the broader world. It also deprives our existing minors and future majors of exposure to and participation in the full diversity of a Women’s & Gender Studies education. All integrated, interdisciplinary, and engaged learning, teaching and doing programs require faculty with full-time teaching, research, and service/engagement appointments in these areas. Women’s & Gender Studies is no exception to this.

We have hiring needs in multiple areas. However, as we have previously communicated to the College of Liberal Arts, we would like to prioritize a full-time (academic year), tenure-track assistant professor with theoretical and practical expertise in learn-by-doing in Women’s & Gender Studies. Specializations of interest for this hire include Violence Against Women and Girls; Sexuality and/or Masculinity Studies; Global Feminisms; Transnational and/or Postcolonial Studies; Environmental Justice and/or Sustainability Studies; and Media and/or Information Studies. We believe that this hire would position Women’s & Gender Studies to form even more robust partnerships with on-campus and off-campus partners in order to support student learning and doing via even stronger integration of the curricular, co-curricular, and extra-curricular. Finally, this hire would position the WGS department to play a more active role in seeking external funding from local, regional, and national funding agencies to support these learning, teaching, and doing projects and initiatives.

Resources for Enhancement and Innovation of Women’s & Gender Studies
Aside from our amazing people, Women’s & Gender Studies at Cal Poly is resource poor:

- We lack a **departmental space**, including an integrated department chair, administrative support, and mailbox/copier area.
- We lack **funding**. We currently receive an O&E allocation to support our average of 65-75 minors per academic year that is less than the O&E allocation we received in 2000 when there were only 2 minors total ($4413 compared to $4500). We should note that as we were semi-restricted from advancement under previous college and university leadership, we also lack this infrastructure and are only in the initial stages of development an advancement campaign. Finally, as a minor program, we do not receive support from College Based Fee monies, limiting our ability to fund: student research and development projects; instructionally related equipment; instructionally related activities such as field trips, invited speakers, or workshops; student travel to professional development opportunities (e.g., courses, conferences, study or internship abroad); faculty development; and student assistants
- We lack **time**. As each of our faculty and staff has commitments in at least one other department/program, our time with each other, our students, and our existing on- and off-campus partners is limited, creating challenges for our efforts to collaborate, to create the
transformations we seek to enact, and to form new partnerships. This also impacts our ability to secure external funding.

Further, as a minor program, we lack access to many university mechanisms designed to support the success of our students. For example, minor programs are not able to request course registration logarithms (which determine which students can register for which students and when) to facilitate the progress of WGS students through the minor as this technology is only available to major programs.

Due to our interdisciplinary nature, we believe that Women’s & Gender Studies will benefit from any increased support for interdisciplinarity at Cal Poly, and are eager to push for university-wide initiatives. For example: internal faculty fellowships in which awardees (drawn from lecturer and tenure-track faculty) receive a reduced teaching load and the ability to share space and time to support the development of new programs and collaborations; a regularized team- or co-teaching mechanism to support increased interdisciplinary learning, teaching, and doing; regularized access to earn by doing funding to support undergraduate students engaged in interdisciplinary research and action projects.

We also wish to suggest that interdisciplinary learning, teaching, and doing will not thrive at Cal Poly without recognition that:

a. “Increasingly, scholarship is produced in online journals, blogs, op-eds, policy reports, social media, [and] community action projects” and may include “traditional written products to artistic and creative expressions such as film, performance, digital media, collaborative editorial work, [and] archival research” (NWSA 2013, p. 17).

b. “Collaborations with communities and groups outside of academic institutions” are integral to the development of interdisciplinary learning, teaching, and doing, and “these collaborations need to be recognized as the scholarship they are” and, further, it must be recognized that “collaborative work is often more challenging than solitary scholarly production” (NWSA 2013, pp. 17-18).

c. While “[s]cholarship, teaching, and service have traditionally been viewed as distinct,” faculty engaged in interdisciplinary learning, teaching and doing such as in Women’s & Gender Studies “are particularly likely to work across these arenas, which should be viewed as overlapping and mutually constructive” (NWSA 2013, p. 18).

d. Faculty engaged in interdisciplinary learning, teaching and doing such as in Women’s & Gender Studies “are often busy with the work of institution-building” but too often this work is “undervalued when it comes time for promotion and tenure review” (NWSA 2013, p. 9).

Women’s & Gender Studies Participation in Interdisciplinary Initiatives

Specific interdisciplinary initiatives that the department of Women’s & Gender Studies would like to explore if provided with increased resources include:

• Collaborative development and implementation of a required credit-bearing course for incoming first year and transfer students focused on social justice and the university – with an emphasis on sexual assault prevention, campus climate, and equity and justice in the Central Coast region

• Undergraduate Certificates or Minors, such as:
  o Education & Social Justice
Leadership & Social Justice

Sexuality Studies

Social Entrepreneurship

- Graduate Certificates, Concentrations, or Programs:
  - Education & Social Justice
  - Gender, Race, Culture, Science and Technology – with a potential target of existing STEM graduate students at Cal Poly
  - Leadership & Social Justice

- Courses in Women’s & Gender Studies and/or other interdisciplinary fields, such as:
  - Creating, Funding, and Evaluating Social Justice Campaigns
  - Feminist Pedagogies
  - Feminist Praxis (capstone)
  - Feminist Project & Organization Management
  - Feminist Research Methods
  - Introduction to Race, Class, Gender and Sexualities
  - Masculinity Studies
  - Queer Theory
  - Sport, Race, and Masculinity
  - Transnational Feminisms
  - Violence: Theories and Interventions

- Robust Undergraduate-Centered Research & Action Projects focused on our campus, local, and regional communities as a site of analysis and work. For example, students might:
  - Draw from knowledge and skills gained in Women’s & Gender Studies to better understand and improve the experiences and representation of underrepresented students and faculty in science, technology, engineering, and mathematics disciplines at Cal Poly and at other educational sites;
  - Develop feminist ethnographic projects aimed at transforming culture and microcultures at Cal Poly in terms of equity, representation and the eradication of gender and racial bias, violence and harassment
  - Develop projects that integrate “big data” systems with Women’s & Gender Studies questions, such as the ways in which new technologies do (or do not) improve NGO and governmental responses to international humanitarian crises such as human trafficking;
  - Develop, facilitate, and evaluate new modes of public participation and engagement efforts to address social inequalities on-campus and in our community.
  - Facilitate and participate in digital humanities projects, including new digital archives, exhibits, and the development of tools that can be employed in Women’s & Gender Studies contexts.

Final Thoughts: Women’s & Gender Studies as a Model for Learn By Doing 2.0?

As should be evident based in our discussions above, in Women’s & Gender Studies we employ a model of learning, teaching, and doing that utilizes intellectual, creative, and practical skills such as critical thinking, ethical reasoning, information literacy, qualitative and quantitative reasoning, problem-solving, and oral, written, and visual communication to produce new knowledge and create a more just and
equitable world. As part of our participation in this visioning process, we have engaged in discussions with each other about how learning, teaching, and doing in Women’s & Gender Studies is both different from and the same as in other fields and academic programs at Cal Poly.

Our efforts to answer this question have led us to explicitly map the model of learn by doing that exists within our curricula and co-curricular programs. For us, learn by doing is an iterative process that integrates multiple steps and diverse methods, and occurs over extended periods of time. A simplified version of our model of learn by doing in Women’s & Gender Studies is provided below.

- **Stage 1. Define the problem(s):** Explore the ways in which systems of inequality, discrimination, marginalization and oppression – including able-ism, cisgenderism, classism, heterosexism, linguicism, nationalism, racism, and sexism and with recognition of the affordances and limitations of our own positionalities – are created, reified, and maintained in specific institutional and organizational contexts, with special attention to the ways in which cycles of inequality, discrimination, marginalization and oppression are produced. Learn from previous research and from community knowledge in this process.

- **Stage 2. Identify the goals of possible intervention into the problem(s):** In collaboration with broadly defined stakeholders and with attention to context, identify criteria for success of any intervention in the problem identified in step 1. Also identify criteria for failure (e.g., what are the outcomes that must be particularly avoided?). This stage should include explicit discussion about whether the potential risks of invention outweigh the potential benefits.
Stage 3. Ideate possible interventions: If the potential risks do not outweigh the potential benefits and in collaboration with broadly defined stakeholders, brainstorm possible interventions. Learn from previous research and from community knowledge in this process.

Stage 4. Select an intervention: Use the criteria for success and failure identified in stage 2 to select an intervention. As possible, prototype or pilot solutions to guide this selection process.

Stage 5. Design and develop: In collaboration with broadly defined stakeholders and with attention to the criteria of success and failure identified in stage 2, design and develop the intervention to prepare for implementation. As possible, prototype or pilot solutions to assist with development.

Stage 6. Prepare to evaluate: Create methods to evaluate the impact of the selected intervention. Assessment methods should integrate multiple perspectives and multiple types of data.

Stage 7. Take action: Implement the selected intervention and methods of evaluation.

Stage 8. Assess impact: Based on data collected, evaluate the successes and failures of the intervention.

Stage 9. Reflect: Identify what you learned – about the both the problem and yourself – as a result of the impacts of your intervention.

Repeat
We would like to suggest that our model of learn by doing in Women’s & Gender Studies may serve as a useful model for the university-at-large where, too often, we believe that “doing” largely includes (at most) stages 3, 4, 5, and 7 – with an emphasis on stage 5: design and develop and stage 7: take action. By decentering what typically counts as “doing” in campus models of learn by doing, we a) increase attention to processes of problem definition to make explicit the relationships between “doing” and power (who are we “doing” for and why?); b) integrate “doing” and evaluation of its impacts in an iterative cycle; and c) emphasize the necessity of reflexivity in learn by doing and attention to process and impacts, or what Donald Schön (1987) described as reflective practice, a “dialogue of thinking and doing through which I become more skillful” (p. 31).

Our model of learn by doing in Women’s & Gender Studies shares extensive similarities with research on experiential learning (sometimes referred to as action learning). For example, one common model of the former is Kolb’s Experiential Learning Cycle (see Figure 1), originally proposed in 1984. Stanford Business School leadership coach Andrea Corney has created what she describes as the “simplest experiential learning cycle” (Figure 2). We are also currently exploring the ways in which our model of learn by doing in Women’s & Gender Studies is similar to the iterative and cyclical nature of design thinking. There are, of course, many different representations and descriptions of the design process/design thinking. From our perspective, however, we believe it may be useful to explore intersections, in particular, with the Hasso Plattner Institute of Design at Stanford (or d.school) approach to design thinking: as they define it, “a methodology for innovation that combines creative and analytical approaches, and requires collaboration across disciplines.” What stands out to us about the d.school design thinking model (Figure 3) is its emphasis on the development of empathy for users as the first step of design.
According to the d.school, “empathy is the foundation of a human-centered design process; by deeply understanding people, we are better able to design for them.” They suggest that designers should develop empathy for their users by doing three different types of activities:

- **Immerse**: Experience what your user experiences
- **Observe**: View users and their behavior in the context of their lives
- **Engage**: Interact with and interview users through both scheduled and short ‘intercept’ encounters.

We suggest that creating more explicit parallels and interrelationships between the ways in which we talk about learn by doing at Cal Poly with new images of the design process – including empathetic understanding of our clients/users and their micro- and macro-contexts – will support the integration of attention to power, evaluation, and reflexivity that are necessary components of what it means to learn by doing in Women’s & Gender Studies and beyond.