

UC San Diego
Pathways to Transfer Student Success
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List of Participants

UC San Diego

Gompers Preparatory Academy

Jacobs Center for Neighborhood Innovation

Lincoln High School

Imperial Valley College

Math for America San Diego

The Preuss School

The Price Philanthropies and The Price Scholarships

Reality Changers

San Diego / Imperial County Community College Association

Southwestern Community College

The Weil Foundation

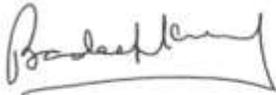
Westview High School, Poway Unified School District

Application Abstract

UC San Diego's four-year transfer graduation rate is a healthy 85%, but its normative two-year transfer graduation rate, 40%, is the lowest in the UC system. This increases the cost of education, reduces the number of degrees that can be awarded, and limits access. Three key features of our university affect transfer time-to-degree: it is especially attractive to STEM majors, and it has successfully enrolled a high proportion of Pell Grant recipients and students who are the first in their family to attend college. Each of these factors increases time-to-degree, and their impact is additive. The set of coordinated initiatives featured in this application are grounded in UC San Diego's 2014 strategic plan. Our overarching goal is ambitious: while strengthening access and affordability for all, within five years we seek to shorten the average transfer time-to-degree by one quarter. This should increase our normative transfer graduation rate to 60%, making it one of the highest in the UC system. This will result in substantial savings for students, the university and the state. It will also enable UC San Diego to award more than 300 additional bachelor's degrees – a 12.5% increase – to transfer students each year.

Assurance and Signature

I assure that I have read and support this application for an award. I understand that if this application is chosen for an award, my institution will be required to submit, for approval by the Committee on Awards for Innovation in Higher Education, a report indicating proposed uses of the award funds and, as the fiscal agent, will be responsible for distributing funds to any other participating entities. I also understand that, if this application is selected for an award, my institution will be required to submit reports to the Director of Finance by January 1, 2018, and by January 1, 2020, evaluating the effectiveness of the changes described in this application.



Pradeep K. Khosla
Chancellor, UC San Diego

Context: Section 1

California's economy is dependent upon cutting-edge science and technology industries. A pipeline of STEM innovators is essential to the future; without stable funding and innovative educational strategies, the state is facing growing labor shortages in these sectors. To keep pace with demand, all eligible Californians need the opportunity to earn a bachelor's degree as expeditiously as possible.

UC San Diego has a distinctive role to play in meeting this need. One of the top 15 research universities worldwide, UC San Diego enrolls more STEM students and awards more bachelor's degrees in STEM disciplines than any other campus in the University of California. Forty-four percent of all students at UC San Diego receive Pell Grants. Twenty-seven percent of new freshmen, and thirty-four percent of new transfers, are the first in their family to attend college. Of these students, nearly sixty percent major in one of the STEM disciplines (engineering, biology, physical sciences, mathematics).

Educational research has demonstrated that each of these characteristics slows progress toward the degree. Moreover, these factors are additive, so that low-income and first-generation students who are attracted to UC San Diego for its excellence in STEM disciplines are less likely to persist and take longer when they do so. The cumulative impact of income, family history and academic focus is most visible among transfer students. Though the campus four-year transfer graduation rate is a healthy 85%, the normative two-year transfer graduation rate is 40%, the system's lowest. In some STEM majors the two-year graduation rate is in the single digits.

In its 2014 strategic plan UC San Diego dedicated itself to better support these students. Drawing on the vision of a "student-centered, research-focused, service-oriented public university," it resolved to implement innovative programs that "result in accessible and affordable learning for all" and to "rethink curriculum and pedagogy to improve retention and graduation rates." The policies, practices and systems presented in this application are a direct outgrowth of these core institutional commitments. Our overarching goal is ambitious: while strengthening access and affordability, within five years we seek to shorten the average transfer time-to-degree by one quarter. In so doing our normative transfer graduation rate will increase to 60% and be among the highest in the system.

Barriers to access, like the causes of low retention rates and long time-to-degree, have common roots but take very specific local forms. No single solution is possible; instead, a range of closely related interventions are called for. The initiatives described in this proposal share several characteristics: they respond to general problems but pay careful attention to the local context; they are based on quantitative and qualitative research identifying key obstacles in the educational pathway; they build on partnerships with regional institutions and organizations; and they are designed to reinforce each other, providing an integrated response to a cluster of closely related challenges. In this way they provide models that can be scaled and replicated at other institutions of higher-education throughout the state.

Context: Section 2

UC San Diego Student Profile: Undergraduate Enrollment (Fall 2014)

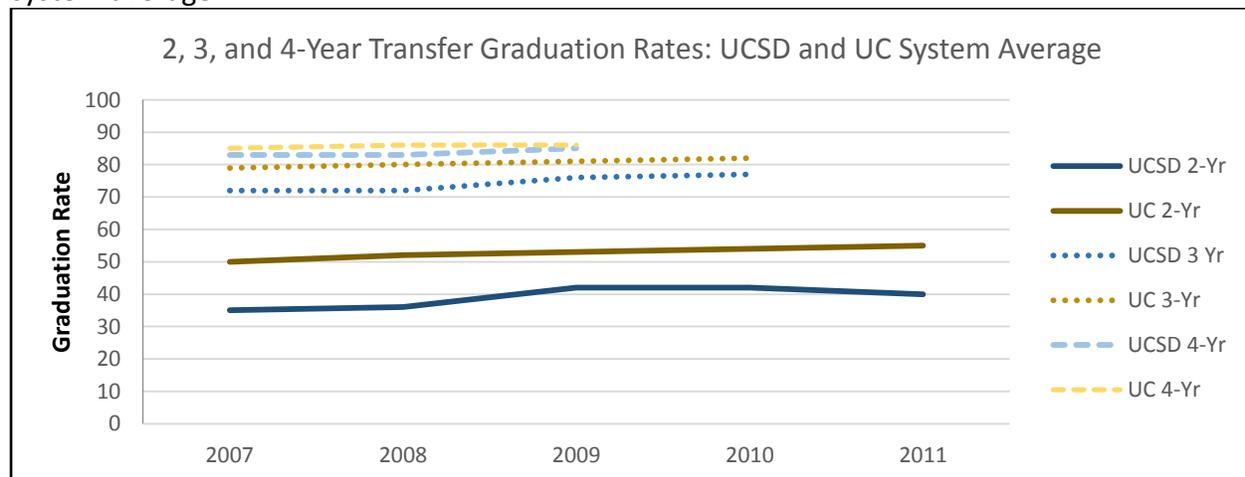
	Female	Male	Total	Proportion
American Indian or Alaska Native	54	55	109	0.44%
Asian	6,005	6,501	12,506	50.4%
Black or African American	280	249	529	2.13%
Hispanic or Latino	2,114	1,964	4,078	16.44%
Native Hawaiian or other Pacific Islander	22	26	48	0.19%
White	2,425	3,042	5,467	22.0%
Other	886	1,187	2,073	8.36%
<i>Total</i>	<i>11,786</i>	<i>13,024</i>	<i>24,810</i>	<i>100%</i>

Additional Requested Information (Fall 2014 data)

	Proportion
Current or former foster youth	0.1%
Served by Office for Students with Disabilities	1.77%
Pell Grant eligible	44%
Veterans	1.37%

Factors Affecting Transfer Student Success

UC San Diego's one-year transfer retention rates are strong, averaging 93.8% for cohorts entering between 2008 and 2012. During the same period the system average was 92.8%. UC San Diego's transfer graduation rates, however, are consistently and significantly below the system average:



We have identified three explanatory factors: STEM status, Pell Grant status, and first-generation status. These factors are additive, so that the more factors a student has, the lower the graduation rate.

STEM status. Nearly half of all bachelor's degrees awarded by UC San Diego are in STEM disciplines. This is crucial because time-to-degree for STEM majors is significantly longer than for non-STEM students. A detailed analysis of a single cohort – transfers who entered UC San Diego in 2008 – illustrates this fact:

	Two-Year	Three-Year	Four-Year
Biology majors	27.3%	69.7%	83.5%
Engineering majors	5.00%	56.6%	73.80%
Physical Sciences majors	22.8%	67.3%	82.2%
<i>All majors</i>	<i>36%</i>	<i>72%</i>	<i>83%</i>

Consistent with this data, STEM majors also have longer average time-to-degree. For the most recent cohort studied, STEM transfer students required an average of 2.91 years to graduate, while non-STEM transfer students averaged only 2.44 years.

Analysis of the courses taken by transfer students helps explain this data. In 2008 over 40% of classes taken in the first year at UC San Diego were lower-division. These classes were primarily in math, physics and engineering. Among transfer students in the 2012 cohort, STEM majors took 50% more lower division courses than non-STEM students. These findings confirm that a key factor in longer time-to-degree for transfer STEM majors is inadequate preparation in the field prior to matriculation.

Pell Grant status. In recent years the proportion of Pell Grant recipients at UC San Diego has averaged 44%, the third-highest in the system. Normative transfer graduation rates for these students are significantly lower than the campus average:

	Fall 2009	Fall 2010	Fall 2011
All transfers	42%	42%	40%
Transfer Pell Grant recipients	33%	35%	36%

Pell Grant status also has a small but significant effect on time-to-degree. For transfer students who graduated in 2012-13, Pell recipients required an average of 2.65 years to graduate, while non-Pell recipients required only 2.55 years.

Pell Grant recipients are more likely to work while enrolled at UC San Diego. A 2013 study pointed to a curvilinear relationship between work and academic success. Up to about 12 hours per week, students who work more have higher GPAs. But then the trend reverses, and additional hours of work correlate with a lower GPA.

First-generation status. Approximately 34% of UC San Diego's transfer students are first-generation, defined as neither parent graduated from a four year institution of higher education or a two year community college. For the most recent cohort studied, the two-year graduation rate of first-generation students was the same as non-first generation (42%); but was slightly lower at the three-year (73% vs. 77%) and four-year (82% vs. 86%) marks. A focus-group study of underrepresented students at UC San Diego helped explain some of the reasons for this. First-generation students had greater difficulty explaining the value and purpose of college to their families, lacked sufficient institutional guidance on course selection and career planning, and experienced a lower sense of belonging on campus.

Innovations: Section 3

UC San Diego's strategic plan commits the university to improving undergraduate access, retention and time-to-degree. Responsibility for designing, testing, evaluating and expanding programs will be described in sections 8 and 9 of this application. We typically begin with small pilot programs in well-defined settings; when they prove effective, we expand their scope and increase their size. We often start with freshmen, since this allows us to draw on greater experience and a deeper body of national research. Thus in 2013 we launched two high-impact programs. The first seeks to reduce time-to-degree among STEM majors; the second seeks to improve access to low-income high-school students in the region. Knowledge gained from these initiatives provided an essential foundation for transfer-specific versions launched in 2014.

1. *"Summer Program for Incoming Students"* This program is designed to improve retention and graduation rates among computer science majors from fourth- and fifth-quintile high schools. The Department of Computer Science and Engineering (CSE) is one of UC San Diego's largest; in Fall 2013 it accounted for 8.2% of all undergraduates and one-third of all engineers. Like all engineering departments at UC San Diego, it has strong six-year (freshmen) and four-year (transfer) graduation rates but low normative graduation rates. In the most recent years for which full data are available, 46% of first time freshmen majoring in engineering graduated in four years, while only 11% of transfers graduated in two years.

In 2013 the Summer Program for Incoming Students (SPIS) was created to address this challenge. Computer science and information technology affect every part of our lives, from bringing the world together through online and mobile communications to making possible lifesaving medical innovations. Because of its broad application, computer science appeals to students with quite varied interests. And while many high schools are ramping up offerings in computer science, those that serve low-income and first-generation students often lack the resources needed to do so. As a result, many students have little or no prior experience in computer science when they arrive at UC San Diego. In a four-week summer residential program, SPIS provides incoming CSE majors with college-level exposure to computer science, problem-solving, project-based learning, communication skills, and mathematical modeling. In addition to academics, SPIS introduces students to the social, cultural, and broad intellectual opportunities available to university students. Participants receive career mentoring and enjoy a series of lectures and demonstrations illustrating the exciting and varied career opportunities available in computer science and engineering.

In its pilot year SPIS enrolled 28 incoming freshmen. The program assessment plan included student surveys. One student's response illustrates the program's impact: "Participating in SPIS has not only given me the hands-on experience in computer programming that I was unable to get in high school, but also made me become accustomed to college life and that is much easier through fostering friendships and getting to know the faculty."

SPIS students have shown quantitative gains in their GPA and acceleration in their progress taking courses in their major. In light of these successes, SPIS was expanded for 2014, enrolling 67 incoming freshmen from all engineering majors in a five-week residential program.

2. *“Chancellor’s Associates Scholars Program”* One of UC San Diego’s overarching goals is to ensure that all qualified, deserving students have access to an affordable higher education. Education and hard work lead to upward social mobility and allow people to pursue and achieve the American dream. Yet that dream seems elusive for some students, especially those from lower-income families or those who would be the first in their families to go to college. In 2013 UC San Diego created the Chancellor’s Associates Scholars Program (CASP) to give bright and motivated students from low-income families the opportunity to attend UC San Diego. This direct goal is matched by an indirect one: increasing the number of applications from qualified students, thus growing the pool of low-income and underserved students admitted to UC San Diego.

The program is bracingly simple: all students who graduate from one of the university’s three partner high schools – Gompers Preparatory Academy, Lincoln High School or The Preuss School UCSD – and are admitted to UC San Diego will be provided a four-year, \$10,000 annual scholarship. To qualify, students must be eligible for the University of California’s Blue and Gold Opportunity Plan. This merit scholarship, totaling \$40,000 of support per student, ensures that the student financial aid package is comprised entirely of gift funds, grants and scholarships, with no student loan or work expectation.

In its first year, 2013, CASP was announced after applications had been submitted but before admissions decisions were announced. Nonetheless, it doubled yield and tripled the number of enrolled students from the three partner schools. By 2014 the program was well known and increased the number of applications as well as the yield:

	Fall 2012	Fall 2013	Fall 2014
Applications	153	159	195
Admits	30	46 (45 scholars)	55 (54 scholars)
Accepts	10	30 (29 scholars)	43
Yield	33%	65%	76%

By program definition, all recipients are low-income. In the first two years, all recipients have also been first-generation, and nearly 80% are from groups historically underrepresented at the University of California. CASP’s dramatic impact on access to UC San Diego has justified its expansion as well as its extension to transfer students. In 2014 a total of 76 new scholarship recipients were selected, 32 of whom were transfer students. The campus goal for Fall 2015 is approximately 100 new scholarship recipients, with 60 new freshmen and 40 new transfers.

Innovations: Section 4

In 2014 UC San Diego launched a coordinated set of initiatives intended to strengthen access and improve retention and time-to-degree. Each addresses a specific challenge or obstacle in the path that leads from high school to community college and ends at UC San Diego. Though defined in local contexts, each initiative is designed to be scaled and replicated.

Getting to UC San Diego

In 2014 UC San Diego's strategic plan reaffirmed its commitment to enhance social, cultural, economic and educational opportunity in the region. This commitment is visible in each of the initiatives described below; often the most important innovations in student educational achievement build on community ties and local knowledge.

High School

Success as a STEM transfer student begins in high school, when interest is piqued, passions are formed and skills are developed. Four initiatives serve distinct phases in the high school career of low-income and underrepresented students in the region.

1. *Jacobs Center "Urban Laboratory"*. Under the stewardship of University Extension (UnEx), UC San Diego formed a partnership with the Jacobs Center for Neighborhood Innovation to provide instruction to high school sophomores and juniors in Southeastern San Diego on "Green STE[+a]M Communities." The course examines the environmental, historical and cultural richness of southeastern San Diego through digital technologies and hands-on activities and is designed to stimulate student interest in STEM disciplines.

2. *UC San Diego Math Instruction in Regional High Schools*. Poor mathematics preparation is the Achilles heel of many STEM students. Resource limitations prevent many regional high schools from offering high-quality advanced math courses. In 2014 UC San Diego launched a pilot program offering college-level math instruction, taught by UC San Diego instructors, at two local high schools. These lower-division courses allow students to get a head start on college unit requirements and prepares them for the rigors of study at a research university.

3. *Test Preparation*. One of the barriers to entering college for low-income students is the cost of quality SAT/ACT prep courses. UnEx has developed a program offering both traditional and customized test prep for only \$100 per student. Partnering with a local philanthropic organization, the Weil Foundation, UnEx has piloted this program at Gompers Preparatory Academy. Based on the success of the pilot --student test scores increased an average of 120 points -- the program will be expanded in 2015 to include five additional schools serving low-income students.

4. *Triton Academy*. To attract more underrepresented and first-generation STEM majors, UC San Diego has established a program with three partner Los Angeles high schools: Los Angeles Bravo, King Drew, and the California Academy of Math and Science. This program has two parts: a three-day residential summer institute at UC San Diego for rising high school seniors, and a support program for participants who are admitted and enroll. Over 90% of participants

in the pilot program indicated that the program positively changed their opinion of UC San Diego and their plans for college.

Community College

The transfer route from community college to four-year institutions is a vital part of California's master plan for higher education. Community colleges provide an essential academic foundation, develop social and intellectual capital, and set students on the path to a bachelor's degree. Four-year institutions, in turn, must work with community colleges to remove impediments and obstacles that prevent students from matriculating. In 2014 UC San Diego launched three initiatives designed to accomplish these goals.

4. Accelerating Community College Math Achievement. Poor early math preparation can delay or permanently derail community college students, especially when they wish to major in a STEM discipline. Initial placements are determined using standardized tests such as the AccuPlacer or Math Diagnostic Testing Program (MDTP). Research has shown that for every course below Algebra II that low-income students place in at the two-year college level, the chance of completing a certificate or degree of any kind drops by 22 percent. Meeting the needs of large numbers of underprepared students can force community colleges to offer a wide range of remedial courses. And that, in turn, limits their opportunity to offer non-remedial instruction. If incoming community college students were better prepared they would be more likely to complete their associate's degree and be eligible for transfer. Community colleges, in turn, would be able to offer a wider array of more advanced courses in mathematics. In 2014 the UC San Diego Center for Research on Educational Equity, Assessment and Teaching Excellence (CREATE) partnered with the San Diego City College (SDCC) Math Department, Math for America San Diego (MfA), and the Price Philanthropies to design and implement a program addressing this challenge.

The pilot, offered in summer 2014, targeted 23 low-income, first-generation students entering their first or second year at SDCC directly from a San Diego Unified High School. The program offered 90 hours of instruction over a five-week period. Instruction and support were individualized and differentiated. The goals of the program were to: increase students' mathematical content knowledge and confidence; speed up progress through the developmental math sequence; improve success in the *next* course in the math sequence; and build positive working relationships between partner institutions.

The pilot program was a tremendous success. Fifty percent of participants were promoted one level in the math sequence, and twenty-seven percent were accelerated two levels. Students showed statistically significant growth on both the MDTP Algebra Readiness Test and the MDTP Algebra II Readiness Test. Based on these results, program partners are now planning to expand the program, serving up to 200 low-income, first-generation students completing the accelerated math course in Summer 2015. Doubling these numbers each year for the next three years will allow the program to reach 1200 potential transfer students by 2018-19.

5. UniversityLink. A key obstacle to attending a University of California campus is the cost of room and board for students who have to move across the state to complete their degree. This is a formidable barrier, captured by the phrase "place-bound students." For these students the

only viable UC is the local UC. Traditionally these students were able to reach UC San Diego through the Transfer Admissions Guarantee (TAG) program, which was focused on schools in San Diego and Imperial counties. But in 2004 the system-level Board of Admissions and Relations with Schools (BOARS) determined that TAG programs could not be geographically limited, and UC San Diego was required to open its TAG program to students attending any community college in the state. This ensured regional equity, but it also distorted the admissions process. By Fall 2011, fully 75% of transfers arrived through TAG, with a median GPA of 3.45; the median GPA required to gain admission through the traditional application process, by contrast, was 3.78. To bring the university's admissions policy into alignment with its core goals and values, UC San Diego ended its participation in TAG in 2012.

Statistics tracking the college choices made by low-income transfer students from the San Diego-Imperial area suggest that the cost-of-living savings of attending a UC in their region is a major concern. First, 67.4% of the low-income transfer students from this region whom we admitted in Fall 2013 accepted our offer, compared with an overall yield rate of 35% for transfer students from across the state. Second, when we looked at students who were admitted to UCSD and also to UCLA and/or UC Berkeley, only 5.4% overall accepted our offer in Fall 2013. Yet among low-income transfer students from the San Diego-Imperial region, 32.7% accepted our offer instead of becoming Bruins or Bears. This suggests that these students chose UCSD because of affordability.

To restore access to high-achieving community college students without financial resources to leave the region, UC San Diego crafted the UniversityLink program. UniversityLink guarantees admission to graduates of San Diego and Imperial County community colleges who earn at least a 3.5 GPA at community college and have a verified family income of no more than \$40,000 per year. Using data from our Fall 2013 enrollee pool, we project that nearly 200 transfers will qualify for UniversityLink. Of these students, 46% are first-generation, 28% are underrepresented minorities, and 7.5% are either veterans, in the reserves or the National Guard.

6. Chancellor's Associates Scholarship Program for Transfer Students. In 2013 the Chancellor's Associates Scholarship Program was offered to students at one of three regional partner high schools. In light of the program's impact, in 2014 a version for transfer students was created. The Chancellor's Associates Scholarship Program for Transfers (CASP-T) provides a two-year, \$10,000 per year scholarship to new transfers from one of three regional community colleges: Imperial Valley College, San Diego City College, and Southwestern College. As with the scholarship for freshmen, CASP-T ensures that the student financial aid package is comprised entirely of gift funds, grants and scholarships, with no student loan or work expectation. The three partner community colleges were selected on the basis of their student profiles; each serves predominantly low-income, first-generation and underrepresented students, and historically each has sent fewer students to UC San Diego than other community colleges in the region. Forty scholarships were offered, and thirty-two were accepted, for a yield of 80%. By virtue of the program requirements, all are low-income. Virtually all are first-generation, and 80% are from groups historically underrepresented at the University of California.

As the Chancellor's Associates Scholarship Program was being expanded we took advantage of insights provided by UC San Diego's Retention Workgroup, jointly chaired by the Dean of Undergraduate Education and the Vice Chancellor for Student Affairs. Quantitative data revealed that retention and graduation rates were slightly lower for underrepresented and first-generation students at UC San Diego. Focus groups helped isolate some of the primary factors: isolation on campus, home and family pressure, financial stress, and difficulty making academic connections. To smooth the transition to UC San Diego we launched a two-part support program, combining a three-day residential summer institute and a fall-quarter credit-bearing seminar. The former helped incoming scholarship recipients establish bonds with each other, and key administrators, before the start of the school year. The latter addressed academic isolation. For example, three times during the Fall quarter members of the faculty met with scholarship recipients in an informal setting to discuss their own scholarly journey. On one evening Tom Wong, Professor of Political Science and Director of the Center for Comparative Immigration Studies, discussed his own start as an undocumented Chinese immigrant in northern California. In post-event surveys students gushed that these events helped strengthen their sense of purpose and direction, and made them more comfortable interacting with members of the faculty.

Moving Through UC San Diego

The academic and co-curricular experiences students have when they arrive at a four-year institution can profoundly influence their success. Among the most important factors are: inclusion and involvement at the four-year institution; the transfer receptivity of the institution; the social and cultural capital that students possess at transfer; and competing priorities and obligations that divert student time, energy, and commitment away from their academic goals, such as personal, financial, family commitments. In the previous paragraph measures addressing these issues among Chancellor's Associates Scholars was discussed. In 2014 UC San Diego launched three additional programs addressing challenges faced by incoming students.

7. Transfer Jump-Start Program. The Summer Program for Incoming Students (SPIS) demonstrated the ability of carefully constructed programs to jump-start the educational careers of entering freshmen. Building on that experience, and drawing on our analysis of the unique challenges facing transfer students, in Fall 2014 we began designing the Summer Program for Transfer Students (SPTS).

Normative time for transfer graduation, two years, is predicated on the ability of transfer students to match progress in the major of third-year students who began as freshmen. This assumption does not hold at UC San Diego, particularly among STEM majors. As noted in section 2, over 40% of the classes taken in the first year by members of the 2008 transfer cohort were lower-division. These classes were concentrated in math, physics and engineering. For example, in their first quarter at UC San Diego most incoming transfer students majoring in Computer Science and Engineering enroll in CSE 11/12, CSE 15L, CSE 20/21 and Math 20C. Though lower-division, these courses are quite demanding, and many transfers have to take them more than once to receive a passing grade. By contrast, CSE majors who entered as freshmen ordinarily complete these courses in their first two years at UC San Diego. The same

story can be told for every STEM discipline, as well as more quantitative social sciences like economics. Consequently, the core of SPTS will be key lower-division STEM courses, specially designed to meet the needs of incoming transfer students. All students will take two such courses, one of which will be in mathematics and the other in their intended major. Preliminary analysis shows that this alone will shorten participant's time-to-degree by more than 1.5 quarters.

Additional components of SPTS are intended to energize and empower transfer students. A seminar with faculty and local leaders in business, industry and politics will enable students to explore exciting new ideas in their disciplines and learn about important career opportunities. Workshops will help participants plan for high-impact internships. "Writing in the discipline" instruction will enable participants to develop expository skills needed to thrive in their major.

A five-week SPTS pilot program will be offered in summer 2015. Eight transfer students representing five majors (Biology, Chemistry, Computer Science and Engineering, Mathematics, and Economics) will be enrolled. Participants will be selected on the basis of criteria such as financial need and preparation in the major; as with SPIS, our goal is to give this opportunity to the most vulnerable students who have been admitted to UC San Diego.

8. Summer Field Experience in Math Education. For some transfers a successful transition to UC San Diego involves making a clear and thoughtful career choice. In 2014 we piloted a week-long paid summer internship program for entering STEM transfer students encouraging them to consider a career in STEM teaching. The program began with a workshop introducing students to issues of equity and access and the importance and challenge of reaching the linguistically and culturally diverse learners that comprise the student population in San Diego City and County schools. This was followed by 4-days of observation/small group tutoring in the classroom of a collaborating teacher. At the conclusion of the program participants returned to UC San Diego for a workshop reflecting on their experience working with students and teachers in local schools.

These Summer Field Experiences were funded through a UCOP Presidential Grant for STEM Teacher Pipeline Development and an NSF Noyce Master Teacher Fellows grant, which together provide funds to support 20 students. Interest was high; the pilot attracted more than 100 applicants for 20 positions. Participants were enthusiastic and focused, and over half have sought out follow-up advising on courses and pathways. This pilot program is funded for four more years. Given the interest and a strong applicant pool, we plan to use it as a model for short, field-based bridge programs in other disciplines and professions.

9. First-Year Experience for Freshmen. The 2005 National Survey of Student Engagement, which included responses from more than 80,000 first-year students, showed that those who had completed a First Year Experience (FYE) course were more positively challenged academically, more likely to engage in collaborative learning activities, interacted more frequently and confidently with faculty, and perceived the campus environment as being more supportive. Each of these factors contributes to student academic success, yielding higher retention rates and lower time-to-degree.

FYE courses typically address a cluster of key topics: mental health awareness and well-being; academic integrity and how to appropriately research and cite sources; getting connected and navigating a large university environment; choosing (and potentially changing) a major. Student success also rests on a sense of belonging and participation in a community. The natural “home” for an FYE course is UC San Diego six-college system. In late 2013 the colleges united to design an FYE course. The pilot, taught in Fall 2014, involved 200 randomly selected freshmen from each college: 100 as participants, and 100 as an assessment control group. Participants enrolled in a two-unit course whose primary instructor was the Provost of the college. Weekly discussion sections were led by trained undergraduate teaching assistants. All six colleges used a common syllabus, designed to achieve three goals: help students understand academic and curricular expectations; assist students in engaging and mapping co-curricular opportunities; strengthen students’ organizational, interpersonal and wellness skills. By teaching these courses in the colleges, the FYE also strengthens community and a sense of belonging.

Assessment of the FYE is just beginning. Preliminary student surveys indicate high levels of satisfaction, and a strong belief by participants that they are better prepared to take full advantage of opportunities at UC San Diego. The colleges are planning to expand the program in 2015; within two years, they seek to enroll all entering freshmen.

10. First Year Experience for Transfers. Building on the experience of designing a First Year Experience course for freshmen, the six colleges at UC San Diego then turned their attention to designing a First Year Experience for Transfers (FYE-T). Preliminary analysis indicated that a separate course was needed to respond to the unique qualities of transfer students:

- Transfer students enter UC San Diego as upper-division students who have fulfilled most general education requirements and whose time at UC San Diego will be significantly shorter than their undergraduate peers who entered as freshmen;
- Transfer students lack the shared college experience which, for students entering as freshmen, was forged by college programming and the completion of college GE requirements, including the College Writing Programs;
- Most transfer students live off-campus and commute to UC San Diego or live in transfer housing that is not physically connected to a college, unlike students who entered as freshmen and live in college housing, typically for their first two years;
- Many transfer students have additional and often more complex responsibilities outside of school (e.g., children, military obligations, etc.).

The FYE-T course will address issues essential to strong academic performance and overall student satisfaction by including such topics as experiential and research opportunities, internships, career and graduate school, personal well-being and its relationship to academic success, academic integrity, campus engagement, campus resources, and improved learning and study strategies.

The pilot FYE-T course will be offered in Fall 2015. At the outset 100 randomly selected entering transfers per college will be involved, 50 as participants and 50 as a control group. Within three years we anticipate enrolling all entering transfers in the FYE-T course.

Innovations: Section 5

Each of the initiatives described in previous sections of this application can be located on a developmental road-map, with major intersections at research and design, pilot, assessment and review, and renewal or transformation. Here we focus on initiatives currently in the “research and design” phase; all will be piloted or implemented during 2015.

Getting to UC San Diego

1. Major Preparation for Transfer Students seeks to reduce transfer time-to-degree. UC San Diego recommends but does not require that community college transfer students take the lower-division courses that each department designates as “major preparation.” Many transfers arrive on campus far behind where a third-year student should be. As previously noted, over 40% of all classes taken in the first year at UC San Diego by members of the 2008 transfer cohort were lower-division. These courses were especially concentrated in mathematics, physics and engineering. Many students had to take these courses more than once to receive a passing grade. By starting behind the expectations of normative degree plans, these students are less likely to be retained in the discipline and take longer to graduate.

Beginning in Winter 2015, departments will be encouraged to establish “major preparation requirements” for transfer students. Required courses will be based on the current major prep recommendations on assist.org, since articulation agreements are already in place for those courses. The Office of Admissions will verify that the required courses for each major are available at most community colleges, partner with community colleges to ensure that students are aware of the changes, and work with assist.org and UCOP to update websites, etc. In order to have an effective start date for transfers entering in Fall 2017, we plan to complete this work by Fall 2015. These changes will bring UC San Diego in line with all other UC campuses, which already impose major prep requirements.

2. Frontiers of Innovation Summer Program will enhance access and increase the number of transfer applications among STEM majors. In its strategic plan UC San Diego identified four grand research themes. These “Frontiers of Innovation” define sites of collaborative and interdisciplinary research for faculty and scholars. They also create opportunities for innovative and forward-looking education; participation in cutting-edge research contributes to undergraduate student success and strengthens interest in graduate education. The latter is especially important for students from diverse backgrounds as they are currently underrepresented in top-tier graduate programs.

In 2015 UC San Diego will revise and expand its Summer Training Academy for Research Success (STARS) program to align it with the Frontiers of Innovation initiative. An eight-week mentored summer research academy will offer research opportunities, graduate school preparation workshops, and networking activities that build resilience and community. The program previously focused on students in STEM fields, for which extramural support is more readily available; with campus funding it will be extended to students in all disciplines. A total of 66 additional students from Minority Serving Institutions (MSIs) will be recruited. This will nearly

double the size of the current program. Special emphasis will be placed on recruiting students from community colleges (and particularly those hoping to transfer to a UC campus) and Hispanic Serving Institutions (HSIs) in Southern California. Based on previous experience, we anticipate that transfer students will be more likely to complete their four-year degree at UC San Diego, and that all participants will be more likely to attend graduate school.

Moving Through UC San Diego

3. Teaching & Learning Commons. UC San Diego's strategic plan envisions a "student-centered, research-focused, service-oriented public university." Students should be "capable of solving problems, leading, and innovating in a diverse and interconnected world." To achieve this goal, the campus must develop and assess curricular and pedagogical strategies, grounded in scholarship, that increase student and faculty engagement, have a measurable impact on student learning, increase retention and reduce time-to-degree.

The Teaching & Learning Commons (TLC) directly addresses this challenge. One of the first fruits of the Education Initiative (see section 8), the TLC is based on three key ideas: that teaching and learning are integrally intertwined, that research and practice are mutually enriching, and that a fragmented approach to teaching and learning weakens the efficacy of activities aimed at supporting student and faculty engagement. Adhering to these principles, we seek to establish a model for all research universities.

The TLC will be distinctive in two regards. First, it will include programs and services for undergraduates, graduate students, postdoctoral scholars, and faculty. These programs will be housed in two subsidiary units: a Center for Engaged Teaching (focusing on the needs of instructors) and the Center for Engaged Learning (focusing on the needs of students). Working together, these centers will integrate existing activities, launch new programs, and synergistically energize teaching and learning on campus. Second, the TLC is designed to ensure that the "troops on the ground" play a central role in Commons activities. Instructional staff in programs and departments will be the primary agents of change in UC San Diego's educational culture, and it is vital that the TLC work closely and collaboratively with them. The appointment of a 100% time faculty Executive Director will be announced in mid-January 2015.

4. Academic Assessment Office. Assessing teaching and learning is critical to the success of educational institutions. Continuous improvement in the quality of instruction and learning outcomes requires the intentional and systematic gathering and use of data about programs, courses and students. UC San Diego currently has a strong team of analysts working with institutional data concerning issues like time-to-degree, retention and graduation rates, and student surveys. We do not, however, have an analyst trained to work with faculty and staff to develop and implement locally-defined, effective, efficient and sustainable assessment practices that yield valid, relevant and actionable information about student learning outcomes. Under the leadership of the Director of Academic Strategic Initiatives, plans for an Academic Assessment Office are currently being developed. The office will be staffed in summer 2015.

Innovations: Section 6

The overarching goal of the initiatives described in this application is to shorten the average transfer time-to-degree by one quarter. We also seek to increase our retention rates and strengthen access and affordability.

Average Cost to Award a Bachelor’s Degree

The per-student annual cost of education at UC San Diego is borne by four actors: the federal government, the state, the university and the student. Models and data are provided in Appendix E.

Impact

1. *Reducing time-to-degree.* A one-quarter reduction in the average transfer time-to-degree would yield the following savings:

	student	university	state	federal
Per student	\$9,949	\$2,868	\$3,226	\$1,744
Per cohort	\$21,786,750	\$6,439,500	\$7,258,500	\$3,924,000

This change will also enable us to award 325 additional transfer bachelor’s degrees per year.

2. *Improving retention rates.* A two-percent improvement in the two-year retention rate would lead to savings associated with students who do not persist to a bachelor’s degree at any other institution:

	student	university	state	federal
Per student	\$53,723	\$15,493	\$17,420	\$9,418
Per cohort	\$644,676	\$195,916	\$209,040	\$113,016

This change will also lead us to award 50 more transfer bachelor’s degrees per year.

3. *Ensuring access.* Some access programs, such as the Chancellor’s Associates Scholars Program, are justified by the university’s profound commitment to access and affordability. Savings accrue to access programs that keep students on the path to success. For example, community college students underprepared in mathematics are less likely to complete *any* degree. It is too early to accurately gauge the long-term impact of the math acceleration program described in section 4. But like many access initiatives, this program has strong potential to significantly increase community college retention rates and also better prepare students for transfer to UC San Diego.

Caveat

For the state and the university, reductions in the average cost to award a degree are hypothetical or theoretical, and do not reflect actual savings. Any efficiencies created by our initiatives will be used to educate more students. For example, reducing the time-to-degree for transfer students will yield savings to the individual student. It will reduce per-degree cost to the state and university. And by improving the educational “flow” rate more than 300 additional bachelor’s degrees will be awarded each year. But for this to happen, the number of enrolled transfers must remain constant. As a consequence, the annual amount spent by the state and the institution will remain unchanged.

Innovations: Section 7

Principles and Strategies

Every change brings unintended and unanticipated consequences. Some are desirable: the pieces of “good fortune” that often accompany innovation. Others, however, undermine a program or challenge major goals of the institution. To take advantage of the former, and minimize the risks and tradeoffs of the latter, two things are necessary: clear goals and a well-defined process for assessment and action.

UC San Diego’s institutional goals were set by its 2014 strategic plan. UC San Diego’s vision statement gives pride of place to education: “We will align our efforts to be a student-centered, research-focused, service-oriented public university.” The first two of five major goals are directly relevant:

- “Delivering an educational and overall experience that develops students who are capable of solving problems, leading, and innovating in a diverse and interconnected world.”
- “Cultivating a diverse and inclusive university community that encourages respectful open dialogue, and challenges itself to take bold actions that will ensure learning is accessible and affordable for all.”

The innovations described in this proposal advance three programmatic goals for transfer students: reducing time-to-degree, improving retention, and strengthening access.

Responsibility for the coordination and review of these initiatives has been placed in the hands of the Administrative Leadership Council for Student Experience. Closely aligned, and sharing responsibility for design and implementation, are the Education Initiative, the CREATE Stem Success Initiative and University Extension’s K-16 Programs. Each of these units will be described in section 8. Two examples will illustrate how risks and tradeoffs will be handled.

Examples

1. UniversityLink. UniversityLink was established in 2014 to address the unintended consequence of a prior action: the elimination of the Transfer Admissions Guarantee (TAG) program. By solving one problem we gave rise to another. TAG had provided a route to UC San Diego for low-income students in the region who were unable to afford attending any other UC. Without TAG, many worried that these students would not be able to complete their bachelor’s degree at the University of California. Meetings with the presidents of regional community colleges, faculty and staff at individual schools, and town halls made this abundantly clear.

In terms of our innovation process, UniversityLink – launched in 2014 -- is in its “pilot” phase. We are carefully monitoring its impact on regional admissions. Based on our preliminary analysis, we anticipate approximately 200 students a year will take advantage of the program. If we have fewer than 200 participants, then we will review and consider adjusting the income and GPA thresholds for the program. On the other hand, if too many students take advantage

of the program then we run the risk of reducing access to students from other parts of the state, and will have to consider a different set of adjustments.

A key part of this process is consultation with regional educational leaders. We have shared our data with SDICCCA schools, and encouraged them to conduct analyses of their own. Working together we will do our best to ensure that all qualified transfer students in the region have the opportunity to attend the University of California.

2. Major Preparation Requirements. Major prep requirements are intended to ensure that new transfer students have completed the same lower-division courses required for the major as have students who arrived as freshmen. We anticipate three major risks or tradeoffs, each of which will require monitoring:

- Limited community college course availability. There may be classes that departments would like to require as major preparation that are not offered, or are offered infrequently, at some California community colleges. UC San Diego's Committee on Admissions has recommended that such classes not be required. An alternative will be to establish a procedure for granting exceptions to applicants from schools that do not offer commonly required major prep classes.
- Impact of major prep courses on overall GPA. If a student is well-equipped for a major, they should be able to do well in the major prep courses. However, it is possible that having to take math and science courses could negatively impact their GPAs. This disincentive to take difficult STEM courses is one reason transfers arrive at UC San Diego underprepared for their intended major. Since Admissions uses GPA to rank transfer students for admission, it is possible that fewer students in majors that require major preparation will be admitted. If there is a substantial drop in the number of admitted students to majors that require major preparation, we will need to consider revisions in the admissions process to address problem.
- Adverse impact of changes in academic direction. There will likely be community college students who take major prep courses, earn low grades and realize that the major is not a good fit for them. After switching majors, the student may do well. But if admissions decisions focus on GPA, these qualified students may suffer. One option being considered is the introduction of holistic review for transfer students. (Currently only freshmen applicants are reviewed holistically.)

Each of these risks or tradeoffs has the potential to undermine access and diversity. The latter are core institutional values, hence the impact of major prep requirements on the composition of each transfer cohort will be carefully scrutinized. In each case, both analysis and resolution will build on close collaboration with community colleges.

Sustainability: Section 8

In the last two years UC San Diego has defined and focused its efforts to improve undergraduate education through its strategic planning process, the Education Initiative, the CREATE STEM Success Initiative, and University Extension's K-16 Programs. Working together, these groups encourage and support a culture of innovation and accountability.

Strategic Planning

In September 2012 Chancellor Pradeep Khosla launched a strategic planning process to define the future of UC San Diego. Over the course of 18 months more than 10,000 campus and community members participated in town halls, focus groups and planning meetings. In these conversations several core values emerged: UC San Diego must remain distinctive; its teaching and research must strive for excellence; public service is essential to its identity; diversity, equity and inclusion are critical for all to succeed; collaborative and interdisciplinary activity are most likely to lead to discoveries that advance and enrich society; and the university should play a greater role in the region. From these values emerged new mission and vision statements:

Mission: We will transform California and a diverse global society by educating; generating and disseminating knowledge and creative works; and engaging in public service.

Vision: We will align our efforts to become a student-centered, research focused, service-oriented public university.

The strategic plan committed campus to specific goals in undergraduate education:

- Expand existing programs and implement new approaches that result in accessible and affordable learning for all.
- Evolve our campus culture by requiring actionable initiatives and measurable outcomes that enhance equity, diversity and inclusion.
- Provide coordinated and comprehensive academic, professional and career advising across all colleges, departments and units.
- Rethink curriculum and pedagogy to improve retention and graduate rates and increase student and faculty engagement.

Campus Leadership

1. Administrative Leadership Council on the Student Experience. Overall responsibility for coordinating initiatives has been assigned to the Administrative Leadership Council on the Student Experience (ALCSE), a group that includes the Dean of Undergraduate Education, the six college provosts and the Vice Chancellor for Student Affairs. This senior group was created

in September 2014 to embody the ideal of a “student centered” campus by deliberating and making recommendations about all programs and policies that impact the lives of students.

2. The Education Initiative. The aim of the Education Initiative is to look at ways that UC San Diego can adapt the current best global thinking about educational strategies to further support the intellectual, academic, cognitive, and social development of our undergraduate and graduate students, and to give faculty access to the latest research on learning and teaching that they can then incorporate into their courses.

Launched at the same time as the strategic planning process, the Education Initiative has brought together hundreds of faculty and staff and launched several key initiatives; some, such as the First Year Experience course, and the Teaching & Learning Commons, are presented in this proposal. The Education Initiative is led by Barbara Sawrey, Dean of Undergraduate Education, and Kim Barrett, Dean of the Graduate Division. Joining them in the leadership team are faculty from every division in the university.

3. CREATE STEM Success Initiative. The CREATE STEM Success Initiative (CSSI) was launched in July 2013 by Chancellor Khosla with the goal of improving the region’s K-20 STEM education pipeline. CSSI facilitates partnerships between UC San Diego faculty, staff and students and the greater San Diego education community. CSSI is led by Mica Pollock, CREATE Director and Professor of Education Studies. Among its responsibilities are:

- To help UC San Diego professors design competitive outreach and broader impact plans for their grants, matching outreach design to local education need.
- To help partners on and off campus plan and assess STEM education interventions that help underrepresented students succeed in K-20 STEM-based courses, majors and careers.
- To establish links between UC San Diego faculty, students and staff and high-need schools, educators, and students that would value specific UC San Diego contributions.
- To help partners design and assess projects supporting local educators to teach science and mathematics, and to apply technology and engineering in the classroom and after school.

4. University Extension K-16 Programs. University Extension’s K-16 Programs (UnEx) is responsible for developing and delivering a broad range of pre-college support programs with a focus on diversity. Collaborating with campus and community partners, UnEx builds creative programs where student needs are greatest. UnEx receives no state funding, and its success has been built on a fee-based model. Ed Abeyta is Director of K-16 Programs.

Sustainability: Section 9

Each of the administrative and programming assets described in section 8 engages campus and community stakeholders in support of the goals policies and practices identified in this proposal. Each is predicated on a simple idea: change is most successful when the individuals involved help construct its meaning.

The strategic planning process established the highest-order values and strategies for the university as a whole. The vision statement we settled on is crucial: “we will align our efforts to be a student-centered, research-focused, service-oriented public university.” Putting students first was an innovation. It was not without controversy; many were tempted to say that UCSD is above all a research institution. But the conversations that led to our final formulation – robust conversations with different constituencies, on multiple occasions, drawing on shared data and providing ample opportunity for criticism and reflection – created a strong and durable consensus. More than 10,000 campus and community members contributed to the strategic planning process. Town halls and focus-groups were held on-campus for students, faculty and staff. They were held throughout the region for educational partners, business leaders and members of the public. They were held throughout the state, and across the country, for alumni and global partners in higher education. With the release of the strategic plan specific and the shift from planning to implementation, specific forms of engagement have changed. But the underlying method – broad and deep conversation among all constituents – is unchanged.

From the outset, the Education Initiative has relied on voluntary participation by nearly 250 faculty and staff. This “bottom up” approach is essential to one of its key goals: transforming university educational culture. Each program or policy addressed by the Education Initiative has emerged from conversation among students, faculty, staff and administrators. Focus and momentum is sustained through invited speakers, public events, reports and lively on-line discussions. Recent seminars have included “Lessons Learned in Online, Hybrid and Flipped Teaching in STEM” by Sarah Eichorn of UC Irvine, “Beyond Assessing Knowledge” by Kimberly Tanner of San Francisco State University, and a panel discussion of experience in technology-enhanced education by four leading UC San Diego STEM faculty members.

Since its inception, the CREATE STEM Success Initiative (CSSI) has met with hundreds of campus and community partners to design, deliver and assess high-quality K-20 STEM pipeline interventions. CSSI has helped colleagues write, submit, and execute nearly 50 grants, contracts, and funded projects to support K-20 STEM education efforts with campus and community partners, bringing over \$2 million to campus. An additional \$600,000 has gone straight to community partners. Of the pending applications, roughly 36% are STEM research grants with education outreach components and 64% are direct grants/contracts to improve STEM education in our region.

Sustainability: Section 10

UC San Diego's innovations to improve transfer retention and time to degree, and improve access and affordability, rely on four broad sources of funding: annual budget allocations; endowed funds; cross-funding; and external funding.

1. Annual budget allocations. Most of the initiatives presented in this application represent long-term commitments by campus leadership and have been written into the annual budgets of the units involved. For example, the Summer Program for Incoming Students (SPIS) is fully funded by the Department of Computer Science and Engineering, and the First Year Experience (FYE) courses are fully funded by the six undergraduate colleges. The Executive Vice Chancellor has established funding for the Teaching & Learning Commons, including both one-time start-up and permanent staff expenses.

2. Endowment. In both relative and absolute terms, the most expensive initiative described in this application is the Chancellor's Associates Scholarship Program. The annual cost per scholarship recipient is \$10,000; for students entering as freshmen the total commitment is \$40,000, while for transfers it is \$20,000. The program seeks to enroll 100 new students each year (60 freshmen, 40 transfers), creating a steady-state enrollment of approximately 400 scholarship recipients. This annual expenditure of \$4 million will exceed the capacity of the university's annual budget, and the Chancellor has made it one of his signature priorities for the university's recently-launched \$2 billion capital campaign.

3. External Funding. Local programs, responding to local needs, are especially attractive to philanthropists in the San Diego region. For example, the Weil Foundation has funded SAT test prep at Gompers Preparatory Academy, and Price Philanthropies has funded the math acceleration program at San Diego City College. Business and industry partnerships are also essential. UC San Diego's "Green STE[+a]M Communities" program, for example, is partially funded by San Diego Gas & Electric's Inspiring Future Leaders Fund.

4. Cross-Funding. One of the campus' most creative strategies is to cross-fund *within* a specific program. For example, UC San Diego math instruction is of value to high-school students in both well-resourced and underserved communities. It can be provided as a fee-for-service to schools and districts that can afford it, and provided at a reduced rate, or without charge, to schools and districts that lack the resources. This cross-funding model is being used – at no cost to either the university or the state – to provide math instruction and test preparation to low-income students in regional high schools.

Evaluation: Section 11

Each of the initiatives described in this application seeks to positively affect access, retention and time-to-degree of transfer students at UC San Diego. These common objectives will be measured using a campus-wide evaluation plan. In addition, individual programs will be assessed using criteria and metrics appropriate to their design. Formative assessment will be especially important to ensure that programs originally designed for freshmen are effective in meeting the needs of transfers.

Campus-wide Evaluation

Primary evaluation of time-to-degree, graduation and retention rates will be quantitative. For each initiative, and for the campus as a whole, we will carefully track transfer students' progress toward the degree. These are long-term measures, however, with full data available only at the conclusion of a student's time at UC San Diego. As near-term proxies we will also track the number of lower-division courses taken in the major (a symptom of being underprepared, and a cause of long time-to-degree), as well as persistence within the major.

Access and affordability will be quantitatively assessed using the proportion of students who are Pell Grant eligible, are first generation, and/or are groups currently underrepresented in higher education. These measures will be particularly important in gauging whether our efforts to improve time-to-degree have helped or hindered campus diversity.

Finally, student satisfaction with the overall academic experience, and student sense of belonging, are important qualitative indicators of success. Disaggregated by key sources of difference – income, ethnicity, sexual identity, ability/disability, etc. – these data provide essential qualitative indicators of our success cultivating inclusive excellence.

Program-Specific Evaluation

1. *Math acceleration for community college students*: improved content knowledge, as measured by pre- and post-scores on the MDTP; continued course progress, as measured by successful completion of next course in math sequence.
2. *UniversityLink*: improved access for low-income regional community college students, as measured by number of students participating in UniversityLink program.
3. *Chancellor's Associates Scholarship Program*: improved access for low-income regional community college students, as measured by number of students awarded scholarships and by their retention and sustained good progress toward the degree.
4. *Transfer Jump-Start Program*: number of lower-division courses taken during first year at UC San Diego; rate of participation in research and internship opportunities during first year at UC San Diego.
6. *First Year Experience for Transfers*: units attempted and completed each quarter of first year; pre- and post-survey of knowledge and skill in areas relevant to student success

Evaluation: Section 12

The overarching goal of this plan is to reduce transfer time-to-degree by one quarter. We estimate that this will increase our normative transfer graduation rate from 40% to 60%. By enabling transfer to graduate more quickly, it will also allow us to award an additional 325 bachelor's degrees – a 12.5% increase – to transfer students each year. These effects will take time to establish, and will be most visible in the out-years of the projections below.

As we shorten the average time-to-degree, we also seek to improve access and affordability. Most of our initiatives focus on low-income, first-generation and underrepresented students. These students typically have lower retention and graduation rates than the general student body. We hope to improve the relative success of these students; by focusing on the full higher-education pipeline, we also hope to increase the percentage of transfer students from these groups.

All figures refer to transfer students enrolled at UC San Diego. The column "2014-15" is used to provide baseline figures, and report the most recent data for specific categories. For example, the four-year graduation figures listed for 2014-15 represent the experience of the 2009 cohort, while the Pell Grant data represent the experience of the 2014 cohort.

Time-to-Degree

The cumulative impact of the initiatives described in this application will be to reduce the average transfer time-to-degree by one quarter. Among STEM majors as well as low-income, first-generation and underrepresented students, the impact will be greater.

	2014-15	2015-16	2016-17	2017-18	2018-19
Overall Time to Degree (in quarters)	8.1	8.0	7.8	7.4	7.0
STEM majors	8.8	8.7	8.3	7.9	7.4
Low-income	8.3	8.1	7.9	7.4	7.1
First-generation	8.2	8.0	7.8	7.4	7.0
Underrepresented	8.5	8.4	8.0	7.3	7.1

Graduation Rates

The primary impact of these initiatives will be to dramatically improve UC San Diego's normative (two-year) transfer graduation rate. As time-to-degree drops, many more students will be able to complete their degrees in two years.

	2014-15	2015-16	2016-17	2017-18	2018-19
2-Year	40%	42%	46%	52%	60%
3-Year	77%	78%	79%	81%	84%
4-Year	85%	85%	86%	87%	88%

Average Number of Lower-Division Units Taken

STEM transfer students currently take an unusually large number of lower-division courses their first year at UC San Diego. Better preparation in community college, major prep requirements and stronger transition programs will have a dramatic impact. A 16-unit reduction is equivalent to one quarter of full-time study.

	2014-15	2015-16	2016-17	2017-18	2018-19
STEM students	30.5	28	24	18	14
Non-STEM students	20.14	20	18	16	14

Retention Rates

Retention rates will gradually climb for two reasons. As community college students are more engaged and better prepared at the time of transfer, they will be more likely to complete their bachelor's degrees. And as they benefit from Jump-Start and First Year Experience courses, they will make better academic choices and have a stronger sense of belonging.

	2014-15	2015-16	2016-17	2017-18	2018-19
1-Year	94%	94%	95%	95%	96%
2-Year	87%	87%	88%	89%	90%
3-Year	85%	85%	86%	87%	88%

Access and Affordability

Included in this application are initiatives intended to improve access and affordability. As we strengthen the pathway from high school to community college and UC San Diego, more students will be eligible, and more students will follow this path to its conclusion.

	2014-15	2015-16	2016-17	2017-18	2018-19
Pell Grant Recipients	44%	44%	46%	48%	50%
First-Generation College	34%	34%	35%	36%	36%
Underrepresented minorities	23%	24%	25%	25%	26%

Sense of Belonging

Initiatives described in this application build upon one of the pillars of the campus' 2014 strategic plan: the belief that excellence and inclusion are inseparable. As we implement these initiatives we anticipate a gradual improvement in sense of belong as well as greater parity between different groups.

	2014-15	2015-16	2016-17	2017-18	2018-19
Underrepresented minorities	45.2	46	47	48	50
Asian	47.6	48	48	49	50
White	46.6	47	48	49	50
Other	46.9	47	48	49	50

UC San Diego

Pathways to Transfer Student Success

9 January 2015

Appendix A – Letters from Partner Participants

1. Gompers Preparatory Academy
2. Jacobs Center for Neighborhood Innovation
3. Lincoln High School
4. Imperial Valley College
5. Math for America San Diego
6. The Preuss School
7. The Price Philanthropies
8. The Price Scholarships
9. Reality Changers
10. San Diego / Imperial County Community College Association
11. Southwestern Community College
12. The Weil Foundation
13. Westview High School



GOMPERS PREPARATORY ACADEMY

A UCSD PARTNERSHIP SCHOOL

1005 47TH STREET SAN DIEGO, CA 92102-3626
PHONE: 619.263.2171 | FAX: 619.264.4342 | WEB: WWW.GOMPERSPREP.ORG

Office of the Director
Vincent M. Riveroll

January 7, 2015

Dr. Alan Houston
UC San Diego
Office of the Executive Vice Chancellor, 0001
9500 Gilman Drive
La Jolla, CA 92093-0001

Dear Dr. Houston,

As the Director of Gompers Preparatory Academy, I am pleased to support UC San Diego's application for the Awards for Innovation in Higher Education. Through the Chancellor's Associates Scholarship Program, UC San Diego is working to ensure that it remains accessible and affordable to regional community college students.

The Chancellor's Associates Scholarship Program provides two-year, \$10,000 / year scholarships to students from three regional community colleges (Imperial Valley College, San Diego City College, and Southwestern College).

Each of these programs is new and promises to improve the educational opportunities of regional community college students. Their success will depend on thoughtful collaboration between UC San Diego and SDICCCA members. I am confident of Chancellor Khosla's commitment to the region, and look forward to working with UC San Diego on these and related initiatives. For this reason, I am delighted to support UC San Diego's application for an Award for Innovation in Higher Education.

With Students First,

Vincent Riveroll



January 7, 2015

LETTER OF SUPPORT – UCSD EXTENSION INNOVATION GRANT

Dr. Houston,

It is with great pleasure to provide a letter of support for UCSD Extension programming efforts in Southeast San Diego. Over the past two years programs like UCSD's Academic Connections, test prep and science, technology, engineering, arts, and mathematics (STEAM) courses have linked UC San Diego in a meaningful manner to our community and have inspired our youth to consider higher education as a viable goal in their future.

Our mission to build collective ownership and increase civic engagement around our community's most critical issues remains at our core. Recent events in Ferguson, New York and throughout the nation have highlighted the need for greater awareness and understanding of the underlying issues that disenfranchise our communities. These events only strengthen our resolve to work together to build strong, cohesive neighborhoods in Southeastern San Diego.

We are building out our programs in order to support this community in the most positive and sustainable ways. UCSD Extensions involvement over the past two years has helped refine our Strategic Plan for 2015-17 and clarify our role in fostering a thriving neighborhood.

Again, I'm pleased with the ongoing efforts UCSD and Extension are making to connect with our community. We already have examples of how our collaborative approach can be effective in potentially attracting significant resources to the Diamond. Together we may accomplish what none of us can do alone. That is Collective Impact at its best.

Sincerely,

A handwritten signature in black ink, appearing to read "Reginald Jones".

Reginald Jones,
President & CEO



Abraham Lincoln High School

4777 Imperial Avenue
San Diego, CA 92113

(619) 266-6500

<http://lincolnhighsd.net>

January 6, 2015

Dr. Alan Houston
UC San Diego
Office of the Executive Vice Chancellor, 0001
9500 Gilman Drive
La Jolla, CA 92093-0001

Dear Dr. Houston,

As the Principal of Lincoln High School, I am pleased to support UC San Diego's application for the Awards for Innovation in Higher Education. Through the Chancellor's Associates Scholarship Program, UC San Diego is working to ensure that it remains accessible and affordable to regional community college students.

- The Chancellor's Associates Scholarship Program provides two-year, \$10,000 / year scholarships to students from three regional community colleges (Imperial Valley College, San Diego City College, and Southwestern College).

Each of these programs is new and promises to improve the educational opportunities of regional community college students. Their success will depend on thoughtful collaboration between UC San Diego and SDICCCA members. I am confident of Chancellor Khosla's commitment to the region, and look forward to working with UC San Diego on these and related initiatives. For this reason, I am delighted to support UC San Diego's application for an Award for Innovation in Higher Education.

Sincerely,

John Ross
Principal
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January 6, 2015

Dr. Alan Houston
UC San Diego
Office of the Executive Vice Chancellor, 0001
9500 Gilman Drive
La Jolla, CA 92093-0001

Dear Dr. Houston,

As Superintendent/President of Imperial Valley College, I am pleased to support UC San Diego's application for the Awards for Innovation in Higher Education. Through the UniversityLink and Chancellor's Associates Scholarship Programs, UC San Diego is working to ensure that it remains accessible and affordable to regional community college students.

- UniversityLink provides guaranteed access to UC San Diego to graduates of local partner community colleges who are both low-income and academically high achieving.
- The Chancellor's Associates Scholarship Program provides two-year, \$10,000 / year scholarships to students from three regional community colleges (Imperial Valley College, San Diego City College, and Southwestern College).

Each of these programs is new and promises to improve the educational opportunities of regional community college students. Their success will depend on thoughtful collaboration between UC San Diego and SDICCCA members. I am confident of Chancellor Khosla's commitment to the region, and look forward to working with UC San Diego on these and related initiatives. For this reason, I am delighted to support UC San Diego's application for an Award for Innovation in Higher Education.

Sincerely,

A handwritten signature in black ink, appearing to read 'Victor M. Jaime'.

Victor M. Jaime, Ed.D.
Superintendent/President



P.O. Box 12387, La Jolla, CA 92039 Phone (858) 534-3574 Email bedwards@ucsd.edu

January 8, 2015

Dr. Alan Houston
UC San Diego
Office of the Executive Vice Chancellor, 0001
9500 Gilman Drive
La Jolla, CA 92093-0001

Dear Dr. Houston,

As Executive Director of Math for America San Diego (MfA SD), I am writing to express enthusiastic support for UC San Diego's application for Awards for Innovation in Higher Education. We are pleased to continue our collaboration with UC San Diego and the other partners named in the application.

Since 2008, Math for America San Diego has been working in universities and schools to support high quality math instruction for underrepresented students. Without solid preparation in secondary schools, we know that many students are not able to attend much less complete a UC education. Our recent efforts with UC San Diego have focused on supporting community college students as they accelerate their summer coursework and enter UC San Diego better prepared to succeed. Mathematics is particularly important because it is the foundational discipline within the STEM fields, and it is a frequent stumbling block for the many STEM majors at UC San Diego.

On behalf of my colleagues in MfA SD, I strongly endorse the UC San Diego application for Awards for Innovation in Higher Education, and I look forward to continuing our collaboration in the math acceleration project.

Sincerely,

A handwritten signature in black ink that reads 'Barbara Edwards'.

Barbara Edwards
Executive Director



UNIVERSITY OF CALIFORNIA, SAN DIEGO

UCSD

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

THE PREUSS SCHOOL UCSD

9500 Gilman Drive, Dept. 0536
La Jolla, California 92093-0536
Phone: (858) 658-7400
Fax: (858) 658-0988

January 6, 2015

Dr. Alan Houston
UC San Diego
Office of the Executive Vice Chancellor, 0001
9500 Gilman Drive
La Jolla, CA 92093-0001

Dear Dr. Houston:

As principal of The Preuss School I enthusiastically support UC San Diego's application for the Awards for Innovation in Higher Education. Through the Chancellor's Associates Scholarship Program, UC San Diego is working to ensure that it remains accessible and affordable to our low-income students. The Chancellor's Associates Scholarship Program provides an annual scholarship of \$10,000 to students from The Preuss School who attend UC San Diego.

The Preuss School is unique. We are a public middle and high school chartered by the San Diego Unified School District. Students who enroll must be low income (qualify for the Free and Reduced Lunch Program) and their parents could not have graduated from college. Our students are culturally diverse with a current enrollment 67% Hispanic/Latino, 11% African American/Black, 19% Asian/Indo-Chinese and 3% White. The Preuss School is closing the achievement gap by preparing low-income, underrepresented minority students for college. More than 90% of our graduates have been admitted to four-year colleges and universities. UC San Diego is giving our students the same opportunity to attend college as their affluent counterparts.

The Chancellor's Associates Scholarship Program promises to improve the educational opportunities low-income students in our community. The success of the Chancellor's Associates Program will depend on thoughtful collaboration between UC San Diego, The Preuss School and other local high schools in the region. I am confident of Chancellor Khosla's commitment to the region and look forward to working with UC San Diego on expanding this opportunity to more students in need.

To close the achievement gap and to give all students an equal opportunity to a quality higher education degree, it is imperative for me to support UC San Diego's application for the Awards for Innovation in Higher Education.

Sincerely,

A handwritten signature in black ink that reads "S Barton".

Scott Barton
Principal



January 5, 2015

To Whom It May Concern,

Price Philanthropies has since 1994, provided a wide range of services, support and philanthropy to the students and families of the City Heights Community here in San Diego. Our work is wide-ranging and includes: social services, extra curricular services, and importantly educational opportunities to level the playing field.

One of our longstanding efforts has been to support cohorts of students through San Diego City College each year. These students are handpicked and interviewed from local low-income serving high schools, and are invited to apply. Over the years, we struggled with identifying ways to help students through a particular hurdle: mathematics. It seemed, year after year, that our Price Scholars were unable to complete in a timely fashion the math required of them to transfer. We even had some students who had completed all their transfer requirements except the mathematics. These students were often stuck, unable to pass, and unable to move forward.

We therefore were extremely grateful to find at UC San Diego willing partners to help our students over the mathematics hurdle. UC San Diego and the research center known as CREATE began working with us last year to develop a new course that could meet SD City College's internal mathematics policies and yet move students along in their math learning such that they didn't get stuck in lower level remedial math coursework.

The innovation of the UCSD-SDCC effort, their creative and thoughtful partnership, was just what our program and our students needed to get us past what had seemed an insurmountable hurdle just a year ago. We look forward to UCSD receiving this deserved innovation award and to our future work together – UCSD, SDCC and Price – in expanding the accelerated mathematics program in 2015.

If I can answer any questions, please don't hesitate to contact me at #619-795-2023.

Sincerely,

A handwritten signature in black ink, appearing to read "Ann Bossler". The signature is written in a cursive, flowing style.

Ann Bossler

THE PRICE SCHOLARSHIP PROGRAM

A Supporting Organization of the San Diego Foundation in Association with the San Diego Community College District Auxiliary

January 5, 2015

Dear Innovation in Higher Education Selection Committee,

Price Scholars and Price Philanthropy is pleased to partner in the UC San Diego Innovation in Higher Education Award application. Over the past year, we have worked closely with UC San Diego's Center for Research in Educational Equity Assessment and Teaching Excellence (CREATE) and the San Diego City College Mathematics Department to create a supportive pathway through developmental mathematics for our Price Scholars. In the past, many of the students whom we support through scholarship have struggled mightily to make their way through the remedial mathematics sequence, despite having passed significant mathematics coursework at the high school level. This has been quite a mystery to us, and, as such, we reached out in 2014 to UC San Diego CREATE researchers to help shed light on both the underpinnings of the academic challenges our students are facing and potential solutions to those challenges. It is our understanding that this work is also supported by UCSD campus leadership, through its funding of the CREATE STEM Success Initiative.

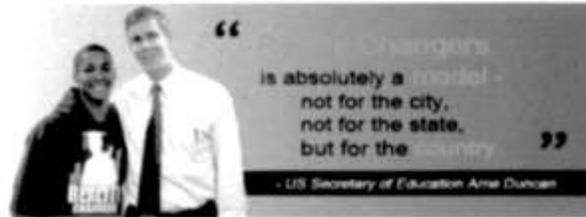
We have been very pleased with the high-quality, innovative support that the UC San Diego-CREATE team, the SDCC Math Department, and our own Price supporters have collectively provided to our scholars. The UCSD-SDCC accelerated math sequence support course created collectively this past summer 2014 was instrumental in launching a larger number of our Price Scholars into or significantly closer to transferable mathematics by the fall of their freshmen year at San Diego City College than ever before. Many of our entering freshmen reported having negative experiences and negative attitudes about taking math courses reporting "I'm just not good at math". After participating in this accelerated math sequence their comments about the class were very positive. Several entering freshmen stated, "I don't hate math anymore I can move as quickly or as slowly as I need to to get the math problems". Even more importantly, however, the continued partnership between SDCC and UCSD-CREATE has been instrumental in ensuring that even more SDCC students, our Scholars included, will be served similarly in future summers, as the collective group grows studies, and refines the model of mathematical acceleration for low-income students like ours who aim to eventually transfer from the two-year to the four-year university setting.

We sincerely hope that you consider funding the UCSD award. It is well deserved as they have been a tremendous partner in helping us envision and enact this important and innovative work for our students. We truly believe they are and will remain 100% committed to the work and our collective partnership. It has been a pleasure partnering with such university folks so committed to diversity and equity goals that make such a difference in the lives and success of students.

Sincerely,



Maria Elena Delgado, M.A.
Price Scholarship Program Director
San Diego City College



DATE: January 7, 2015
TO: Alan Houston, Director of Academic Strategic Initiatives
FROM: Christopher Yanov, Founder and President, Reality Changers

REALITY CHANGE LETTER OF SUPPORT – UCSD INNOVATION AWARD PROPOSAL.

It is with great pleasure that I write a letter of support for UCSD and Extension's efforts to secure additional funding for ongoing programming efforts in City Heights. The UCSD test prep programming and summer academic connections college credit courses have been key in providing the at risk students we serve have the opportunity to go to stay out of trouble, stay in school, go to college, and come back to reinvest their time to their community.

The Reality Changers program has touched the lives of hundreds of talented first generation college students who otherwise maybe have been disregarded. Our success could not been achieved and highlighted by leaders in San Diego, California, and the U.S. Secretary of Education, Arne Duncan without the partnership with UCSD Extension.

The Reality Changers program was created in May 2001. The initial groups of students chosen to join the program were 8th and 9th graders because this is the age when most youth are consumed with some type of activity be it positive or negative. In just a short time, the Reality Changers program was able to create a sense of community by selecting students who have strong personalities and are highly energetic, yet also have enough self-discipline to focus on their future. These traits are central to leadership formation and development. Each student in the program is considered to be an agent of positive change, "Agentes de Cambio," in the world.

A key element of the Reality Changers program is sending students to the UCSD Academic Connections pre-college program. The Reality Changers sent over forty students with a 3.5 GPA or above to UCSD's Academic Connections in 2008. Students that attend Academic Connections live in college residence halls for three weeks and earn college credit while still in high school. Tuition costs \$3,500 per student and Reality Changers is able to pay the tuition through generous support from individuals, churches and foundations for funding.

Diversity is crucial to the academic excellence at UCSD. To fulfill our institutional mission in a state as diverse and multi-ethnic as California, UCSD seeks to support diverse pre-college programs that work with youth from many different backgrounds and life experiences that ultimately prepare them to apply to college. Reality Changers is a model program for youth that has effectively built a bridge to UCSD and other higher education institutions across the country.

Reality Changers
3910 University Ave., Ste 300-RC
San Diego, CA 92105
619 516 2222 (English)



GROSSMONT-CUYAMACA
COMMUNITY COLLEGE DISTRICT

January 6, 2015

Dr. Alan Houston
UC San Diego
Office of the Executive Vice Chancellor, 0001
9500 Gilman Drive
La Jolla, CA 92093-0001

Dear Dr. Houston:

As President of the San Diego & Imperial Counties Community College Association (SDICCCA), I am pleased to support UC San Diego's application for the Awards for Innovation in Higher Education. Through the UniversityLink and Chancellor's Associates Scholarship Programs, UC San Diego is working to ensure it remains accessible and affordable to regional community college students.

- UniversityLink provides guaranteed access to UC San Diego to graduates of local partner community colleges who are both low-income and academically high achieving.
- The Chancellor's Associates Scholarship Program provides two-year, \$10,000 per year scholarships to students from three regional community colleges (Imperial Valley College, San Diego City College, and Southwestern College).

Each of these programs is new and promises to improve the educational opportunities of regional community college students. Their success will depend on thoughtful collaboration between UC San Diego and SDICCCA members. I am confident of Chancellor Khosla's commitment to the region, and look forward to working with UC San Diego on these and related initiatives. For this reason, I am delighted to support UC San Diego's application for an Award for Innovation in Higher Education.

Sincerely,

A handwritten signature in cursive script, appearing to read 'C. Miles'.

Cindy L. Miles, Ph.D.
Chancellor, Grossmont-Cuyamaca Community College District

Office of the Chancellor

8800 Grossmont College Drive, El Cajon, CA 92020-1799
Phone 619-644-7569 Fax 619-644-7936



OFFICE OF THE SUPERINTENDENT/PRESIDENT

Melinda Nish, Ed.D.
Superintendent/President

Governing Board
Griseida Delgado
Norma L. Hernandez
Tim Nader
Humberto Peraza, Jr.
Nora E. Vargas

January 7, 2015

Dr. Alan Houston
UC San Diego
Office of the Executive Vice Chancellor, 0001
9500 Gilman Drive
La Jolla, CA 92093-0001

Dear Dr. Houston,

As Superintendent/President of Southwestern College, I am pleased to support UC San Diego's application for the Awards for Innovation in Higher Education. Through the UniversityLink and Chancellor's Associates Scholarship Programs, UC San Diego is working to ensure that it remains accessible and affordable to regional community college students.

- UniversityLink provides guaranteed access to UC San Diego to graduates of local partner community colleges who are both low-income and academically high achieving.
- The Chancellor's Associates Scholarship Program provides two-year, \$10,000 / year scholarships to students from three regional community colleges (Imperial Valley College, San Diego City College, and Southwestern College).

Each of these programs is new and promises to improve the educational opportunities of regional community college students. Their success will depend on thoughtful collaboration between UC San Diego and SDICCCA members. I am confident of Chancellor Khosla's commitment to the region, and look forward to working with UC San Diego on these and related initiatives. For this reason, I am delighted to support UC San Diego's application for an Award for Innovation in Higher Education.

Sincerely,

A handwritten signature in black ink, appearing to be 'Melinda Nish', written in a cursive style.

Melinda Nish, Ed.D.
Superintendent/President

MN:MG



12555 High Bluff Drive, Suite 180
San Diego, CA 92130
858-724-6040

January 7, 2015

Dear Mr. Houston,

The Weil Family is pleased to support efforts to fund test prep and lower division credit to students in Southeast San Diego and UCSD partner school. The Weil Foundation has seen was pleased to learn the test prep investment we made in 2014 for students at Gompers High School resulted in an average score increase of 125 points. This is a remarkable impact with students who otherwise may not be able to afford the high cost of test prep fess via for-profit companies.

Also, last year Chancellor Khosla noted in his Town Hall the goal to have lower division courses offered to students in the Diamond District. The students in this region are unable to afford the fees associated with these courses. As such, funding from the award in combination with our foundations contribution would allow this effort to be introduced to additional students in the region.

Warm regards,

Robert Gann, Managing Director

BOARD OF EDUCATION
Kimberley Beatty
Marc Davis
Todd Gutshow
Andrew Patapow
Penny Renfrie

SUPERINTENDENT
John P. Collins, Ed.D.



POWAY UNIFIED SCHOOL DISTRICT

WESTVIEW HIGH SCHOOL
13500 Camino Del Sur
San Diego, CA 92129-4455
www.westviewwolverines.com

Todd Cassen, Principal
trassen@powayusd.com

858-480-2000
FAX 858-780-2054

January 7, 2015

RE: Letter of Support for UCSD Lower Division Course Offerings

Dear Dr. Houston:

I'm excited to write this letter in support of our ongoing partnership between the Poway Unified School District, and the University of San Diego to offer Multivariable Calculus (Calc 20 C) and Linear Algebra (Calc F) courses at Westview High School campus. Before our partnership started in 2013 we had seen an increase in the number of students requesting these courses which had to be referred to Palomar College on the campus so Mt. Carmel high School; however, the offerings were impacted and travel arrangements became a barrier for so many students. In fact, in 2014 Palomar was unable to offer these courses any longer.

We are so grateful to be part of the initial pilot with UCSD. Additional funding will support our ongoing efforts serve our students and others in the school district. We want to find a way to sustain this effort and avoid our students and parents having to bear the cost.

We have spoken with the Director of UCSD K-16 Programs, Dr. Ed Abeyta, as well as Dr. Laura Stevens, and I truly believe that through our collaborative efforts this program will be on in which UCSD will be proud to eventually offer to high school students throughout the region.

I look forward to working with you on this matter, and thank you for your time.

Sincerely,

Todd Cassen
Principal
Westview

January 7, 2015

TO: Dr. Alan Houston, Director of Academic Strategic Initiatives
FROM: Diana Loo, Westview High School Mathematics Chair
RE: Innovation Grant Letter of Support

I am writing in support of UCSD the lower division credit in math courses offered by the UCSD K-16 department. The last two years the program offerings have made a tremendous impact at our school and others in the Poway Unified School District. Some of our most high achieving students now have the option to get a jump start in completing lower division courses at UCSD which not only advanced them in their college studies but also enable our students to cut down the time to complete their degree.

Earlier this year, I was fortunate enough to make contact with Edward Abeyta, director of the K-16 program at UCSD. His efforts have been an answer to a growing need at Westview High School to provide our students with the opportunity to continue their math education beyond the AP Calculus BC level. We currently have about 190 students enrolled in our Calculus BC classes, of which 160 are sophomores and juniors. We are finding each year that, not only are more of our students taking advanced levels in math, but they are doing so at younger ages. As one of the AP Calculus BC teachers at Westview High School, I am also finding that the youngest students are, in fact our strongest math students. They are amazing and given our nation's need to increase our talent pool in the STEM fields, I want to do everything I can to encourage these talented minds to continue on their very promising path. Some of these students will go on to take AP Statistics next year but for the large number of students who want to become engineers and scientists; it is fitting for them specifically to continue their learning in Calculus. That means that they must go on to take courses that our high school cannot provide.

We have met with Dr. Abeyta and Dr. Laura Stevens from UCSD's math department to discuss the logistics of what will work best to address the needs of our highly motivated and successful math students who are eager to progress to the next level and also find ways to sustain the funding for those students who are unable to pay the \$400 per course fee.

Again, the opportunity for our students to enroll in UCSD's Calculus 20C (Multivariable Calculus) and Calculus 20F (Linear Algebra), on the high school campus, earning fully transferable college credit, outside of the Advanced Placement world, is a unique and exciting prospect. The strength of the program, of course, lies in the quality and caliber of the educational experience which is directly tied to the fact that these would be actual UCSD courses. I wholeheartedly support this program and am convinced that it would be just the beginning of what could grow into an important outreach program for high school students to explore and discover a *variety* of college courses.

Sincerely,
Diana Loo 

Appendix B – Innovations: Section 3

Summer Program for Incoming Students

The Department of Computer Science and Engineering (CSE) at UCSD started a summer program, called SPIS, two years ago to help incoming freshmen students excel in their early computer science courses and beyond. The CSE Department is motivated by the goals of providing the best education to its students and to helping them realize their individual potential. SPIS is aimed at incoming CSE majors from low-ranking schools and at students with low confidence about computer programming. We found these criteria not only subsume traditional criteria used to improve diversity, but do encompass 'vulnerable' students broadly. The idea is to give an opportunity for the most vulnerable group of students so that they succeed as well as anyone else. SPIS gives college-level exposure to fundamental principles of computer science, emphasizing problem-solving, communications skills and mathematical modeling. Students are exposed to project-based learning as well as research in computer science and engineering. In addition, SPIS introduces students to the social, cultural, and broader intellectual experiences open to university students. SPIS students also receive career mentoring and enjoy a series of lectures and demonstrations illustrating the exciting and varied career opportunities available in computer science and engineering.

SPIS courses are taught by the very best faculty at UCSD. Each group of six SPIS students has exclusive access to a peer mentor, who will help them with course work and tutor them. SPIS provides an excellent student experience with individual meetings with faculty, tutoring from experienced CSE undergraduate students, collaborations with fellow students, individual advising to smooth the transition to UCSD, and living on campus.

Based on our preliminary assessment, SPIS has been a tremendous success in a number of dimensions. SPIS students have shown quantitative gains in terms of their GPA and performance in individual courses. These gains persisted even after the first year as the recent data for SPIS 2013 student demonstrated. Furthermore, SPIS students have accelerated their progress in taking courses in their major. For example, several SPIS 2013 students have started taking upper-division courses in their sophomore year. SPIS has also shown that it is extremely effective in retaining students in the major. SPIS students have started participating in professional and career activities at an accelerated pace. SPIS helped them to become confident and socially adept. It is clear that SPIS also helped improve their sense of social belonging, especially if one observes the fact that they have taken the initiative to guide other students. SPIS is obviously popular with students and parents. SPIS has been a transformative experience to students

Student surveys conducted at the end of academic year 2013-14 – after SPIS students had had a full year at UC San Diego – illustrate the impact of the program:

- "SPIS had an extraordinary impact on my life at UCSD. SPIS gave me a head start in Computer Science as well as insights to the many different specializations of computer science. It gave me a strong foundation in Computer Science, one that helps me succeed for the rest of college and the rest of my career."
- "I am very grateful towards the faculty that made SPIS possible for me because it is through their help that I was able to have a very enjoyable and successful first year at UCSD"
- "SPIS was a huge blessing to me, in that it was my first real opportunity to learn how to code in a classroom setting, and that it pushed me to become more independent and ambitious in academics, while greatly expanding my social networking capabilities."
- "Participating in the SPIS program allowed me to regain my sense of confidence in my academic and social life by giving me a preview of what college classes/professors is like and gaining familiarity with UCSD. Furthermore, the multiple opportunities presented throughout the program to network with industry leaders and researchers allowed me to realize what area of Computer Science/Engineering I might want to focus on later in my career."

Daily Schedule

Morning			
	8:45-10	10:15-11:30	12:00-1:00
Monday	CS1 (CSE 2154)	APS (CSE 4140)	Lunch
Tuesday	CS1 (CSE 2154)	CS1 lab (CSE B230)	Lunch w/ CS1 Mentors
Wednesday	APS (CSE 4140)	CS1 (CSE 2154)	Lunch
Thursday	CS1 lab (CSE B230)	CS1 (CSE 2154)	Lunch
Friday	CS1 lab (CSE B230 or CSE B240) + individual meetings (<i>faculty offices</i>)	CS1 lab (CSE B230 or CSE B240) + individual meetings (<i>faculty offices</i>)	Lunch

Afternoon			
Monday	Writing 1:15-2:45 (CSE 2154)		CS1 lab 3-5 (CSE B230)
Tuesday	Decoding Success 1:15-2:45 (CSE 1202)	CS1 lab 2:50-3:20 (CSE B230 or CSE B240) or Bear courtyard (<i>outside CSE</i>)	Facets 3:30-5 (CSE 1202)
Wednesday	CS1 lab 1:15-2:45 (CSE B230)		Writing 3-4:30 (CSE 2154) Writing Office Hours by appointment 4:30-5:0 or CS1 lab 4:30-5 (CSE
			CS1 Extra Mentor Hours 7-9 (CSE B230 or CSE

			B230) or Bear courtyard (<i>outside CSE</i>)	B240)
Thursday	Writing lab 1:15-2:15 (<i>By groups, in CSE 2154, CSE 2109, CSE 2217, CSE 3217, or CSE 4217</i>)	CS1 lab 2:20-3:20 (<i>CSE B230</i>) or Bear courtyard (<i>outside CSE</i>) or Writing Drop-in Office Hours(4124)	Facets 3:30-5 (<i>CSE 1202</i>)	APS Extra Mentor Hours 7-9 (<i>Room TBA</i>)
Friday	CS1 Depth 1:15-2:45 (<i>CSE 4140</i>) or CS1 Breadth 1:15-2:45 (<i>CSE 2154</i>)			

Academic Courses

CSE1: Foundations of Computer Science. This 5-week course is an exciting introduction to the field of computer science which gives students a head start on the knowledge and skills they will need to succeed in UCSD's introductory computing courses (CSE8A or CSE11), discrete math courses (CSE20 and CSE21), and calculus sequence (MATH20). The course will cover basic computer science skills like algorithm development and programming, with an emphasis on logical thinking and debugging skills. Students will implement programs in Python (a high-level language) and work with Raspberry Pi. Throughout, we will emphasize the connections between low-level hardware, programming, and abstract algorithms as tools for solving problems. Students will work on projects extending these ideas in areas such as graphics, machine learning, and/or cryptography.

Writing: Hacking Humanities. This course will prepare SPIS students for success in their college writing and general education arts and humanities courses at UCSD through the investigation of technology and computer science's impact on culture and society. We will read a variety of texts, particularly the literary and journalistic, which consider the ramifications of technological advance and the potential for computer science and programming to challenge our understandings of what it means to be human. Some questions we will consider are: What is the purpose of technology? How can technology and computer science improve human life and society? Alternately, what new ethical challenges can the advance of technology bring? Ultimately, this course will help students not only hack their required humanities courses through the practice of college-level reading and writing, but it will also encourage them to think about how technology itself may or may not be the key to hacking humanity's enduring philosophical questions.

APS: Algorithmic Problem Solving. This course is about algorithms. It focuses on algorithmic strategies for solving problems. It emphasizes writing solutions precisely and coherently. Students will be introduced to basic algorithmic themes and practice discovering algorithms and describing them. Students will also be exposed to analytical aspects of algorithms.

Facets: Facets of Computer Science. This is a series of lectures by UCSD faculty, alumni, and computer industry professionals, where students will explore exciting ideas in computer science and engineering and learn about opportunities in industry.

Decoding Your Success. Plan to take the right steps for this success, since it's not just about taking classes, but stepping out of one's comfort zone. To become a Star Student, one must take initiative and be proactive in one's own personal growth. Learn from advisers what makes a successful student in the CSE Department. Advising will be a key component of this course. The CSE advisers will hold a group advising session on August 20th, followed by individual sessions on August 22nd (8:20 AM to 12:00 PM) , 25th and 26th (3:00 to 5:00 PM). The advising schedule will be announced on August 17th.

Chancellor's Associates Scholars Program

The academic achievement of participants in the Chancellor's Associates Scholars Program was on a par that of all UC San Diego freshmen:

- For the last five years (2009 – 2013), the average freshman GPA is 2.91; for this same period, the average HS GPA for entering freshmen is 3.99.
- In 2013 twenty-nine students accepted the scholarship. One took a personal leave of absence and delayed enrollment until Fall 2014. Of the 28 students who completed FA13, the mean GPA was 2.87, the median GPA was 2.90, and the students passed an average of 12.11 units.

The impact of the program is closely tied to the character of the schools with which it is partnered.

Preuss School

The Preuss School UCSD began when a group of faculty from UCSD began planning for the best way to increase the number of students in the university who come from low income or under-represented groups. Under the leadership of Thurgood Marshall College Provost, Cecil Lytle, the group approached then UCSD Chancellor Robert Dynes and requested that a charter school for students grades 6-12 be built and run by the university.

The school is dedicated to providing an intensive college prep education for motivated low-income students who will become the first in their families to graduate from college. The school is jointly chartered by the San Diego Unified School District and the University of California, San Diego. Currently, there are 833 students in grades 6-12.

The students are culturally diverse with 67% Hispanic, 11% African American, 19% Asian/Indo-Chinese and 3% Caucasian/Other.

The Preuss School UCSD recruits and enrolls students entering the 6th, 7th, 8th and 9th grade from the greater San Diego area. Students are selected through an admissions process of application and lottery. Eligible applicants must meet all three of the following requirements: all families must meet federal income eligibility criteria; the parents or chief guardians are not

graduates of a four year college or university; students must demonstrate high motivation and potential to attend an academically competitive university or college.

Lincoln High School

Lincoln High School is an urban public high school in San Diego, California. It is part of the San Diego Unified School District. It serves approximately 2500 students in grades 9-12. It is located in the Lincoln Park neighborhood of Southeast San Diego, part of the Encanto neighborhoods. It was named after President Abraham Lincoln.

Lincoln opened in 1949. The original buildings were demolished and rebuilt during 2003-2007. Lincoln High School re-opened as a collection of 4 theme-based academies in Fall 2007, the Lincoln Center for Social Justice, the Arts, Science and Engineering, and Public Safety. Each academy has its own faculty and corner of the campus with classrooms, courtyard and offices. The whole school shares the library, performing arts center, athletic facilities and main plaza. The Bill and Melinda Gates Foundation, a big supporter of reforming large comprehensive high schools by breaking them into small schools, underwrote the cost of staff training and curriculum development for Lincoln as part of a \$7 million grant to the school district.

Lincoln is one of three UCSD Center for Research on Education Equity, Assessment, and Teaching Excellence (CREATE) partner High Schools. UCSD's CREATE has provided Lincoln High School with educational resources in the form of parent education, information to students about college applications and financial aid, teacher professional development, and governance. CREATE has also assisted Lincoln faculty and administrators to analyze students' academic records in order to improve educational offerings and most recently, has supported youth research in the Lincoln Youth Health Council.

Data from the 2011-12 school year show the cultural make-up of the school is 63% Hispanic or Latino, 25% Black or African American, 6% Asian and 6% other. Additionally, 99% of students at Lincoln High School qualify for free or reduced lunch.

Gompers Academy

The school was created in 2009 at the request of Gompers Charter Middle School (GCMS) students and parents to extend the middle school program to the high school grades. During the 2011-12 school year, Gompers served approximately 940 students in grades 6–12. The mission of Gompers Preparatory Academy (GPA), is to accelerate academic achievement for all students through a college preparatory culture and curriculum. Gompers Preparatory Academy just graduated 100% of its' first class of 71 seniors, with all enrolling in a two or four year college/university for 2012-13.

According to the school's data for 2011-12, 100% of their students are economically disadvantaged and 60% are English learners. The school reports the cultural backgrounds of their students as follows, 79% Hispanic or Latino, 13 % Black or African American, 3% Asian and 5% other.

Program Design

March 2013

Identify CA Scholars from the admitted pool

- Financial Aid Office (FAO) prepares Financial Aid Estimates with scholarship awards.

Late March/ Early April

Early Calling Campaign From UCSD Campus Leadership

- FAO prepares summary sheets of student application information for callers.
- The Chancellor, Vice Chancellor of Student Affairs, and Executive Vice Chancellor make personal calls to 45 identified CA Scholars.

April

Recognition Receptions Hosted by The Chancellor's Office & Campus/Community Relations, held for CA Scholars at Preuss School and at community venue (Felix's BBQ With Soul) for all CA Scholars and their families.

- Students, their families and high school administrators are invited to a reception at Preuss on March 21, 2013 where the Chancellor recognizes Preuss graduates and presents Scholarship Certificates prepared by FAO to each CA Scholar.
- Students, their families, and high school administrators and community partners are invited to a reception at a community location to recognize all CA Scholars on April 17, 2013.
- FAO provides Financial Aid Estimates for both receptions along with required FA documents to ensure personalized advising for students and their families.

FAO makes individual school visits to Lincoln High School and Gompers Preparatory Academy

- FAO visits Lincoln and Gompers April 29, 2013 to present certificates and help with Financial Aid application completion and to remind students to apply for on campus housing.

Early May

29 CA Scholars Accept Admission

- FAO provides daily updates to campus leadership on acceptance numbers.

May

FAO Facilitates Campus Housing, Secures Contract With Reduced Deposit

- FAO requests that UCSD Housing identify a Liaison to work closely with the CA Scholars.
- FAO personally calls to encourage CA Scholars to submit on campus housing applications.
- FAO provides individualized advising to secure a modest housing deposit amounts for CA Scholars.
- FAO tracks completion of on campus housing applications.

June

FAO Encourages Participation In Summer OASIS Transition Programs

- FAO provides list of CA Scholars to OASIS to include in application invitation.
- FAO calls to encourage CA Scholars to apply to summer transition programs. This includes coordination with OASIS staff to identify the CA Scholars who have yet to apply for summer programs.
- FAO continues tracking those who have applied and making follow up calls if they have not yet applied as the deadline approaches.

June/July

Financial Aid Application Follow-Up

- FAO provides personalized follow up with the students in June/July to ensure that all financial aid materials have been submitted.
- FAO provides parent contact info to SA Parent & Family Programs team for direct mail to parents with invitation to attend pre-Fall opening Orientation and Welcome targeted to parents of first generation college students.

July

College Communication

- FAO Identifies the CA Scholars for the college administration.
- Colleges offer venues to welcome new students and connect them with their services and programs.

August

Needs Assessment and Communication Prior to Fall Quarter

- FAO collaborates with CSI - Communication and Leadership and UCSD Retirement Association to develop survey questions for CA Scholars.
- FAO/CSI surveys Scholars to assess what students are looking for, what are their needs, what concerns they may have entering college etc. (The results to inform us of what else we may do to ensure their support and success.)

Pre Fall Quarter (September 14-Saturday 9am to Noon)

CA Scholars Parent Meeting

- FAO and SA's Parent and Family Programs offer a special Orientation welcome for the CA Scholars' parents. (As parents of first-generation college students, SA Parent and Family programs will provide valuable information on what parents and families can do to help ensure college success and also provide support to the parents and families as their students' transition to UCSD. The event will serve as an 'education' opportunity for the parents and include other resources available to students.)

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During Fall Quarter

Proposed Fall Campus Welcome Reception (In Coordination with Chancellor's Associates)

- A campus wide welcome reception that will include college administration, emeriti mentors, campus leadership and Chancellor's Associates to celebrate and welcome these Scholars.

During Fall & Winter Quarters

Visit CREATE Partner High Schools

- Campus visit from FAO and Admissions team to provide campus information and support to high schools during the admissions application period, and workshops during the financial aid application period.
- Update the high school administration on the awareness of this scholarship.
- FAO coordinates visit of current CA Scholars back to their high schools to share info about what it is like to be a UCSD student and to encourage their high school students to consider UCSD.

During Academic Year

Proposed Reception with Chancellor's Associates Membership

- A reception/meeting with the Chancellor's Associates members with a focus on members meeting CA Scholars and stewardship of these generous donors.

During Academic Year

Student Affairs Scholars and Community Partners Reception

- CA Scholars will be invited to attend the annual SA Reception for Scholars hosted by the Vice

Chancellor of Student Affairs.

During Academic Year

College Academic Advising

- Monitor academic progress and provide personal advising to ensure academic success.

During Academic Year

Emeriti Mentoring Program – UCSD Retirement Association and SA Center for Student Involvement

(CSI) - Communication and Leadership Office

- Integrate the new CA Scholars in Chancellor’s Scholars Emeriti Mentor Program. (CA Scholars benefit from the opportunities provided through the mentoring program. The Retirement Association provides mentors and opportunities for social activities and networking, and the CSI - Communication and Leadership provides a communication and leadership curriculum for the students.)
- Encourage CA Scholars to be part of the organized student group “Chancellor’s Scholars Alliance.”

During Academic Year

Academic Enrichment Program (AEP) Options

- AEP presents information about summer research options, including an invitation to attend the summer research conference at UCSD.

January 2014

Financial Aid Reapplication Period

- Personalized assistance to students and families as they apply for financial aid for each school year to ensure they have access to all available funds.
- FAO counselor follows up with CA Scholars until applications are complete.

Appendix C - Innovations: Section 4

Jacobs Center “Urban Laboratory”

In partnership with Diamond Leadership Group, Project New Village and Green STEAM Community, funding by SDG&E (Inspiring Future Leaders Fund), this program provides instruction to Sophomores and Juniors in Southeastern San Diego on “Green STE[+a]M Communities.” The course examined the environmental, historical and cultural richness of southeastern San Diego through digital technologies and hands-on activities designed to directly contribute to the local communities.

UC San Diego Math Instruction in Regional High Schools

UCSD Extension (UnEx) has been approved to offer lower division math courses multivariable calculus (20C) and linear algebra (20F) to qualified students in the San Diego region. UnEx is providing high-achieving high school students the opportunity to take UCSD courses while fulfilling high school graduation requirements. The transfer credit policy guidelines of the Academic Senate provide a method for UCSD Extension to deliver lower-division courses in-person, as well to explore emerging technology-enhanced hybrid and fully-online opportunities.

The pilot courses were fully subscribed. We learned that the cost, comparable to community college fees, prevented many students to enroll. Without cross-funding, these courses will not be able to be offered in key areas where cost is barrier to student access. Over the next three years UnEx plans to establish instructional sites across the San Diego region where high school students will have access to these courses along with tutoring support. We also seek to expand offerings to the San Diego Imperial Valley as part of the overall campus outreach strategic plan.

Test Preparation

Pre- and post-tests resulted in an average of a 125 point increase on student tests. The majority of students we served in the pilot phase were not able to secure transportation to UCSD for instruction. As a result, onsite course delivery was a key learning outcome to increase enrollments and test score results.

Over the next three years we plan to offer test prep instruction in each of the five regional school districts in the next three years. We believe each student should receive test prep instruction as part of the core instructional plan for each sophomore or junior.

In addition to expanding the San Diego regional offerings in the next three years, we are seeking to develop an online instruction delivery platform to enable our department to reach students outside the San Diego region. The online instruction platform would enable students who have barriers to access instruction the ability to have access and network with other students within an online environment.

Triton Academy

Sustained Student Academic Support and Mentoring Component

This component will foster students' academic success and connect them with peers, faculty and staff and with UC San Diego. It will hone their academic, research, communication and leadership skills and will enable them to be competitive for graduate school application. Students participate throughout all four years of their college education. Students will become involved in faculty's research groups and - following the Triesman workshop model - will take part in *learning communities, i.e.*, Honors Achievement Workshops (HAW), for core courses. These workshops will cover selected core "weeder" courses (e.g. chemistry, organic chemistry, and genetics) and will increase student academic success.

1. Research Fundamentals Program for Freshmen

High school seniors from URM serving high schools in Los Angeles and San Diego, who have been accepted by UC San Diego and who are interested in majoring in Biology, will be invited to apply to Access to Success. As freshmen, they will each join the research group of a participating faculty member. The faculty and a post-doctoral fellow will jointly mentor students. The freshmen are expected to spend between 6–8 hours per week in the laboratory, shadowing their lab mentor.

To build a sense of cohort and group identity students will meet weekly during the Fall Quarter for a one unit seminar, called *Methods of Inquiry (BILD 95)* taught by DoBS faculty member, Dr. Chilukuri, who has successfully piloted this course in previous years. The course is designed to assist new students in making a smooth and informed transition from high school to the university and their chosen biological sciences major. The weekly meetings focus on study skills, academic planning, and using campus and community resources to help achieve academic, personal and professional goals. Essential for the success of MOI are trained peer tutors who oversee the skill building activities.

In the Winter Qtr the students will participate in a two-unit introductory laboratory course called *Introduction to Research: Fundamental Lab Techniques and Library Research Skills*, taught by the co-PI, Dr. Wienhausen and the Biology Librarian, Dominique Turnbow. Upper classmen who have been involved in undergraduate research will contribute significantly by sharing their personal experiences as student researchers. The course too has been successfully piloted in previous years.

In the Spring Qtr, students will attend an *Ethics and Scientific Research* seminar and by reading books such as *The Immortal Life of Henrietta Lacks* consider and discuss the responsible conduct of science.

2. Research Apprentice Program for Sophomores

In their sophomore year, students will work as research apprentices on a small independent research project for academic (BISP 99) for credit. To nurture the sense of connectedness and to hone students' communication skills, students will present their research to each other as part of a final evaluation each quarter. In collaboration with several key campus partners including the libraries and other research centers we will offer a series of workshops to such as EXCEL, scientific writing, and poster production and library and web research skills.

3. Research Scholars Program for Juniors and Seniors

Students are invited to become full-time undergraduate researchers in a participating faculty member's lab during the summer between their sophomore and junior year. Students will receive a scholarship (\$3500/student). As part of their summer research experience, students will attend once a week for six weeks total a *Peer Mentor Training* workshop, so that they can become peer mentors for the next cohort of students entering the Access to Success Program in the Fall Quarter.

During their junior year students continue their research in their faculty mentors lab and earn BISP 199 credit. In the Winter Qtr of the student's junior year, the faculty and post-doc mentors and the staff advisor will help students find REU or other summer research opportunities off campus.

During their senior year the students are invited to continue their research in their mentor's lab for credit. Students will enroll in advanced topics seminars (BISP 194), to learn about and to discuss cutting edge research such as *Eukaryotic Gene Expression in a Post Genomics Era: Beyond the Central Dogma*, taught by the PI. During the summer before their senior year, students will participate in GRE workshops and will hone their communication skills (incl. poster presentation) in special workshops. They are expected to present their research at undergraduate research conferences such as SACNAS and ABRCMS. The program will provide funding for this (\$1k/student).

Mentor Training Component

Because the overall success of the program is critically linked to high quality mentoring, *Access to Success* will have a distinct *Mentor Training Component*, which will prepare faculty, post-doctoral fellows and undergraduates for their role as mentors. Involving post-doctoral fellows as mentors will increase the capacity and scalability of the program.

4. Training Program for Faculty Mentors

The goal is to increase faculty members' skills and competencies in mentoring undergraduate researchers. We will rely on best practices, such as described by Merkel and Baker (2002).

5. Training Program for Postdoctoral Fellow Mentors

This program component we will address two critically important needs. First, it will increase the potential pool of mentors for undergraduate researchers and therefore allow us to scale the program. Second, it will magnify the impact of the program because it affects future faculty members who will develop tools to effectively mentor and engage undergraduates as they take independent positions.

The post-doctoral fellows will also learn about the importance of undergraduate research and how to include undergraduates in an existing research program.

6. Training Program for Undergraduate Mentors (Peer Mentors)

Juniors and seniors participating in the *Access to Success in Biological Sciences Program* will be trained to become peer mentors, who will participate in outreach activities, contribute to MOI, the Introduction to Biological Research course and will become Honors Achievement Workshops leaders. Becoming a peer-mentor promotes a spirit of collective project ownership.

It will improve the student's ability to communicate and will hone his or her interpersonal skills, hence also act as a professional development opportunity.

Because Peer Mentoring is an essential part of the Access to Success in Biological Science Program, we propose to kick start the program in year 1 and 2 in the following way: We will recruit each year ten current undergraduate students to apply for a summer research project in participating DoBS faculty. Each selected student will receive a \$3500 scholarship and will work in the laboratory of one of the participating faculty. As part of the summer research experience he or she will also be required to participate in the above-described Peer Mentor Training workshop and will then become an MOI peer mentor. For year 3 of the program, the 2nd year cohort of the program will be trained to assume the peer mentor role.

Accelerating Community College Math Achievement

We have already written a grant proposal to the Yankelovich Center within the UCSD Social Sciences Division to expand the program. The San Diego Community College Math department considers improving developmental mathematics success rates as one of its highest priorities, and is fully committed to this project. In addition to grant funds, they will use recently received institutional funds.

Regardless of grant funding received, we at CREATE have funds and the commitment to continue to work on this program and will use graduate division resources provided to us to underwrite talented graduate students to continue to work with our researchers on designing, enacting and supporting this program. In addition, we have an important philanthropic partner in the Price Philanthropies who have themselves provided initial support in seed funding for this program. Robert Price himself has been attending all presentations about this program and has been monitoring and praising its forward-thinking nature and initial success.

In the next three years we plan to expand this program to Mesa, Southwestern, and Imperial Valley Community College, where we have robust and growing relationships.

UniversityLink

To be eligible students must meet the following conditions:

- Earn a UC GPA of 3.5 throughout community college, putting them well above the achievement of our transfer applicant pool (which had a mean GPA of 3.35 in 2013).
- Qualify as low-income, with a verified family income of no more than \$40,000/year.
- Complete at least 60 (quarter) UC-transferable units in specified courses
- Enroll as a high school senior or first-year community college student, except for a more mobile group comprised of student veterans, active service members, or former foster youth, who can enroll at any time.
- Connect to UC San Diego throughout their community college career in a series of meetings with our admissions officers at their home campus and at UCSD
- Attend one of the nine community colleges in the San Diego-Imperial County region

We used data on our Fall 2013 enrollee pool to project the size and attributes of the students who would qualify for UniversityLink:

- All of the 199 students from the region who qualified in 2013 have low incomes
- 46.2% of these students are first-generation college students, compared with 34.2% in our overall entering class of transfer students.
- 28.1% of these students are underrepresented minorities, compared with 18.8%.
- Twelve are veterans and three are in the reserves or National Guard.

These numbers demonstrate that this target population includes more first generation and underrepresented students than our average. Another possible income threshold that would also target a diverse set of students who face financial barriers would be \$80,000 per year, which is currently the Blue and Gold eligibility standard. Adding qualifying students with incomes between \$40,000 and \$80,000 would expand the program by 62 students, with 40.3% of them first-generation college students and 32.2% underrepresented minorities.

Would UniversityLink crowd out transfer applicants from across the state? BOARS members were understandably concerned about the potential scope of UniversityLink, and whether it would crowd out deserving transfer applicants from across the state. First, the table below demonstrates that UC San Diego traditionally and today enrolls more transfer students than the 2:1 ratio contained in the Master Plan, so we are already exceeding our mandated level of participation. Second, the table compares the projected maximum size of the proposed UniversityLink program with the extent to which UC San Diego enrolls even more transfer students than the Master Plan targets. As the table demonstrates, the projected maximum size of this proposed program (400) is smaller than three year average in the number of transfer students by which UC San Diego exceeds the 2:1 target (488). In other words, we could offer this program and still admit a sufficient number of transfer students from community colleges statewide through the ordinary transfer admissions process to fulfill our role under the Master Plan. Our goal will be to continue to accept statewide transfer students to meet the 2:1 target, and continue on this path until we double the number of students admitted who meet UniversityLink criteria (400). We will engage with BOARS if the program exceeds the target of 400 or threatens to distort our master plan ratio.

<i>All Students</i>		
	Three-Year Average	Fall 2013
Total # of Freshmen	4,777	5,634
Actual # of Transfer	2,877	3,049
"Target" # of Transfers	2,389	2,817
Increase Over Master Plan Target	488	232
Estimated Size of Proposed UniversityLink	Target of 400	199
<i>California Residents Only</i>		
	Three-Year Average	Fall 2013
Total # of Freshmen	3,627	4,178
Actual # of Transfer	2,346	2,404
"Target" # of Transfers	1,814	2,089

Increase Over Master Plan Target
Estimated Size of Proposed UniversityLink

532	315
Target of 400	≤199

Chancellor’s Associates Scholars Program for Transfer Students

Fall Transition Seminar: “Becoming a Scholar

Description

Become a scholar. Not the kind who uses polysyllabic words and spouts arcane ideas, but the kind who explores important issues with clarity, purpose and confidence. No one is born with this ability; even the most famous professors at UC San Diego had to learn to become scholars. You can too. That’s where this course fits in: it is intended to support your studies by focusing on the art and science of becoming a scholar.

Structure

There are two parts to the class. Weeks 1, 3, 4, 6, 7, 8, 10 will be held from 4:00 – 5:20 in SSB 104, and provide an opportunity discuss the art and science of becoming a scholar. Weeks 2, 5, 9 will be held from 5:00 – 6:30 in the Student Services Center Multipurpose Room, and provide an opportunity to engage members of the faculty on their own intellectual journey. On these occasions an informal dinner will be provided.

The success of this program depends on your active participation. Please complete all readings in advance, and come prepared to engage.

Additional Resources

Each Chancellor’s Associates scholar will be paired with a peer mentor, and is required to meet with college academic advisors on a regular basis. Please take full advantage of these (and other) opportunities to learn and grow!

Belinda Zamcona is the Program Coordinator for the Chancellor’s Associates Scholarship Program. Do not hesitate to contact either me or Belinda if you have any questions or concerns about the program, or about UC San Diego.

Reading Assignments and Course Schedule

1. Introduction (2 October)
Monty Python, “The Argument Clinic”
2. CASP Faculty Seminar (9 October)
Frances Contreras, Professor of Education Studies
3. Tests, Bloody Tests (16 October)
Carey, “The Hidden Value of Ignorance”
Oakley, “Test Taking”
Belluck, “To Really Learn, Quit Studying and Take a Test”
Monty Python, “The Spanish Inquisition”
4. Focus (23 October)
Carey, “Spacing Out”
Oakley, “Preventing Procrastination” and “Zombies Everywhere”
Glenn, “Divided Attention”
5. CASP Faculty Seminar (30 October)

Carol Padden, Dean of Social Sciences and Professor of Communication

6. Trees and Forests (6 November)
 - Oakley, "Chunking & Avoiding Illusions of Competence"
 - Scott, "The 30 Second Habit That Can Have a Big Impact On Your Life"
7. Experiential Learning and Professional Success (13 November)
 - Guest: Madhvi Acharya, Internship Counselor, Academic Internship Program
8. Thinking With Others (20 November)
 - Kleist, "On the Gradual Fabrication of Thoughts While Speaking"
 - Oakley, "Avoiding Overconfidence"
 - Monty Python, "We are All Individuals"
9. CASP Faculty Seminar (4 December)
 - Tom Wong, Director of the Center for Comparative Immigration Studies and Professor of Political Science
10. Timing (11 December)
 - Reynolds, "Want to be More Creative? Take a Walk"
 - Monty Python, "The Ministry of Silly Walks"

Transfer Jump-Start Program

The greatest impediment to timely progress to the degree for STEM students is inadequate preparation in the major. This is clearly illustrated in the following data, which measures the number of lower-division and upper-division units taken by members of the 2012 cohort:

admit Year	Dept.	Count	unitsLD	unitsUD	AvgLD	AvgUD
2012	NENG	22	1016	1312	46.18	59.64
2012	ECE	89	4103	5551	46.10	62.37
2012	CSE	169	5836	11189	34.53	66.21
2012	PHYS	22	698	1471	31.73	66.86
2012	MAE	49	1462	4263	29.84	87.00
2012	CENG	64	1833	4914	28.64	76.78
2012	BENG	26	730	1954	28.08	75.15
2012	SE	51	1394	4129	27.33	80.96
2012	BIOL	259	6902	17148	26.65	66.21
2012	CHEM	96	2417	6365	25.18	66.30
2012	MATH	54	1091	3682	20.20	68.19
	STEM Majors	901	27482	61978	30.5	68.79
2012	LIT	32	1162.5	1945	36.33	60.78
2012	COGS	38	1152	2721	30.32	71.61
2012	VIS	66	1830	3826	27.73	57.97
2012	PSYC	154	3641	10291	23.64	66.82
2012	INTL	39	755	2687	19.36	68.90

2012	HDP	30	575	2176	19.17	72.53
2012	POLI	103	1935	7191	18.79	69.82
2012	ECON	434	7991	29619	18.41	68.25
2012	COMM	134	2046	9011	15.27	67.25
2012	SOC	81	1121	5512	13.84	68.05
2012	HIST	33	378	2220	11.45	67.27
2012	LING	20	296	1225	14.80	61.25
2012	USP	18	294.5	1185	16.36	65.83
2012	ESYS	17	496	1240	29.18	72.94
2012	THEA	15	473	1252	31.53	83.47
2012	PHIL	14	148.5	1024	10.61	73.14
2012	SIO	13	530	748	40.77	57.54
2012	MUS	12	297	723	24.75	60.25
2012	FPMU	8	387	534	48.38	66.75
2012	UNAF	3	19	83	6.33	27.67
2012	ETHN	2	42	150	21.00	75.00
2012	CGS	2	12	160	6.00	80.00
2012	LATI	2	8	28	4.00	14.00
2012	JAPN	1	50	52	50.00	52.00
2012	CHIN	1	25	20	25.00	20.00
2012	RUSS	1	19	32	19.00	32.00
2012	CLPH	1	13	72	13.00	72.00
2012	INTD	1	12	32	12.00	32.00
2012	RELI	1	8	60	8.00	60.00
2012	GMST	1	0	80	0.00	80.00
Non-STEM Majors		1277	25716.5	85899	20.14	67.27

First Year Experience for Transfer Students

Credit and Evaluation

The FYE-T course would be a 2-credit class, based on one hour of lecture and one hour of discussion section weekly (20 hours total class contact). Further, we propose a Pass/Not Pass grading model which reflects grading for freshman and senior seminars at our institution. The proposed course would also draw on the expertise of Student Affairs and Academic Affairs professionals to amplify some of the topics.

Beyond the use of CAPE evaluations for faculty and similar evaluations for TSS TAs who lead discussion sections, we envision other assessment tools designed in collaboration with CREATE and/or the Center for Teaching and Learning which champions on-going efforts to assess and improve pedagogical effectiveness at UC San Diego. We foresee follow-up contact in winter

and/or spring quarter of transfer students' first year with focus groups and web-based surveys to gather additional data. We propose surveying Academic Advisors, Counseling and Psychological Services (CAPS), Student Affairs/Residence Life staff, and the Academic Integrity Office to gather their perspectives on the impact of the TSS course as has been designed for the (freshman) First Year Experience course in Fall 2014. A longer-range metric would use time-to-degree and retention data.

Course Outline

Week One - Introduction: The College Experience at a Research University

- Rationale: Many students do not understand the nature of the research university or the way that it affects their college experience. In addition, transfer students face transition issues such as adjusting to a vastly different teaching and learning environment and must revise or develop new revised approaches to their studies. This session provides an overview of these issues and strategies to succeed at a research university (Andreatta, 2012).
- Content: Provide an overview of the TSS course and explain how students will benefit from active participation.
- As a result of this class students will:
 - understand the qualities that are unique to research universities
 - increase awareness of UC San Diego's undergraduate structures, including the colleges and the academic divisions
 - learn how they can best utilize university staff and resources to be academically and personally successful
 - be able to effectively navigate through the UC San Diego academic environment

Week Two - Making the Most of the Classroom & Re-examining Study Strategies

- Rationale: The gap between community colleges and an elite public research university is substantial in terms of academic culture and demands. UC San Diego transfer students must make their way in a much larger and more complex environment, while learning in larger lecture classes, TA-led discussion sections, labs, limited office hours, and the variety of faculty and graduate student approaches to each. This session explores ways to maximize learning in and beyond the university classroom.
- Content: This session provides research-based strategies for learning in order to prepare students for successful engagement with upper-division course work at UC San Diego. The course content provides strategies for the variety of class formats at UC San Diego as well as the diversity of teaching styles, while emphasizing students' active role and responsibility in the learning process. From understanding the syllabus (and the course goals) and maximizing the value of lecture to embracing effective study habits and empowering students to become active rather than passive learners, this session aims to provide a pathway toward informed engagement with courses, faculty, and teaching assistants.
- As a result of this class students will:
 - be able to identify effective strategies for learning in the classroom and for studying as well as recognize, in order to minimize, ineffective strategies

Week Three - Academic Integrity and Information Literacy

- Rationale: Many students are not aware of why academic integrity matters for their individual and collective education at UC San Diego. Rather than channel institutional resources and attention toward rehabilitative measures after students have failed to live up to expectations, the goal of this session is to explain why the standard exists in the first place and to show how this academic integrity standard relates to the mission of an institution of higher learning, while underscoring
- each student's role and responsibility in the process. This session will also address the topic of information literacy which is defined as "the ability to find, evaluate, utilize, share, and create content using information technologies and the Internet." University work such as writing papers, creating multimedia presentations, and posting information online require varying degrees of information literacy. Therefore, it is crucial that students understand the rules and rationale for appropriate (and inappropriate) conduct.
- Content: In partnership with the Academic Integrity Office and Library and through a variety of pedagogical practices, this session will cover academic integrity in course context by addressing such areas as research and writing assignments, exams, and group projects. Additional topics will include the identification of valid (digital or other) sources and expectations for citation; communication protocol and etiquette with faculty and staff; using mobile media devices in the classroom; maximizing the use of virtual advising tools and other online educational resources; understanding privacy issues and settings; and creating a professional image online.
- As a result of this session, students will:
 - better understand what constitutes academic integrity and violations of academic integrity
 - understand the rules of appropriate conduct with regard to research, plagiarism, copyright, and privacy in a digital context
 - be aware of all the resources offered through the Library and how to use those resources to complete research and writing assignments successfully

Week Four - Personal Well-being and Academic Success

- Rationale: A student's university experience represents one of the most pivotal developmental periods in young adulthood. Competing time demands, managing a wide range of emotions, developing a sense of autonomy and competence are some of the developmental tasks students are working through at this stage in their life (Chickering & Reisser, 1993). Students who struggle academically often cite non-academic precipitants to their academic difficulties. Many college students experience mental health issues including depression and anxiety (in fact, UC San Diego's Office of Students with Disabilities more often provides accommodations for students with psychological issues than any other form of disability) and substance abuse during their academic career. Since these issues can negatively impact students' ability to perform academically including them as a topic is essential.
- Content: Through a variety of teaching strategies, this session will explore appropriate coping skills, identify campus resources, and strengthen interpersonal skills. Students

will be exposed to successful time management strategies, and learn positive behaviors and attitudes connected to their health and fitness, nutrition, intimate relationships, financial responsibility, and the use of ATOD, and the impact of all of these on their academic success.

- As a result of this session, students will:
 - be aware of common personal difficulties that university students experience, including the signs and symptoms of depression, anxiety, and substance abuse
 - learn the UC San Diego resources available for students struggling with emotional, social, and/or mental health issues
 - develop strategies for increasing health and fitness and reducing stress and managing anxiety

Week Five - Enhancing Communication Skills in the Classroom

- Rationale: Public speaking is a fundamental skill, necessary in every profession and walk of life, yet often left under-addressed in academic setting.¹ This topic equips students with basic skills necessary to present ideas in an academic setting. It is a skills-based approach that supplements any discipline.
- Content: This session prepares students for oral presentations, oral exams, speeches, debates, recitations, or any other public speaking assignments or for extra-curricular activities. The lecture and discussion section would cover essential points of application and provide coaching and feedback on areas of public speaking including constructing and organizing persuasive arguments, engaging with an audience or seminar participants, and using the voice and body effectively.
- The proposal for this week's focus on public speaking, oral presentations and seminar exchange would emphasize working through the unique traits of oral versus written communication in order to help students gear their thinking for maximum effectiveness and engagement both with listening and responding to oral thought. The topic focus would also highlight how to listen for the keys of an argument and how drafting clear and concise arguments translates directly to other academic assignments. It would be beneficial to study the principles of argumentation and arrangement; and critically examine students' speeches and the speeches of others. By becoming better students of public speaking, each student joins a long tradition geared to the art of academic conversation.
- As a result of this topic students will:
 - increase awareness of how they speak in classrooms and other public venues by understanding and applying new skills about public speaking
 - understand and demonstrate heightened awareness of listening skills and oral arguments identify ways to present more confidently and clearly

Week Six - Diversity, Equity, and Inclusion

- Rationale: Given the ever-increasing reality of globalization and increasing diversity within our society, the university is uniquely positioned to help students better understand and relate to these phenomena as well as to work towards developing

cultural competencies that enable our diverse students to work together toward towards shared goals.

- Content: This session advances an understanding and appreciation for diversity and inclusion as essential elements of a public university. Drawing on both local and international concerns and social justice issues, students will explore their role in understanding and supporting diversity on campus and beyond.
- As a result of this course section students will:
 - examine how their background and experiences impact their values and assumptions
 - understand and demonstrate increased respect for the beliefs and values of other cultures
 - identify principles for working effectively and respectfully with others, including incorporating diverse points of view

Week Seven - Campus and Community Involvement

- Rationale: College students spend more time outside of the classroom than in it and gain valuable experience from involvement in extracurricular activities such as internships, organizational involvement, employment, and volunteer service. Research shows how student engagement with their campus community positively correlates to higher rates of persistence and retention so supporting students in this area can potentially help advance them in time-to-degree. Such engagement also challenges students to manage their time and stress and to work effectively within a team. It is incumbent upon the university to help students acquire the appropriate skills and knowledge to engage in an increasingly complex and global society with sensitivity, responsibility, and competence.
- Content: During this session students will explore the concepts of social responsibility, civic engagement, leadership and service learning through readings, participation in an out of class experience, and reflective writing assignments. Students will be directed to establish and develop their own e-portfolio mapping their co-curricular university experience and intended outcomes.
- As a result of this course section students will:
 - identify co-curricular experiences that promote personal, social, and professional development
 - demonstrate leadership as an experience and understand corresponding leadership theories
 - identify principles of responsible citizenship within and beyond the campus community
 - develop an individualized e-portfolio mapping their co-curricular university experience

Week Eight - Planning for Career/ Professional Schools

- Rationale: Transfer students may struggle in upper-division courses required for their majors or discover other areas of interest. They are reluctant, however, to change majors. Some, for example, experience internal, family, or societal pressure to continue pursuing a major that is expected to result in a successful and financially

lucrative career, even if they lack the competency to do so. Dispelling myths around majors and careers may help students consider a wider range of disciplinary options and make more informed choices which would facilitate time-to-degree progress.

- Content: Students will evaluate their own choice of majors and be introduced to the range of majors and minors that are available at UC San Diego and their reality (and myths) of career connections. Student will learn and complete an assignment using the major and career exploration tools hosted by Career Services.
- As a result of this course students will
 - articulate their own major decision making process and determine whether they need to engage in further major/career exploration
 - identify major exploration tools and resources they can use to solidify their major/career decisions.

Week Nine - Research Opportunities, Experiential Learning, and Faculty Engagement

- Rationale: One goal of university education is engagement. We empower students with academic content and skills which they, in turn, apply in their professional and personal lives. Experiential learning offers students the opportunity for application, reflection, and enhanced understanding.
- Content: This session furnishes students with the evidence for the academic and personal value of experiential learning through which students strengthen and expand existing knowledge, develop new skills, and apply themselves beyond the classroom. The session will present students with the variety of opportunities at UC San Diego to connect class content with in-depth and/or first-hand experience through thesis projects, study abroad, service work, wilderness programs, leadership opportunities, laboratory work, internships, and more. The session will help students learn about AIP, the Experiential Learning Portal, Career Services Center, UC San Diego's Extension offering of LAUNCH and CREATE, etc.
- As a result of this session, students will:
 - be able to identify and take advantage of UC San Diego resources and opportunities for research and/or experiential learning

Week Ten - Lessons Learned and Planning Forward

- Rationale: Our transfer students routinely have achieved discernible success at a community college or a four year institution, but now have to survive more intense competition among their peers and corresponding challenges to personal confidence. The tools and topics from the first nine weeks must coalesce so that students can proceed better prepared for the balance of the academic year. The focus of this week will be to initiate forethought and planning to help students achieve this goal.
- Content: A review of each week's content will allow the instructor to either reemphasize key ideas and/or underscore the ideas with a synthesis of analogous notions drawn from other weeks. By the very nature of a review week, students might help determine what points need greater clarification.
- As a result of this "final chapter" week, students will:

- complete a culminating assignment drawing, integrating course topics and designing a strategy for their freshman year, including establishing a practical plan for study and for managing time, stress, and academic work

Appendix D - Innovations: Section 5

Major Preparation for Transfer Students

Graduation Rates for Transfer Students Entering in 2008

Entry Major	Number of	% Graduate	% Graduate	% Graduate
Biology	363	27.3%	69.7%	83.5%
Engineering	221	5.0%	56.6%	73.8%
BENG	21	14.3%	61.9%	76.2%
CENG	9	11.1%	77.8%	88.9%
CSE	41	2.4%	53.7%	73.2%
ECE	49	0	49.0%	75.5%
MAE	62	6.5%	53.2%	66.1%
SE	39	5.1%	66.7%	79.5%
Humanities	168	33.9%	68.6%	77.8%
HIST	38	39.5%	73.7%	78.9%
LIT+PHIL	37	27.0%	67.6%	78.4%
MUS+THEA	31	35.5%	67.7%	71.0%
VIS	62	33.87%	66.1%	77.4%
Physical Sciences	101	22.8%	67.3%	82.2%
CHEM	69	15.9%	65.2%	79.7%
MATH+ PHYSICS	32	37.5%	71.9%	87.5%
Social Sciences				
Communication	131	63.4%	86.3%	89.3%
Economics	328	50.3%	80.2%	85.7%
International Studies	81	51.9%	87.7%	90.1%
Psychology	126	38.1%	65.1%	70.6%
Political Science	114	54.4%	84.2%	89.5%
Sociology	68	50.0%	77.9%	82.4%

Required Major Preparation Courses For Entering Transfers in Biology or Economics

	UCSD	Berkeley	Davis	Irvine	UCLA
Biology	none	1. Biology 2. General Chem 3. Calculus 4. Organic Chem	1. Biology 2. General Chem 3. Calculus (minimum grade of 2.5 in each)	1. Biology 2. General Chem 3. Organic Chem	1. Biology 2. General Chem 3. Calculus 4. Organic Chem (1 sem)
Economics	none	1. Econ 1 2. Calculus	None ? (not clear)	1. Micro and macro econ 2. Calculus	1. Micro and macro econ 2. Calculus

	Merced	Riverside	Santa Barbara	Santa Cruz
Biology	1. Biology 2. General Chem 3. Calculus 4. Organic Chem 5. Physics	1. Biology 2. General Chem 3. Calculus 4. Organic Chem (B or better) 5. Physics	1. General Chem 2. Biology	1. Calculus (1 sem) 2. General Chem 3. Biology (1 sem) 4. Organic chem (1 sem)
Economics	1. Econ 1 2. Calculus	None	1. Micro and macro econ 2. Calculus	1. Micro and macro econ 2. Calculus

All required courses are 2 semesters except where indicated. Information from assit.org

Frontiers of Innovation Summer Program

Summer Research Program Expenses: The total cost of the Summer Research program is \$7,555.00 per student. This includes the staffing and administrative costs described above, a stipend of \$3,000.00, average travel expenses to and from the program of \$500.00, and housing. Housing costs \$2,000.00 per student, which includes housing in The Village at Torrey Pines at a rate of \$37.00 per night for 54 nights. We believe that it is important for every student, including local students, to live on campus during the summer research experience. Examples of benefits include but are not limited to: greater academic and social interactions with peers, faculty, and staff; greater convenience to laboratories, libraries, and other campus resources; less time traveling and more time to prepare applications for graduate school and

study for the GRE. Additional program costs per student include facilities, meals, and activities costs such as orientation with challenge course \$150.00, workshops and training \$300.00, research symposium \$55.00, social activities \$100.00, and GRE \$400.00. The GRE cost includes course fee, book, and exam. This year we are planning to pay for senior students to take the GRE exam. The cost of the exam is \$195.00, but we will apply for fee waivers that will reduce the cost to \$100.00.

Recruitment efforts are well underway and future recruitment opportunities are being planned. Graduate Division staff members Dr. Elisa Maldonado and Christopher Murphy recruited students at the SACNAS Conference in Los Angeles in October, Annual Biomedical Research Conference for Minority Students (ABRCMS) conference in San Antonio in November, and McNair Virtual Graduate School and Summer Research Fair in November. They also held workshops on summer research opportunities at UC San Diego at San Diego City College in October and San Diego State University in December. Dr. Maldonado is planning future workshops at various community college, California State University, University of California, and private HIS campuses in Southern California in January. She is also planning information sessions with various MSIs across the country via Skype in January. Of note, we have already cultivated robust relationships with many California MSIs and with a select group of eastern HBCUs (e.g., Howard, Spelman).

Teaching and Learning Commons

Proposal to Establish the Teaching and Learning Commons at UC San Diego (Executive Summary)

To transform UC San Diego into a truly student-centered university and to support excellence in teaching and learning, we propose the establishment of a system-level structure – a comprehensive coordinating unit within Academic Affairs – provisionally named the Teaching and Learning Commons (see Visual I, p. 5). The Commons should be viewed not as a nominal joining of independent programs and sub-units, but rather as a single entity that will promote integration, connection, and ongoing assessment of initiatives leading to an engaged educational environment. Programs within the Commons are expected to interact, inform, and mutually reinforce one another's work, recognizing the inextricably intertwined relationship between teaching and learning (see Visual II, p. 6 and Appendix G).

The Commons will be primarily housed in two subsidiary units – the Center for Engaged Teaching and the Center for Engaged Learning – and will be distinctive in two regards. First, it will include programs and services for undergraduates, graduate students, postdoctoral scholars, and faculty. Second, it is designed to ensure that all levels of instructional staff (i.e., academic senate faculty, Unit 18 lecturers, graduate instructional apprentices, academic coordinators, librarians, and instructional technical support staff) play a central role in Commons activities.

The Commons will aim to achieve eight primary objectives:

- Create a campus-wide culture of engaged teaching and learning.
- Provide an integrated and coordinated structure for existing and expanded programs that promote engaged teaching and learning (e.g. faculty development, student support/enrichment).
- Gather data to create a baseline understanding of the current state of teaching and learning on our campus, and develop mechanisms for examining progress, i.e. assessment and evaluation.
- Support faculty, departments, and programs in assessing the effectiveness of their teaching.
- Promote excellence in teaching (scholarly teaching) and learning by providing faculty and pre-faculty training, by supporting students' academic development, and by advancing student-centered, research-informed, outcomes-determined practices (see Visual III, p. 7).
- Assist faculty interested in meaningfully incorporating technology into their instruction.
- Enable, distill, and promote scholarship of teaching and learning across the university.
- Provide leadership and support for the university's teaching and learning initiatives including scholarship in teaching and learning

The Commons will include representation from academic departments and programs as well as a host of other units that currently support the instructional mission of UC San Diego (see Appendix B, C, and E). It will be led by an Executive Director who is a ladder-rank faculty member, and will be guided by a Senior Council that will enhance integration and promote involvement across academic units. The Senior Council, whose membership will represent the larger Commons constituency and which will be supported by subsidiary Divisional Councils, will play a key role in ensuring that the Commons is directly connected to instructors at the department level, and that students and instructors are connected with the many campus groups that support teaching and learning. For more on how the Commons will address “silos” and promote integration, see Visual II, p. 6, Extended Proposal pp. 2-4, and Appendices B, C, D, and G.

Center for Engaged Teaching (CET)

The CET will succeed the currently existing Center for Teaching Development (CTD) and include its existing staff. The CET will be dedicated to the theory, practice, and scholarship of teaching and learning. Its charge will be to serve the needs of all faculty – ladder-rank professors, teaching professors, non-Senate lecturers, and adjunct faculty – as well as graduate students working as graduate instructional assistants and postdoctoral scholars preparing to enter the faculty ranks. In collaboration with academic departments and programs, the CET will provide a full range of services for the dissemination of knowledge about effective teaching methods and new instructional technologies. This will include offering workshops to teach faculty how to translate that knowledge into concrete teaching strategies (scholarly teaching), and confidential formative assessment (not evaluation) for faculty. The CET will nurture a community of shared

learning among faculty. It will partner with other instructional support units to establish a comprehensive graduate instructional assistance training and pre-faculty preparation program, and will play a key role in developing and implementing methods for assessing and evaluating the impact of Commons initiatives on student learning.

The CET will be led by a Director who holds a faculty appointment and is a leader in faculty development. The Director will be supported by several Associate Directors, each with specialization in a broad content area (e.g. STEM, Arts, Humanities, or Social Sciences).

Associate Directors will work with Divisional Councils and Faculty Liaisons to translate general research and practice into domain-relevant implementations. The Associate Directors, Divisional Councils, and Faculty Liaisons will help to connect the activities of the CET with the “agents of change” – teachers and students based in the departments.

Center for Engaged Learning (CEL)

The necessary complement to excellent, engaged classroom teaching by faculty is a body of students who pursue meaningful learning as the purpose of their education, who feel fully invested in the academic community, and who aspire to standards of excellence leading to maximum engagement in educational opportunities in and out of the classroom. One of the most distinctive features of the Commons is the joining of the CET and the CEL within a single unit.

The CEL will be a student-centered unit that will attract students at all levels, from those who are first learning to navigate academic culture and master basic skills to those pursuing advanced opportunities such as undergraduate research or developing real-world skills in preparation for careers. This center will serve as a coordinating umbrella for programs and services that are now silo-ed within Academic Affairs, Student Affairs, and Research Affairs. By strengthening their connection to one another, thus creating synergies and eliminating redundancy, the CEL will allow these programs to become more effective. The CEL will work towards greater involvement of students in existing and new programs, collaborating with the CET to develop measures to assess the impact of programs on student learning.

The CEL will be led by a faculty Director. It will comprise programs and services such as a new First-Year Experience program and a similar program for transfer students; a learning center providing support for the development of quantitative, analytical, communicative, and other critical skills; a comprehensive writing center supporting undergraduate and graduate students; OASIS and the OASIS Learning Communities; undergraduate research and internship programs; an Academic Ethics collaborative that would coordinate efforts of the Academic Integrity Office, University Ethics Center, and the Research Ethics Program; and other programs and services focused on student learning.

Assessment and Instructional Technology Collaboratives (AC and ITC)

The AC and ITC will be integral parts of the Commons, partnering closely with the CET and CEL to support and measure faculty and student engagement efforts. Both the AC and the ITC will include individual staff or sub-units of currently isolated campus entities that already provide relevant support, and both will warrant new resources in the future. The collaboratives will add

significant value by drawing resources together to ensure efficiency, cohesion, and coordination.

Conclusion

Ultimately, the establishment of a flourishing Teaching and Learning Commons will convey the understanding that teaching and learning are integrally intertwined, that research and practice are mutually enriching, and that we must create multi-directional, active connections to improve what is currently a fragmented (silo-ed) approach to teaching and learning at UC San Diego. We hope to promote dialogue, collaboration, and community as we work towards a university that truly values engagement in the educational mission, and that embodies the vision of a student- centered, research-focused, service-oriented public university.

Appendix E - Innovations: Section 6

The overarching goal of the initiatives described in this application is to shorten the average transfer time-to-degree by one quarter. We also seek to increase our retention rates and strengthen access and affordability. Each of these affects the average cost to award a bachelor's degree.

Reducing time-to-degree

Assumptions

1. The per-student annual cost of education at UC San Diego is borne by four actors: the federal government, the state, the university and the student.
2. Each of these actors incurs "opportunity costs." For example, students forgo earned income while attending UC San Diego (they could be working more, at a higher-paying job), and the state and federal government forgo income tax on those earnings. These costs are difficult to accurately estimate, and have not been included in these calculations.
3. Costs and savings are calculated on the basis of current tuition and fees, and current cost of living. Increases in tuition and fees will drive up the cost of education to students. Increases in the cost of living will affect financial aid, and will thus drive up the cost to students, the university, the state and the federal government.
4. Cohort size. The average size of UC San Diego's entering cohort of transfer students is 2,500. The current first-year retention rate for transfer students is 93%. Thus in calculating the impact of changes in retention we use the figure 2,325 (93% of 2,500) for the size of the average second-year transfer cohort. The current four-year graduation rate for transfer students is 85%. We estimate that a one-quarter reduction in time-to-degree would increase the four-year transfer graduation rate from 85% to 90%. Thus in the calculations below we use the figure 2,250 (90% of 2,500) for the size of the average graduating cohort of transfer students.

Data

1. General funds. According to the estimated 2014-15 average cost of instruction presented in the University of California's 2015-16 budget, the annual per student cost to the state is \$7,090 in State General Funds, and the annual per student cost to the institution is \$2,610 in UC General Funds. On a quarterly basis this is \$2,363 in SGF and \$870 in UCGF.
2. Financial aid. In Fall 2014 transfer students received \$4,980,250 in financial aid from the university, \$2,156,400 from the state and \$4,360,150 from the federal government. The per student quarterly average for the cohort of 2,500 is \$1,992 in university aid, \$863 in state aid, and \$1,744 in federal aid.
3. The estimated cost of attendance at UC San Diego for 2014-15 ranges from \$24,855 for students living at home to \$31,245 for students living on campus. On average about 10% of

transfer students live at home, about 35% live on-campus, and about 55% live off-campus. The weighted annual average cost of attendance for transfer students is \$29,846; the weighted quarterly cost is thus \$9,949.

Impact

Quarterly transfer student cost of education at UC San Diego

	Student	University	State	Federal
University financial aid avg		\$1,992		
State financial aid avg			\$863	
Federal financial aid avg				\$1,744
University General Fund		\$870		
State General Fund			\$2,363	
Quarterly cost of attendance	\$9,949			
Quarterly per student average	\$9,949	\$2,868	\$3,226	\$1,744
Quarterly cohort total	\$22,385,250	6,439,500	\$7,258,500	\$3,924,000

A one-quarter reduction in the average time to degree for transfer students at UC San Diego would save each student \$9,683. For the university the savings for the entire cohort would be \$6.45 million, and for the state the savings for the entire cohort would be \$7.26 million.

Note that the financial assistance given any individual student depends on need, and on a quarterly basis will range from a low of \$0 (no need indicated), to a high of \$4,015 in university aid, \$4,064 in state aid, and \$1,910 in federal aid. Without knowing the need of a specific student, the cost of education must be indicated as a range:

	Student	University	State	Federal
Quarterly per student range		\$0 - \$4,015	\$4,064	\$0 - \$1,910

Most of the initiatives presented in this application focus on low-income students, and thus are likely to affect students with higher need and thus financial aid awards above the campus average. When viewing the entire cohort, however – as when estimating the impact of reducing the overall time-to-degree – the per student average may be used without error.

Improving Retention

Retention and Persistence Rates

Transfer students who leave UC San Diego before completing their degree may be divided into two broad groups: those who persist at another institution, and those who do not complete a bachelor’s degree at any institution. Each of these courses of conduct has a different affect on the average cost to award a bachelor’s degree.

To capture these effects first-year retention data is insufficient; the largest decline in the percentage of students retained occurs *after* the first year. A study of the 2009 transfer cohort, for example, revealed that the one-year retention rate was 94.7%, while the two-year retention

rate dropped eight points to 86.7%. The third year retention rate, 85.4%, was only slightly lower and almost identical to the four-year graduation rate for this cohort, suggesting that once transfer students make it past their second year they will remain at UC San Diego until they complete their degree. Put differently: students who are not retained spend an average of 1.8 years at UC San Diego before leaving.

The most recent year for which six-year graduation and national persistence data is available for transfer students enrolled at UC San Diego is 2008. This data sheds light on what happens when students leave UC San Diego:

	2 Years	4 Years
Graduated from UC San Diego	33%	77%
Enrolled at UC San Diego	62%	7%
Graduated from another institution	0%	2%
Transferred / enrolled at another Institution	3%	4%
Current Status Unknown	2%	10%

Current two- and four-year transfer graduation rates are higher (40% vs. 33%, and 85% vs. 80%). For this analysis we infer that the percentage of students whose status is unknown has also decreased, and estimate it as being 1.5% at two years and 7.5% at four years. We also assume that half of these students have persisted even though we lack current data on them. Thus at the four-year mark, of the 15% of students in a cohort who have not received a diploma, approximately three-quarters are persisting or have completed a degree at another institution, and roughly one-quarter have left higher education without completing a degree.

Impact

For a cohort of 2,500 new transfer students, a 2% increase in the two-year retention rate means that 50 more students will complete their bachelor's degree at UC San Diego.

For students who persist at another institution, time spent at UC San Diego may be a rational educational investment. For students who leave higher education altogether, however, time and money spent attending UC San Diego are net losses. Conservatively, one-quarter of students who are not retained fit this category, and thus a 2% increase in the two-year retention rate of a cohort of 2,500 would "save" the educational expenses of 12 students. With an average enrollment of 1.8 years, these costs are substantial.

	student	university	state	federal
Per student	\$53,723	\$15,493	\$17,420	\$9,418
Per cohort	\$644,676	\$195,916	\$209,040	\$113,016

Appendix F - Sustainability: Section 8

The foundation for the initiatives presented in this application is provided by UC San Diego's 2014 strategic plan. Key features of the plan include:

Mission

UC San Diego will transform California and a diverse global society by educating, generating and disseminating knowledge and creative works, and engaging in public service.

Values

We will achieve our mission as a student-centered and research-oriented public university by being distinctive and by using our comparative advantage. The values that define UC San Diego create an environment and a culture where:

- We will hold ourselves accountable to our mission, values, and goals; they will be the
- essence of our internal interactions, and form the foundation for our engagements locally, nationally, and globally. Our successes will be measured not only by UC San Diego's performance but also, and more important, by its impact.
- Collaborative and interdisciplinary activities lead to unsurpassed discoveries, technologies, cures, scholarship, and creative works that advance and enrich society.
- Excellence in teaching, research, patient care, and a people- and service-oriented culture that supports learning, scholarly work, and public service are the norm.
- Diversity, equity, and inclusion enable faculty, students, and state to excel and provide an opportunity for all to succeed.
- Our entrepreneurial spirit leads to agility, risk-taking, and innovative approaches to solving problems and seizing opportunities. Public service, sustainability, integrity, and ethics are core principles guiding our activities.

Goals

1. Delivering an educational and overall experience that develops students who are capable of solving problems, leading, and innovating in a diverse and interconnected world.
2. Cultivating a diverse and inclusive university community that encourages respectful open dialogue, and challenges itself to take bold actions that will ensure learning is accessible and affordable for all.
3. Nurturing and supporting a collaborative and interdisciplinary research culture that advances the frontiers of knowledge, shapes new fields, and disseminates discoveries that transform lives.

4. Supporting and promoting just and sustainable forms of economic development, shared prosperity, and social and cultural enrichment regionally and globally.
5. Creating an agile, sustainable, and supportive infrastructure by ensuring a dedication to service, people, and financial stewardship.

Strategies

1. Provide coordinated and comprehensive academic, professional, and career advising across all colleges, departments, and units.
2. Rethink curriculum and pedagogy to improve retention and graduation rates and increase student and faculty engagement.
3. Strengthen the connection between academic and high-impact co-curricular experiences.
4. Evolve our campus culture by requiring actionable initiatives and measurable outcomes that enhance equity, diversity, and inclusion.
5. Expand existing programs and implement new approaches that result in accessible and affordable learning for all.
6. Identify emerging and future trends and strategic thrusts to increase our impact and enrich society.
7. Attract, retain, and grow our top-quality and diverse faculty body.
8. Grow a high-quality, cost-effective, and diverse graduate program.
9. Evolve structures and processes to identify trends for investment, and foster innovation, risk-taking, and collaboration.
10. Strengthen community engagement and public service to increase the greater community's awareness of UC San Diego's impact and role locally, regionally, and globally.
11. Improve access to high-quality patient care.
12. Enhance financial sustainability through new revenue and efficient use of existing revenue.
13. Identify new models for excellent service that prioritize delivery to our stakeholders while addressing regulatory, compliance, and reporting requirements.

Appendix G - Sustainability: Section 9

Formal UC San Diego School Partnerships

The Preuss School at UC San Diego. The Preuss School is a secondary school on the campus of UC San Diego offering grades 6-12 for 700 students in the San Diego region. All students at Preuss are low income and the first members of their families to go to college. Preuss fosters a culture of high academic performance in which all students take AP courses and a college preparatory curriculum, and Preuss regularly receives both state and national awards for its performance. To learn more from Preuss, contact CREATE Director Mica Pollock at micapollock@ucsd.edu.

Gompers Preparatory Academy. Gompers Preparatory Academy in Southeast San Diego opened in September 2005 with an enrollment of 950 students grades 7-9. Gompers now enrolls 950 low-income students in grades 6-12. In both June 2012 and 2013, Gompers graduated 100% of its first senior class, and 100% of the class was accepted to college. To learn more from GPA, contact CREATE Director Mica Pollock at micapollock@ucsd.edu.

Lincoln High School. Lincoln is a comprehensive, diverse high school in Southeast San Diego that works with CREATE and other UC San Diego partners to tap educational resources in the form of information to students and parents about college applications and financial aid; student academic enrichment activities; tutors; TRIO/Upward Bound supports; and teacher professional development. CREATE currently is working closely with UC San Diego's Eleanor Roosevelt College and the Lincoln High School Math leadership to launch a UC San Diego Math Tutor Corps; a new College Academic Mentor Program course with Muir College will send undergraduates to Lincoln and other schools as assistants to counselors. To learn more from Lincoln, contact CREATE Director Mica Pollock at micapollock@ucsd.edu.

Community Organization Partnerships

The university is currently expanding and cultivating a host of community partnerships with local innovators focusing on school-to-college-and career pipeline efforts. Among them are:

- Better Education for Women in Science & Engineering (BE WISE)
- Diamond Educational Excellence Partnership (DEEP)
- Reuben H. Fleet Science Center
- Groundwork San Diego-Chollas Creek
- Imperial Valley Discovery Zone
- Imperial Valley Regional Occupational Programs Office
- Imperial Valley STEM Educators Association
- Institute of International Education/WeTech
- Jacobs Center for Neighborhood Innovation
- Qualcomm
- San Diego County Office of Education

- San Diego Natural History Museum
- San Diego Public Library
- San Diego Rotary Club
- San Diego Science Educators Association
- San Diego STEM Collaboratory
- SPAWAR: K-12 Outreach

UC San Diego Program Partnerships

The Center for Research on Educational Equity, Assessment and Teaching Excellence works with numerous other programs at UC San Diego work to increase local opportunities to learn.

Campus partners include:

- Biological Sciences Education Outreach
- Calit2 Education Outreach
- Center for Student Involvement, including Education Corps
- Cross-Cultural Center
- Department of Athletics
- Department of Education Studies
- Education-related outreach, Social Sciences
- Jacobs School of Engineering IDEA
- Outreach by the Center for Investigation of Health and Education Disparities (CIHED)
- Outreach by the UCSD Laboratory of Comparative Human Cognition (LCHC)
- Partners at Learning (PAL)
- Physical and Biological Sciences Divisions' Education Outreach
- San Diego Education Research Alliance (SanDERA)
- San Diego Supercomputer Center, Education Outreach
- School of Medicine, Department of Pediatrics
- Scripps Institution of Oceanography, Center for Ocean Sciences Education Excellence (COSEE)
- Student Promoted Access Center for Education and Service (SPACES)
- UC San Diego Extension K-16 programming
- Undergraduate Admissions

Appendix H - Evaluation: Section 12

Each initiative discussed in this application has its own goals and assessment plan. To give a flavor, here are examples from “Accelerating Community College Math Achievement” and the “First Year Experience Course for Freshmen. ”

Accelerating Community College Math Achievement

A qualitative and quantitative design-based research plan will be enacted to ensure that the accelerated math project both learns formatively from each year's rendition and is improved for the subsequent year.

Qualitatively, a doctoral student from the UCSD Education Studies Department, Tracey Kiser, who is herself an African American first-generation high school graduate, high school and community college mathematics instructor, has already been recruited to conduct her dissertation research on this project. She worked closely with Dr. Susan Yonezawa, CREATE, on the project in Summer 2014 as the pilot research for her dissertation work. Qualitatively, the work will involve focus groups and field note observations in each of the classrooms to note the interaction instructionally and socio-emotionally of the students with the tutors and the faculty members, as well as among the peers around the accelerated math model.

Quantitatively, the students will take pre and post-tests using the Mathematics Diagnostic Testing Program 1st and year Second Year Algebra Readiness tests to assess their mathematical holes or misunderstandings and to measure growth. In Summer 2015, and for subsequent years, students in the treatment group will be compared to similar cohorts of course takers (without the accelerated option) in other matched SDCC developmental mathematics courses for their movement through developmental math at SDCC. We will note the rate at which the students matriculate through the course sequence, their relative success as measured by grades and test scores (on final exams, which are standardized in the department). Finally, we will track all the students from 2014-2018-19 in these ways.

First Year Experience Course

Model

Quasi-experimental design without guarantee of targeted populations

Recruitment Strategy

Open call w/lottery—common across all six colleges (ensures treatment and control groups)

- Invite all incoming freshmen and market widely

- Students indicate interest in enrolling by submitting form
- Lottery for actual course enrollment
- Non-selected students serve as control group

NOTE 1: Each college's enrollment will have to be studied after the fact for demographic similarity between treatment and control as well as adequate cell size of students in important sub-groups.

NOTE 2: It would be possible to over-sample a particular group (such as first-gen or Pell Grant recipients), but that would be more cumbersome for colleges.

PRO: Naturally occurring experiments may form within the respective colleges if a college for instance has an overrepresentation of a specific sub-group, etc.

CON: Key groups of interest might be underrepresented; control and treatment groups may be demographically dissimilar by chance for any given college – less problematic if all six colleges' treatment and control groups are collapsed.

Formative Assessment Outcomes

Common across all six colleges (ensures treatment sample size = 300, and makes it more likely to obtain sufficient cell sizes across subpopulations)

Possible quantitative measures: (compared to lottery non-selected students and by subgroups, if available)

- End of 1st quarter GPA
- End of 1st year GPA
- Unit completion – 12 units per quarter – progress to degree
- Time to declare major (from undeclared to declared)
- Switching of majors (from declared A to declared B)
- Class withdraws (W's)
- Academic integrity issues (JAMS)

Qualitative tools to measure implementation and student experience (for treatment and control groups)

- Open-ended questions (not conducted through CAPE, but formatted something like CAPE)
- Focus groups
- Pre-post survey with closed- and open-ended questions