**Table 1:** UC Merced graduate programs and emphases within the Individual Graduate Program (IGP), including degrees offered and year implemented.

Name of Graduate Program or Emphasis within the IGP	Degrees Offered	Year Implemented
Graduate Programs		
Individual Graduate Program (IGP) with Emphases	PhD, MS, MA	2003
Environmental Systems	PhD, MS	2007
Quantitative & Systems Biology	PhD, MS	2011
Cognitive & Information Sciences	PhD	2011
Psychological Sciences	PhD	2011
Chemistry & Chemical Biology	PhD, MS	2013
Political Science	PhD, MA	2014
Emphases within the Individual Graduate Program (IGP)		
Social Sciences	PhD, MS, MA	2005
World Cultures	PhD, MA	2005
Applied Mathematics	PhD, MS	2006
Biological Engineering & Small Scale Technologies (BEST)	PhD, MS	2007
Electrical Engineering & Computer Science	PhD, MS	2007
Mechanical Engineering	PhD, MS	2007
Physics	PhD, MS	2007

**Table 2:** Status of graduate programs emerging from IGP emphases as of January 2014.

Name of Anticipated Program	Status
Applied Mathematics	Proposal awaiting WASC review
Interdisciplinary Humanities (emerging from World Cultures)	Proposal in CCGA <sup>1</sup> review
Electrical Engineering & Computer Science	Proposal in campus review
Mechanical Engineering	Proposal in campus review
Physics	Proposal in campus review
Sociology (emerging from Social Sciences)	Proposal in campus review
Biological Engineering (emerging from BEST)	Proposal in development
Materials Science & Engineering (emerging from BEST)	Proposal in development
Economics (emerging from Social Sciences)	Proposal in development
Public Health (emerging from Social Sciences)	Proposal in development

<sup>&</sup>lt;sup>1</sup> <u>Coordinating Committee on Graduate Affairs</u>. The UC system-level Academic Senate committee with authority for approving new graduate degrees.

### Financial Commitment between University of California, Merced and University of California Office of the President

### **Executive Summary**

The University of California, Merced has experienced a surge in student applications and record enrollment growth over the last three years. To ensure sufficient funding is in place to accommodate continued growth, the university has secured a three-year financial commitment from the UC Office of the President of \$36 million -- \$6 million in 2010-11, \$12 million in 2011-12 and \$18 million in 2012-13. The funds will allow UC Merced to add 600 students (net) per year, resulting in a projected total enrollment of 5,200 in the 2012-13 academic year compared with 3,400 in 2009-10. In addition, ladderrank faculty appointments will grow from a current total of 130 to approximately 190 over the three-year period, which includes an increase of 50 positions on top of 10 already funded.

Faculty and staff additions during this time assume the continuation of a \$5 million supplemental allocation from the state as provided in the governor's budget for the next fiscal year.

It is expected that UC Merced will continue to receive \$18 million in enrollment-growth dollars in the years after 2012-13, enabling the university to sustain or possibly accelerate its current growth trajectory. However, in view of the state's economic challenges, assumptions about future funding will be reassessed annually. As a matter of prudent planning, the university is evaluating a number of slower-growth scenarios beyond 2012-13 and will make whatever adjustments might be necessary if state funding cannot be guaranteed at the expected rate. Under current growth assumptions of 600 students per year, and assuming state funding for enrollment growth is sustained, the university expects to be in position to balance its budget by the 2015-16 academic year.

The three-year faculty-growth projection includes 21 new faculty lines for the School of Social Sciences, Humanities and Arts, 15 for the School of Natural Sciences and nine for the School of Engineering. All three schools will compete, individually or in partnership, for the remaining five strategic investment lines. This allocation model will result in a strategic rebalancing of faculty growth that is more representative of other UC campuses. Curriculum development during this period will focus primarily on strengthening existing undergraduate and graduate programs rather than developing additional majors.

#### Memorandum of Understanding between UC Merced and the University of California, Office of the President

#### Introduction

In the five years since its opening, UC Merced has aggressively pursued its founding principles of building the first research university of the 21<sup>st</sup> century and providing a strong focus on student success through inclusive excellence. During this period the campus has grown and matured with the addition of each new faculty member and each class of new students. Today UC Merced is a vibrant campus with an engaged faculty and staff committed to excellence and a student body passionate about their campus and its future development.

A major goal of the campus in the next few years is significantly increased enrollment. The campus must balance the need to increase the ladder rank faculty essential to building a research university coupled with high quality instructional offerings in the context of limited financial resources. In addition, the campus will augment the temporary instructional staff needed to share in the instruction of increasing numbers of undergraduates at the lower division level and add non-instructional staff support critical to both faculty and student success. Space will also be a significant challenge during these coming years. The ability to accommodate faculty, students and staff that are needed to allow for campus growth will require, insofar as funding permits, a flexible approach to its existing space, plus the capital funding necessary for additional growth.

This document is prepared in collaboration with the Office of the President to reflect campus growth plans that are predicated on enhanced efficiency and keen attention to the limitations of state funding for the University of California as a whole. The campus greatly appreciates the strong support from UCOP and its collaboration in UC Merced's growth. This MOU includes an analysis of three near-term scenarios for campus development accompanied by supporting exhibits. In addition, the document includes metrics against which the campus performance can be assessed to ensure that it is effectively fulfilling its commitments under the agreement. All of the scenarios included imply restrictions in growth of faculty numbers that will remain below the desirable systemwide norms for ladder rank faculty (LRF) who comprise only 58 percent of instructional faculty at Merced while other campuses are in the range of 74 percent-80 percent. In addition to the potential impact on undergraduate instruction, the low number of LRF can have serious consequences for the development of both graduate education and research on the campus.

Continued enrollment growth on the Merced campus is a positive both for the campus, in that it will help to insure continued development during this period of State austerity, and for the State of California and the UC system. UC Merced serves the State as well as the UC system by providing access to a substantial number of qualified California students, especially those who are first generation college enrollees and who come from low income families. UC Merced is seriously committed to educating California's diverse population of students from a full range of high schools. The diversity of the student body at UC Merced is a critical element for the systemwide diversity goals and bodes well for educating the population that will guide California's future.

UC Merced has made remarkable progress in the years since its opening. Application numbers, enrollment growth, grant activity, the overall trajectory for the campus and public perception are all positive as the campus moves into the second five years of operation. Although this campus was born in a time of State fiscal strife, it has made substantial progress in every metric that is critical to building a 21<sup>st</sup> century research university; application numbers, enrollment, (Exhibit A), and research funding (Exhibit B) all show significant increases.

#### **Basic Assumptions**

UCOP will provide \$36M in funding over a three year period in return for the following campus commitments:

- 1. UC Merced will enroll 600 additional fully funded students per year from 2010 to 2013. At the end of this period, it will have an enrollment of approximately 5,200 students, compared to the current 3,400 FTE. Enrollment growth is predicated on the availability of a total of \$36M (\$6M, \$12M, \$18M) in funding from the Office of the President over this period. It is expected that there will be a continuation of the \$18M in enrollment growth dollars in the years after 2012/13, although the source of such funds has not been identified. (Exhibit H series displays the primary revenue sources for the campus during the period of the MOU.) This plan will be updated annually to assess the availability of at least \$18M in permanent continuation funding without which the future structure of UC Merced is uncertain, and the plan for continued growth will be reassessed each year. If permanent state funding for enrollment growth resumes, growth at UC Merced possibly can be accelerated.
- 2. The general parameters outlined for faculty and staff growth also are contingent on the continuation of the \$5M supplemental allocation from the State as allocated in the Governor's budget for the next fiscal year. The UC Office of the President will strive to ensure that this amount is added from state funds to the permanent base budget for the campus.
- 3. The Office of the President has provided access to a \$5M per year loan that is a crucial extension of UC Merced's budget in the years prior to reaching financial stability.
- 4. UC Merced has 19 undergraduate majors that will form the foundation for undergraduate education during the next three years, and nine graduate areas (Exhibit C). In the near-term UC Merced will not develop additional majors that would require new resources and diminish the campus' ability to strengthen current offerings; undergraduate offerings now accommodate approximately 80 percent of student enrollment on the other UC general campuses. The campus will expand the depth of its graduate programs during this period to strengthen research development and facilitate growth in the number of graduate student TA's to aid faculty in the delivery of instruction.
- 5. The campus will encourage enrollment of current and new students in majors that are the most cost effective both in terms of the campus's operational and capital budget needs. While the students' strong interest in the basic and applied sciences is seen as positive for the long term economic needs of the San Joaquin Valley, enlarging the School of Social Sciences, Humanities and Arts is a positive path for the campus's near-term growth needs. The Social Sciences and Management Building in 2011-12 will provide needed space for faculty growth in these disciplines.
- 6. Special emphasis will be placed on hiring faculty for the growth of a broad based undergraduate management program housed in the School of Social Sciences, Humanities and Arts. Management is a popular major on the campus and growth of the management specific faculty will enhance continued growth in its enrollment. Those anticipated faculty hires are encompassed in the numbers displayed in Exhibit D.
- Students who apply to UC Merced typically seek to reside in on-campus housing. The campus strongly feels that additional on-campus housing is needed to accommodate limited growth as projected in this MOU. The low or no-growth scenarios evaluated in this document will make it

difficult to cover the required debt ratios, and the lack of housing will hamper UC Merced's ability to attract students, as was learned in the opening years of 2005 and 2006. In addition, an increase in the number of students living off campus will increase our traffic counts on adjacent streets and will hasten the required transportation mitigation costs. If either of these two scenarios is required, however, the campus would consider a variety of options including requesting tolerance for a temporary lower than standard debt ratio. (Exhibit E).

 This analysis envisions that UC Merced will attain a balanced budget with a student population of approximately 7,000-7,500 FTE, an enrollment that will be reached in the 2015-16 academic year if growth is funded by the State.

#### The Plan for 2010-2013

During the next three years UC Merced will continue to enroll 600 additional students per year. The first year's realization of this plan will be met by enrolling about 1,270 freshmen, 200 transfer and 50 graduate students in the fall semester of 2010 (accompanying display).

Ladder rank faculty (LRF) numbers will grow from the current faculty size of 122 LRF by 50 FTE within the three Schools during the three years of the plan. At least 45 faculty lines will be allocated as part of a three-year rolling plan; five or more lines will be strategically invested through a campus-wide proposal process focusing on the five strategic areas of growth identified in the campus academic vision statement: *Beginning: A Legacy Renewed for the 21<sup>st</sup> Century.* The analysis is based on models of faculty hiring sequenced in either 17+17+16 new faculty every three years or 25+25+0 new faculty every three years. This allocation of new FTE, although it does not reverse the negative trend in the student to ladder rank faculty ratio, does allow for continued programmatic maturation in existing majors across all three Schools that will bolster both the research and teaching missions critical to the campus (Exhibit F). The overall student to faculty ratio is currently weighted toward temporary instructional staff.

This three-year allocation model represents a strategic reorientation of faculty growth from the basic and applied science intensive focus of the last five years to a School of Social Sciences, Humanities and Arts (SSHA) focus that is more representative of our sister UC campuses. Of the first 45 faculty lines, 21 have been earmarked for SSHA, 15 for the School of Natural Sciences (SONS), and nine for the School of Engineering (SOE). Furthermore, redirection of new hires will continue through the decade resulting in 50 percent of FTE in SSHA and management disciplines by 2020. In addition, all three Schools, individually or in partnership, will compete for the five strategic investment lines that will be made available.

The proposed distribution of faculty considers faculty growth, critical faculty retention issues in the Schools and the space constraints in the sciences and engineering. Restricting all faculty hires to the social sciences, humanities and management for the next three years would not take account of the ongoing needs in both engineering and natural sciences. It might also put at risk significant investments of \$45M the campus has already made in these areas, should faculty in the SONS and SOE perceive a campus-wide lack of interest in further development of their areas. The campus has recruited a Dean of Engineering with a vision for the future of the School and who will require some resources to implement his vision through the addition of appropriate faculty lines, albeit under constrained finances.

#### **Accountability Metrics**

To insure that the enrollment growth dollars will be used in the most effective way to build the campus, the following metrics will measure UC Merced's performance during and after the period of the MOU.

First, during the three years of the compact UC Merced will meet its enrollment growth goals for both undergraduate and graduate student enrollment. Through growth of the social sciences, humanities and management programs student enrollment will be increasingly directed to non-laboratory based majors that are more cost effective.

Second, the campus will achieve initial WASC accreditation in July of 2011. This key milestone opens the opportunity for accreditation of engineering programs that are critical for the success of our graduates. It also provides opportunity for the campus to be defined as a research university in the Carnegie classification of universities in 2015.

Third, the campus will continue the positive trajectory for growth in extramural research funding. Although a shift to a more social science oriented campus may reduce the year-over-year increase in research support, the advancement of UC Merced's junior faculty in the sciences and engineering should continue to provide the catalyst for substantial growth. Current research expenditures per FTE are comparable to other general campuses without a medical center.

Fourth, the campus will track undergraduate and graduate retention rates and will continue with success workshops that are aimed at retaining and graduating an increasing number of UC Merced's first generation and at risk students. The initial 2005 cohort was retained at 63 percent after three years and achieved a four-year graduation rate of 33.6 percent. Student Affairs and the Center for Research on Teaching Excellence are implementing a variety of programs, such as summer bridge programs, that are intended to increase retention and graduation rates among our students (Exhibit G).

Fifth, the campus will track enrollment in all majors. The campus will implement the undergraduate management program and the formation of the Gallo entrepreneurship center and will move forward with hiring LRF in management. By the year 2013-14, 50 percent of the students will graduate from SSHA associated majors.

Sixth, the campus will gather and report data reflecting success at providing classes needed by students and comment on how impacted classes were addressed.

Seventh, a critical element for the campus and for the Office of the President is to move the campus to a financial position where there is a reasonable ability to balance UC Merced's budget, pay down its accumulated debt and begin to invest in the future. Financial models indicate that by the 2015-16 academic year a balanced budget would be achieved given growth of the student body at 600 additional students annually, although this is contingent on the State's ability to fund enrollment growth.

Eighth, the campus has invested over \$45M in its current faculty. Recruitment of new faculty and retention of existing faculty is critical to building distinction in academic programs. Success will be assessed by documenting the campus' ability to hire its top-ranked candidates for faculty positions.

#### Beyond 2013

The exercise outlined below looks at the three growth scenarios in the years beyond the duration of the compact (Exhibit H series). Scenario 1 provides the best pathway to UC Merced's future as a research university, albeit with far less than ideal resources. The other two scenarios could recreate many of the issues that plagued the development of UC Riverside and UC Santa Cruz in the 1970s and require a prolonged pathway to maturity and success. Each of the scenarios considers three years of funding at \$6 million per year for student enrollment growth, followed by two years of funding consistent with 600 additional students per year, 300 additional students per year, or no new students per year. The budget for each scenario includes measures that will result in a balanced budget in 2013/14 and 2014/15, and the

probable effects of those measures on the health and quality of the campus. The Office of the President and the campus will annually review the funding available for the next few years and adjust enrollment growth and faculty and staff hiring for the immediate future in the light of funding.

<u>Scenario 1</u> envisions a continuation of the growth rate outlined in the LREP that would build the campus by approximately 600 fully funded students per year. This scenario is contingent on the continued ability to fully fund enrollment growth in the 2010 - 2013 years and to provide additional marginal cost dollars appropriate to annual growth of 600 additional students in the years beyond 2013 (Exhibit H-1).

By all analyses, this is the most effective pathway forward for the campus. It would enable the campus to achieve a positive bottom line in 2015-16 while continuing to grow modestly the faculty, staff and other needs. Ultimately, this scenario would provide additional resources to be invested in UC Merced's future, most importantly allowing an increase in the growth rate of the faculty to bring the campus into closer alignment with the UC norms for the proportion of teaching faculty who are LRF and also help the campus reach its graduate student enrollment goals. This model also provides resources adequate for the campus to meet its debt service obligation for auxiliaries and to begin to pay down the accumulated debt sooner than more restrictive scenarios.

<u>Scenario 2</u> allows for the addition of 300 students per year in the two years immediately following the MOU. It relies on the State's ability to provide new State funding for enrollment growth of 300 students per year (Exhibit H-2).

The campus could continue to operate at this reduced rate of growth for two years, but this scenario would require that the campus address some issues to maintain a slowed, but still positive momentum. This situation would extend the time at which the campus could achieve self-supporting financial stability, likely up to three years compared to scenario one. Growth would slow in all areas. Specific steps that would be required to meet the financial exigencies of a slowed growth rate for two years include: 1) reduced hiring of ladder rank faculty to half the number outlined in the previous scenarios, 2) reduced staff hires comparable to the reduction in the student and faculty growth rates, 3) reduced co-curricular programs for students, 4) curtailed startup packages in higher cost and higher yield areas and additional focus on hiring in lower cost areas in the humanities and social sciences, 5) reassess 10 year capital plans, 6) decreased campus support for graduate education, 7) reduced support for research initiatives that bring large scale multiuser research instrumentation to UC Merced, 8) seek forgiveness and/or alternative repayment schedules for operational debt service.

These actions could trigger a decline in faculty and staff morale and make hiring and retention more difficult. UC Merced would strive to maintain morale and a team spirit, but if the reduced growth persists, it would be difficult to avoid the perception of an institution at risk. This situation could erode the benefits derived through UC Merced's growing success in serving California's most diverse, economically challenged and needy population. The slowed growth scenario likely would have a negative near term impact on fund raising efforts and could erode what has been a high level of community and regional support for the campus.

<u>Scenario 3</u>. While both UC Merced and the Office of the President sincerely hope that this scenario does not happen, circumstances must be evaluated that would occur should state funding not allow further growth. The Office of the President and the campus will continue to work with the state to provide enrollment funding for UC Merced. However, in the undesirable case where UC Merced was required to remain at a population of 5,200 students for up to two years beyond the term of this MOU, owing to a slower than anticipated recovery by the state, all new faculty and staff hires would be eliminated (Exhibit H-3). Faculty who choose to depart would most likely be replaced with non-ladder rank instructors, thus eliminating almost all start up costs. To the extent possible, all vacated staff positions would be left

unfilled except in mission critical cases. Some non-critical services and programs would be curtailed. The campus also would need to defer debt repayments on UC internal loans. The campus would focus on freshman recruitment in order to maximize the flow of dollars to housing and dining services. Of necessity, this would minimize the transfer student enrollment since such students generally do not reside on campus and, with too few LRF, fewer upper division courses may be available. The campus will in all scenarios pursue recruitment of greater numbers of non-resident students to maximize revenues.

Of course, the campus would make every effort to provide a UC-quality education to the students who chose to enroll. The campus would emphasize the smaller campus experience and would explore boosting revenues through extension programs and distance learning arrangements. In concert with other UC campuses, UC Merced would explore lower-cost delivery of some instruction which will require close collaboration with the Academic Senate.

The campus has invested heavily in attracting a senior cadre of faculty who are distinguished in their fields of expertise. Retention of these faculty underpins the quality of the academic and research programs on campus and will greatly influence the campus' ability to retain students, particularly at the graduate level. More recently, an increasing number of junior faculty have been added to the academic ranks. These more recent arrivals have already distinguished themselves by successfully competing for research dollars and several have received national and international prizes or awards for their work. As these junior faculty members achieve tenure, they will be entering the most productive period of their careers and a point when their marketability will increase. The campus greatly wishes to retain these individuals, in whom investments have been substantial, and who are the key to strengthening the core disciplines. Scenario three would significantly jeopardize retention of these outstanding young faculty.

Staff members are equally critical to the successful development and operation of the campus. It is vital that these individuals, who are essential to the success of students and faculty, be retained. It is also clear that as UC Merced grows both student and faculty numbers it will need to increase a staff that is already extremely lean. Scenario three would make retention of staff much more difficult.

A serious danger of this scenario could be the perception throughout the State and nation that UC Merced is an eroding campus that might not attract or retain the enrollment needed to maintain a steady state. Attrition could continue to erode the faculty and staff and the negative perception of a lagging institution would prevent the campus from recruiting UC-quality replacements. This would also place a greater part of the curriculum in the hands of temporary instructional staff and would further depress the research capability of the campus. It would also negatively impact fundraising prospects for the campus. The Office of the President and UC Merced would try to mitigate these perceptions but should such a lack of growth funding persist for a number of years it will be very difficult for a small campus to sustain a consistently positive experience for students and faculty.

UC Merced recently was designated as a Hispanic Serving Institution (HSI) by the federal government. A slowing in the growth of the campus and the expected attendant drop off in enrollment demand and challenges associated with retention of faculty and staff could jeopardize this status and the possibility of procuring additional federal funds in support of both the educational and research missions of the campus. UC Merced's designation as the second UC campus to receive HSI status provides further visibility for the entire system.

With concerted effort on everyone's part, the campus could survive two years of no growth. However, a prolonged time to self-sufficiency and a growing debt would further reduce the campus's ability to achieve financial stability. The campus cannot function as a full UC campus under a prolonged no-growth scenario.

#### **Budgetary Self-Sufficiency**

The campus estimates that achieving an enrollment base of about 7,000-7,500 fully-funded students will enable the campus to reach the point of budgetary self-reliance and the ability to begin the process of decreasing the accumulated debt. It is clearly in everyone's best interest that UC Merced achieves this milestone as quickly and efficiently as possible. Based on the current models, the growth of 600 new students per year would realize a positive income stream in 2015-16. This assumes that we continue with a faculty and staff hiring plan identical to the one proposed for the three years of the compact and that there are no unfunded mandates that further erode our purchasing power (Exhibit H series).

It is important to note that enrollment growth is directly tied to growth in the faculty ranks and that increases in faculty and students will require additional instructional space and offices for faculty. Coupled with the growth in faculty and student numbers, comes the need for additional staff to ensure student and faculty success.

#### Space

The following would be the expected impact on UC Merced's capital program under each scenario. The campus believes that the planned timeframe for housing 4 is important and is based on the need for additional on campus housing to accommodate a population of 5,200 students at approximately the same percentage as UC Merced will be able to accommodate our 4000 students with the opening of housing three this fall.

#### 600 FTE Growth Model:

In March 2010, UC Merced's 10 Year Capital Financial Plan (CFP) and Physical Design Framework (PDF) were accepted by the Regents. One year prior, in March 2009, Merced's Long Range Development Plan (LRDP) was approved by the Regents, of course depending on statefunded enrollment growth and capital support for both plans. Though the enrollment assumptions in these three documents do not directly align with the 600 FTE growth model discussed herein, they track closely enough (11,094 student FTE in AY 20/21 under the CFP, PDF and LRDP vs. 10,277 student FTE in AY 20/21 under the 600 FTE model) that the campus' recent CFP can be considered reflective of the timing, scope and program of capital projects required to support the 600 FTE growth model (Exhibit J-1).<sup>1</sup>

#### **300 FTE Growth Model:**

All State-funded capital projects through the Instruction and Student Academic Services building would be delivered in accordance with the CFP, provided State or other funding is acquired (Exhibit J-2). These projects include:

- Science and Engineering 2;
- Castle 1200 Facilities Renewal;

<sup>&</sup>lt;sup>1</sup> The Academic Surge Building proposed in the March 2010 Capital Financial Plan was to be a \$20MM non-State funded facility. In the intervening months, the campus submitted a PPG for a \$40MM State funded Academic Surge Building. For the purposes of evaluating the enrollment scenarios relative to capital project needs, all scenarios assume the \$20MM project as proposed in the March 2010 Capital Financial Plan.

- Instruction and Student Academic Services Building;
- · Campus Instructional Space Renovations; and
- Site Development and Infrastructure Phases 4, 5, 6, 7, and a reduced scope Phase 8.

Subsequent projects would be postponed as below:<sup>2</sup>

- Instruction & Research Building (\$116MM) would be postponed from an anticipated occupancy date of August 2016 to August 2019.
- Professional School (\$67.4MM) would be postponed from an anticipated occupancy date of August 2019 to at least August 2021.
- Environmental Health and Safety, Facilities Management and Public Safety Facility (\$33MM) would be postponed from an anticipated occupancy date of August 2020 to at least August 2021.
- Central Campus West Site Development and Infrastructure (\$45MM) would be postponed from an anticipated completion date of August 2021 to at least August 2022.
- Classroom & Office Building 2 (\$44.5MM) would be postponed from an anticipated occupancy date of August 2020 to at least August 2021.
- Instruction & Research Building 2 (\$65.9MM) would be postponed from an anticipated occupancy date of August 2021 to at least August of 2022.

The impact of reduced enrollment growth on non-State funded capital projects are more complex than those of State funded projects, as the financial models related to repayment of existing capital project debt have been based on increased student enrollments in accordance with the 2009 LDRP. Nevertheless, reductions in student enrollments would likely result in decreased demand for future non-State capital projects.

#### Zero FTE Growth Model:

Under this model, all State-funded projects beyond the Site Development and Infrastructure Phase 6 project would be deferred until growth resumes (Exhibit J-3. The list of project deferrals includes:

- Site Development and Infrastructure Phase 7 (\$11.7MM)
- Site Development and Infrastructure Phase 8 (\$65MM)

<sup>&</sup>lt;sup>2</sup> The current planning model extends through the 20-21 AY. The office of Capital Planning & Space Management is in the process of extending the model's planning horizon but, at this time, estimates beyond the 20-21 AY do not have the same clarity of those within the scope of the current model.

- Instruction and Student Academic Services Building (\$48.7MM)
- Campus Instructional Space Renovations (\$6.1MM)
- Instruction and Research Building (\$116MM)
- Professional School (\$67.4MM)
- Environmental Health and Safety, Facilities Management and Public Safety Facility (\$33MM)
- Central Campus West Site Development and Infrastructure (\$45MM)
- Classroom and Office Building 2 (\$44.5MM)
- Instruction and Research Building 2 (\$65.9MM)

The impact of a zero growth model on non-State capital projects would be similar in theme to those discussed in the 300 growth model scenario above, although a zero growth model will degrade the ability of campus auxiliaries to repay debt incurred for current capital projects, and may require a restructuring of that debt or assistance with required debt ratios.

#### Conclusion

The next five years are especially critical to the maturation of UC Merced as an independent campus built from the culture of excellence provided by our sister campuses.

The successful recruitment and retention of students, faculty and staff is critical to the UC Merced campus. Significant investments have been made to ensure student enrollment growth and it is critical that the students who begin as freshmen, or who come as transfer students, are able to acquire the courses necessary to graduate in a timely manner. It is also essential that the campus develop the educational, and co-curricular facilities that students reasonably expect to find while attending a UC campus. On the other hand, the campus has to prepare for whatever funding becomes available, even if inadequate funding continues for some years. Exhibit K provides a summary of the most critical data for each of the three growth scenarios to address different funding levels.

As the campus weathers the anticipated period of continued austerity, it is also critical that faculty, students and staff perceive a solid future of growth on the campus, although funding is uncertain for such growth. UC Merced is the only research university in the San Joaquin Valley and will play an increasingly important role in addressing the severe economic plight of the region. The campus is proud of its record in attracting a high degree of ethnic and geographic diversity among the student body, a factor that argurs well for sound future growth and is beneficial to the UC system. The Office of the President and the campus are committed to securing funding for continuing growth, but this remains a challenging task.

The agreement outlined in this MOU extends the opportunity for campus development that is so crucial for the future of the State and for that of the San Joaquin Valley. UC Merced already has had a significant and positive impact on one of the poorest and most underdeveloped regions of California. The presence of a UC campus in this area has been a beacon of hope and a catalyst for enhanced college preparedness by students from throughout the region, while the research of the faculty is already having an impact on many of the area's most pressing problems.

We are very appreciative to the Office of the President for the concern and support voiced for UC Merced. This strong interest from systemwide leaders makes the campus optimistic about the future of the campus and the region.

13/10

Date

Mark G Yudof President University of California

Steve Kang Chancellor University of California, Merced

Date

# Exhibit A Enrollment - FTE and Applications



# Exhibit B Research Expenditures

# UC Merced Research Awards by Fiscal Year (Millions)



# Exhibit C

# School of Engineering Undergraduate Majors

Bioengineering Computer Science & Engineering Environmental Engineering Materials Science & Engineering Mechanical Engineering

<u>Graduate Studies- Ph.D. and</u> <u>M.S. Programs</u>

Biological Engineering and Small Scale Technologies Electrical Engineering and Computer Science Environmental Systems Mechanical Engineering and Applied Mechanics School of Natural Sciences Undergraduate Majors

**Undergraduate Majors and Graduate Programs** 

Applied Mathematics Biological Sciences Chemical Sciences Earth Systems Sciences Physics

<u>Graduate Studies – Ph.D. and</u> <u>M.S. Programs</u>

Applied Mathematics Physics and Chemistry Quantitative and Systems Biology School of Social Sciences, Humanities and Arts Undergraduate Majors

Anthropology Cognitive Sciences Economics History Literature and Cultures Management Political Sciences Psychology Sociology

<u>Graduate Studies – Ph.D.</u> and M.S. Programs

Social and Cognitive Sciences World Cultures UCMERCED



# Exhibit E

# Beds Available and Anticipated Demand



# Exhibit F

# Student/Ladder Rank Faculty Ratio



# Exhibit G

# Actual and Projected -Retention and Graduation Rates



EXHBIT H1		AGR	EMENT WITH UC	OP							
UC MERCED CORE FUNDING					◀	· · ·	600	FTE Enrollment Gr	owth		>
Budget Plan Scenario 1A: 600 FTE 50 Faculty Recruitments	FY 2010-1	1	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
Over Three Year Span							No. A Star Bernera - St				
Comprehensive Picture Based on \$36M Agreement Over Three Years	1										
Total Student FTE	4327		5063	5716	6343	6963	7570	8176	8783	9403	10.023
SOURCES OF FUNDS			••••		0010						
BASE STATE APPROPRIATION	\$ 10.00	000	\$ 10,000,000	\$ 10.000.000	\$ 10.000.000	\$ 10,000,00	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10.000.000 s	\$ 10.000.000
ENROLIMENT SUPPORT	\$ 34.67	191	\$ 40 670 191	\$ 46 670 191	\$ 51 470 191	\$ 56 270 19	1 \$ 61,070,191	\$ 65,870,191	\$ 70 670 191	\$ 75,470,191	\$ 80 270 191
STUDENT FEE INCOME	\$ 28.25	000	\$ 33 797 000	\$ 38,411,000	\$ 42,694,000	\$ 46.912.00	0 \$ 51,017,000	\$ 55 113 000	\$ 59,221,000	\$ 63,421,000 S	\$ 67 619 000
	\$ 14.77	502	\$ 17 230 619	\$ 10 545 135	\$ 21 710 272	\$ 23,865.10	7 \$ 25,005,004	\$ 28 123 267	\$ 30,250,630	\$ 32 424 352 S	\$ 34 599 791
	\$ 5.00	000	\$ 5,000,000	¢ 10,040,100	\$ 5,000,000	\$ 5,000,10	5 000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000 S	\$ 5,000,000
	\$ 5,00	000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,00 \$ 5,000,00	,000,000	\$ 3,000,000	3 3,000,000	¢ 0,000,000 (	\$ 3,000,000
	9 0,00	,000	\$ 3,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,00	A 42 947 000	£ 44.007.000	e 44.894.000	e 15.045.000 1	15 456 000
OTHER (ICR; STIP; Lottery; Searles, for ex.)	a 15,11:	,000	12,815,000	\$ 13,200,000	\$ 13,624,000	\$ 13,947,00	5 13,017,000	14,227,000	\$ 14,034,000	\$ 15,045,000	p 13,450,000
TOTAL CORE REVENUE	\$ 112,81	,783	\$ 124,512,810	\$ 137,832,326	\$ 149,498,463	\$ 160,994,29	\$ 166,900,095	\$ 178,333,458	\$ 189,775,821	\$ 201,360,543	\$212,944,982
USE OF FUNDS							See State of the state				
INSTRUCTION AND RESEARCH	\$ 34.72	.000	\$ 39,585,000	\$ 43,964,000	\$ 45.879.000	\$ 49,950.00	\$ 52,982,000	\$ 55,977,000	\$ 59,651,000	\$ 62,964,000	\$ 66,220,000
ACADEMIC PLANNING SUPPORT & LIBRARY	\$ 12.63	956	12 949 294	13 224 883	\$ 13,490,730	\$ 13 753 84	\$ 13,952,000	\$ 14,201,000	\$ 14 449.000	\$ 14.705.000 \$	\$ 14,959,000
STUDENT AFFAIRS	\$ 910	000	5 9,500,000	10 644 000	\$ 11 285 000	\$ 11,917,00	\$ 12,533,000	\$ 13147.000	\$ 1 764 00	\$ 14.396.000	\$ 15.028.000
STUDENT AID	\$ 14.77	592	17 230 619	19 545 135	\$ 21 710 272	\$ 23,865,10	7 \$ 25,995,904	\$ 28 123 267	\$ 30,250,630	\$ 32,424,352	\$ 34 599 791
GENERAL ADMIN AND SERVICES	\$ 35.98	128	38,656,922	41 562 922	\$ 43,691,483	\$ 46 323 66	3 \$ 46 786 903	\$ 47 722 641	5 47 961 254	\$ 48 920 479 S	49 898 889
	¢ 00,00	746	2 2 2 2 6 806	2 4 40 306	\$ 2 661 906	¢ -0,020,00	\$ 5,055,504	\$ 5580.686	\$ 5,826,501	6 063 316 S	6 300 131
OTHER (LICRE: Addi Staffing: Public Service, for ex.)	¢ 1,000	000	\$ 10,206,000 (	11 272 110	\$ 11 030 000	\$ 12 207 17	\$ 11 595 000	\$ 11 160 000	\$ 11 088 311	\$ 13,079,190 \$	
	φ 3,50	,000	10,200,000	¢ 11,272,110	φ 11,303,000	φ 12,237,17		• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • •		
TOTAL COMMITMENTS	\$ 118,240	,421	<b>130,454,732</b>	142,662,447	\$ 150,657,381	\$ 161,053,14	6 \$ 168,900,311	\$ 175,920,594	\$ 182,990,696 \$	\$ 192,552,337	202,924,811
BALANCE AFTER PLANNED SAVINGS	(\$4,856	,638)	(5,371,921)	\$ (4,260,120)	\$ (900,421)	\$ (58,84	3) \$ 499,784	\$ 4,802,864	\$ 10,146,209	\$ 13,450,898	\$ 19,020,171
CUMULATIVE BALANCE/DEFICIT			(\$10,228,559)	(\$14,488,679)	(\$15,389,100)	(\$15,447,94	3) (\$14,948,164)	(\$10,145,299)	\$910	\$13,451,808	\$32,471,979
				3			Positive Bottom Line	at	Accumulated		
							7570 FTE in 2015-	16	FTE in 2017-18		
PROJECTED REVENUE: RELIANCE ON STATE FUNDING AND FEE INCC	METOMEETI	XPEC I	ED COMMITMENT	15			2		Constant Account of Constant of Constant		
PERCENT OF TOTAL - Sources of Projected Funds											
STATE/ENROLLMENT SUPPORT		40%	41%	41%	41%	41	% 43%	43%	43%	42%	42%
FEE INCOME		25%	27%	28%	29%	29	% 31%	31%	31%	31%	32%
STUDENT AID		13%	14%	14%	15%	15	% 16%	16%	16%	16%	16%
SUPPLEMENT STATE APPROPRIATION		4%	4%	4%	3%	3	% 3%	3%	3%	2%	2%
LINE OF CREDIT WITH UCOP		4%	4%	4%	3%	3	%				
OTHER (ICR; STIP; Lottery; Searles, for ex.)		13%	10%	10%	9%	9	% 8%	8%	8%	7%	7%
PERCENT OF TOTAL - Use of Projected Funds											
INSTRUCTION AND RESEARCH		29%	30%	31%	30%	31	% 31%	32%	33%	33%	33%
ACADEMIC PLANNING, SUPPORT & LIBRARY		11%	10%	9%	9%	9	% 8%	8%	8%	8%	7%
STUDENT AFFAIRS		8%	7%	7%	7%	7	% 7%	.7%	8%	7%	7%
STUDENT AID		12%	13%	14%	14%	15	% 15%	16%	17%	17%	17%
GENERAL ADMIN AND SERVICES		30%	30%	29%	29%	29	% 28%	27%	26%	25%	25%
DEBT SERVICE (Core Operating)		1%	2%	2%	2%	2	% 3%	3%	3%	3%	3%
OTHER (UCRP; Addl Staffing; Public Service, for ex.)		8%	8%	8%	8%	8	% 7%	6%	6%	7%	8%

• •

#### ASSUMPTIONS:

A. Enrollment growth is based on growth of 600 FTE per year

B. Student enrollment support is valued at \$10,000 per FTE with expected \$6M-\$12M-\$18M over the next 3 years. Reduced to \$8000 in out years. Revenue based on exactly 'plus 600 FTE'.

C. \$6.3 million for student enrollment support received in FY 2008-09 will continue in the base funding for UC Merced.

D. Student fees raised 15% 2009-10 midyear increase Ed Fee Only; Grad Fees flat; 15% Ed Fee in 2010-11; flat in out years; Reg Fee flat at 2009-10 levels.

E. Ongoing OMP remains flat.

F. Student/faculty workload ratio is 18.7:1 to derive Faculty FTE generated; actual approved recruitments based on 17-17-16 plan; same faculty recruitment plan in out years.

EXHIBIT H2		GREE	MENT WITH UC	OP											
UC MERCED CORE FUNDING							<			300		E Enrollment Grow	rth		→
Budget Plan Scenario 2B: 300 FTE 50 Faculty Recruitments	FY 2010-1		FY 2011-12	F	Y 2012-13		FY 2013-14	FY 2014	1-15	FY 2015-16	F	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
Over Three Year Span; Reduced Hires in Out Years											Sec.				
Comprehensive Picture Based on \$36M Agreement Over Three Years	1														
Total Student FTE	4327		5063		5716		6026	6344	ŧ.	6646	- 20	6946	7247	7539	7,833
SOURCES OF FUNDS											4				
BASE STATE APPROPRIATION	\$ 10,000	000 \$	10,000,000	\$	10,000,000	\$	10,000,000	\$ 10,00	0,000 \$	10,000,000	\$	10,000,000 \$	10,000,000 \$	10,000,000	\$ 10,000,000
ENROLLMENT SUPPORT	\$ 34,670	191 \$	40,670,191	\$	46,670,191	\$	49,070,191	\$ 51,47	0,191 \$	53,870,191	\$	56,270,191 \$	58,670,191 \$	61,070,191	\$ 63,470,191
STUDENT FEE INCOME	\$ 28,255	000 \$	\$ 33,797,000	\$	38,411,000	\$	40,418,000	\$ 42,46	9,000 \$	44,394,000	\$	46,316,000 \$	48,262,000 \$	50,144,000	\$ 52,047,000
STUDENT AID ALLOCATIONS	\$ 14,773	592	17,230,619	\$	19,545,135	\$	20,621,694	\$ 21,73	9,461 \$	22,812,586	.\$	23,868,541 \$	24,910,760 \$	25,920,356	\$ 26,931,669
SUPPLEMENT STATE APPROPRIATION	\$ 5,000	000 \$	5,000,000	\$	5,000,000	\$	5,000,000	\$ 5,00	0,000 \$	5,000,000	\$	5,000,000 \$	5,000,000 \$	5,000,000	\$ 5,000,000
LINE OF CREDIT WITH UCOP	\$ 5,000	000	5,000,000	\$	5,000,000	\$	5,000,000	\$ 5,00	0,000		198				
OTHER (ICR; STIP; Lottery; Searles, for ex.)	\$ 15,115	000	12,815,000	\$	13,206,000	\$	13,511,000	\$ 13,72	8,000 \$	13,419,000	\$	13,596,000 \$	13,773,000 \$	13,945,000	\$ 14,118,000
TOTAL CORE REVENUE	\$ 112,813	783 💲	124,512,810	\$	137,832,326	\$	143,620,885	\$ 149,40	6.652 \$	149,495,777	\$	155,050,732 \$	160,615,951 \$	166,079,547	\$ 171,566,860
											师				
INSTRUCTION AND RESEARCH	\$ 34 729	nnn «	39 585 000	s	43 964 000	\$	44 375 000	\$ 42.44	4 000 ¢	44 995 000	¢	45 987 000 \$	48 268 000	49 247 000	\$ 51 503 000
ACADEMIC PLANNING SUPPORT & LIBRARY	\$ 12.638	956 \$	12 949 294	ŝ	13 224 883	ŝ	13 361 730	\$ 13.50	1,000 \$ 0.842 \$	13 574 000	\$	13 697 000 \$	13 820 000 \$	13 940 000	\$ 14,061,000
STUDENT AFFAIRS	\$ 9100	000 \$	\$ 9500,000	ŝ	10 644 000	ŝ	10 901 000	\$ 11.16	80,042 \$	11 415 000	\$	11 660 000 \$	11 906 000 \$	12 141 000	\$ 12,379,000
STUDENT AID	\$ 14,773	592 \$	17,230,619	ŝ	19.545.135	s	20.621.694	\$ 21.73	9 461 \$	22 812 586	s	23.868.541 \$	24 910 760 \$	25,920,356	\$ 26.931.669
GENERAL ADMIN AND SERVICES	\$ 35,984	128 \$	38 656 922	s	41.562.922	ŝ	43.691.483	\$ 45.94	1666 \$	46 401 083	\$	46.865.093 \$	47 333 744 \$	47 807 082	\$ 48,285,153
DEBT SERVICE (Core Operating)	\$ 1.630	746 \$	2,236,896	ŝ	2,449,396	s	2.661.896	\$ 2.94	6.361 \$	5.055.504	\$	5.589.686 \$	5.826.501 \$	6.063.316	\$ 6,300,131
OTHER (UCRP; Addl Staffing; Public Service, for ex.)	\$ 9,384	000 \$	10,296,000	\$	11,272,110	\$	10,904,752	\$ 11.84	5.124 \$	9,786,708	\$	10,529,539 \$	11,473,656 \$	11,619,095	\$ 13,365,898
TOTAL COMMITMENTS	\$ 118,240	421 \$	130,454,732	\$ :	142,662,447	\$	146,517,555	\$ 149,58	5,454 \$	154,039,881	15	158,196,859 \$	163,538,661 \$	166,737,849	\$ 172,825,851
BALANCE AFTER PLANNED SAVINGS	(\$4,856	538) <b>s</b>	(5.371.921)	\$	(4.260.120)	\$	(3.672.421)	\$ (99	4 926) \$	(994,249)	\$	57.454 S	121.209 \$	1.410.898	\$ 1.418.599
			(\$10 229 559)	/4	\$14 488 679)	¢	(18 161 100)	¢ (10.15	6 026) @	(20 150 275)		(20.002.821) \$	(10 071 611) \$	(18 560 713)	\$ (17 142 115)
CONDEXTIVE DALARDEDETION			(\$10,220,555)	14	\$14,400,0137	Ψ	(10,101,100)	φ (19,10	0,020) φ	(20,150,275)	<b>e</b>	(20,032,021) \$	(19,971,011) 4	(10,000,710)	\$ (17,142,113)
										P	ositive	e Bottom Line at FTE FTE in 2016-17		Acci Deficit Re	imulated duced But Not
											Let 1 million				Colecci de la colección de la
PROJECTED REVENUE: RELIANCE ON STATE FUNDING AND FEE INC	OME TO MEET	EXPEC	CTED COMMITM	IENT	S										
PERCENT OF TOTAL - Sources of Projected Funds															
STATE/ENROLLMENT SUPPORT		10%	41%		41%		41%		44%	43%		43%	43%	43%	43%
FEE INCOME		25%	27%		28%		28%		28%	30%		30%	30%	30%	30%
STUDENT AID		13%	14%		14%		14%		15%	15%		15%	16%	16%	16%
SUPPLEMENT STATE APPROPRIATION		4%	4%		4%		3%		3%	3%		3%	3%	3%	3%
LINE OF CREDIT WITH UCOP		4%	4%		4%		3%		3%						
OTHER (ICR: STIP: Lottery: Searles, for ex.)		13%	10%		10%		9%		9%	9%		9%	9%	8%	8%
									•						
PERCENT OF TOTAL - Use of Projected Funds															
INSTRUCTION AND RESEARCH		29%	30%		31%		30%		28%	29%		29%	30%	30%	30%
ACADEMIC PLANNING, SUPPORT & LIBRARY		1%	10%		9%		9%		9%	9%		9%	8%	8%	8%
STUDENT AFFAIRS		8%	7%		7%		7%		7%	7%		7%	7%	7%	7%
STUDENT AID		2%	13%		14%		14%		15%	15%		15%	15%	16%	16%
GENERAL ADMIN AND SERVICES		30%	30%		29%		30%		31%	30%		30%	29%	29%	28%
DEBT SERVICE (Core Operating)		1%	2%		2%		2%		2%	3%		4%	4%	4%	4%
OTHER (UCRP;Addl Staffing; Public Service, for ex.)		8%	8%		8%		7%		8%	6%		7%	7%	7%	8%

• •

#### ASSUMPTIONS:

A. Enrollment growth is based on growth of 300 FTE per year

B. + Student enrollment support is valued at \$10,000 per FTE with expected \$6M-\$12M-\$18M over the next 3 years. Reduced to \$8000 in out years. Revenue based on exactly 'plus 300 FTE'.

C. \$6.3 million for student enrollment support received in FY 2008-09 will continue in the base funding for UC Merced.

D. Student fees raised 15% 2009-10 midyear increase Ed Fee Only; Grad Fees flat; 15% Ed Fee in 2010-11; flat in out years; Reg Fee flat at 2009-10 levels.

E. Ongoing OMP remains flat.

F. Student/faculty workload ratio is 18.7:1 to derive Faculty FTE generated; actual approved recruitments based on 17-17-16 plan; halved faculty recruitment plan in out years.

EXHIBIT H3	AGRI	EEMENT WITH UC	OP								
UC MERCED CORE FUNDING				1			Zero I	TE Enrollment Growt	h ———		>
Budget Plan Scenario 3A: Zero (0) FTE Growth 50 Faculty Recruitments	FY 2010-11	FY 2011-12	FY 2012-13		FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
Over Three Year Span; Zero (0) Hires in Out Years											
Comprehensive Picture Based on \$36M Agreement Over Three Years											
Total Student FTE	4327	5063	5716		5725	5727	5720	5725	5706	5671	5,629
SOURCES OF FUNDS											-,
BASE STATE APPROPRIATION	\$ 10,000,000	\$ 10.000.000	\$ 10,000,000	5	10.000.000	\$ 10.000.000 \$	10.000.000	10.000.000	10.000.000 \$	\$ 10.000.000	\$ 10.000.000
ENROLLMENT SUPPORT	\$ 34,670,191	\$ 40,670,191	\$ 46,670,191	\$	46,670,191	\$ 46.670.191 \$	46.670.191	46,670,191	46.670.191	46.670.191	\$ 46,670,191
STUDENT FEE INCOME	\$ 28,255,000	\$ 33,797,000	\$ 38,411,000	\$	38.641.590	\$ 38,421,410 \$	38,515,200	37,961,860	37.258.000	\$ 36,833,000	\$ 36,369,000
STUDENT AID ALLOCATIONS	\$ 14,773,592	\$ 17,230,619	\$ 19,545,135	s	19,588,060	\$ 19.620.683 \$	19.620.683	19.643.004	19.562.305	5 19.409.492	\$ 19,222,339
SUPPLEMENT STATE APPROPRIATION	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$	5,000,000	\$ 5,000,000 \$	5,000,000 \$	5,000,000 \$	5,000,000	5,000,000	\$ 5,000,000
LINE OF CREDIT WITH UCOP	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$	5,000,000	\$ 5,000,000 \$	5,000,000		-,		
OTHER (ICR; STIP; Lottery; Searles, for ex.)	\$ 15,115,000	\$ 12,815,000	\$ 13,206,000	\$	13,325,000	\$ 13,464,000 \$	8,056,000 \$	13,058,000	13,051,000	13,038,000	\$ 13,023,000
TOTAL CORE REVENUE	\$ 112 813 783	\$ 124 512 810	\$ 137,832,326	\$	138 224 841	\$ 138 176 284 \$	132 862 074	132 333 055	131 541 496	130 950 683	\$ 130 284 530
		+ 121,012,010	,	ľ	100,221,011	• 100,110,204 •	102,002,014	102,000,000 4	. 101,041,400 4	100,000,000	• 100,201,000
	¢ 24 700 000	e 20 E0E 000	¢ 42.064.000		40.004.000	* 00.040.000 *	20.054.000	00.004.000	00.740.000 4	00.070.000	e 00 000 000
	\$ 34,729,000	\$ 39,385,000	\$ 43,904,000 \$ 13,334,000	2	43,034,000	\$ 36,912,000 \$	30,854,000 \$	30,854,000 \$	35,743,000	5 30,072,000	\$ 30,000,000 \$ 12,156,000
ACADEMIC PLANNING, SUPPORT & LIBRART	a 12,038,950		\$ 10,224,000	2	13,237,730	\$ 13,247,842 \$	13,194,000 \$	13,196,000 \$	5 13,188,000 \$	13,1/4,000	\$ 13,150,000
	\$ 9,100,000	\$ 9,000,000	\$ 10,044,000	1	10,558,000	\$ 10,422,000 \$	10,295,000 \$	10,489,520 \$	10,540,440	10,040,440	\$ 10,591,300
	\$ 14,773,392	¢ 29,656,022	\$ 19,545,155 \$ 41,562,022	2	19,568,060	\$ 19,020,083 \$	19,020,083 3	19,043,004 3	19,002,300 1	19,409,492	\$ 19,222,339 \$ 45 195 500
DERT SEDVICE (Core Operating)	¢ 33,564,126	a 30,030,922 a 332,000	\$ 41,302,922 \$ 2,440,206	1.	43,091,403	a 40,941,000 a 0 046 364 ft	43,423,321 3	43,037,730 3	0 44,290,334 4 E 000 504 4	6 44,/39,29/	
OTHER (LICRE: Add. Staffing: Public Service, for ex.)	\$ 0,000,740	\$ 2,230,050 \$ 10,206,000	\$ 11 272 110	l.	2,001,090	a 2,940,001 a	7 750 000 \$	7750,000 \$	0,020,001 4	7 002 546	¢ 0,300,131
OTTER (OORF, Aud Staning, Fubic Service, for ex.)	\$ 9,564,000	\$ 10,290,000	φ 11,272,110	, e	0,430,108	\$ 1,009,000 \$	1,159,000 4	1,159,000 \$	1,010,000 4	1,993,010	a 0,110,419
TOTAL COMMITMENTS	\$ 118,240,421	\$ 130,454,732	\$ 142,662,447	\$	141,807,337	\$ 136,749,552 \$	136,201,708 \$	137,388,966 \$	138,031,965 \$	138,592,061	\$ 139,169,939
BALANCE AFTER PLANNED SAVINGS	(\$4,856,638)	\$ (5,371,921)	\$ (4,260,120)	\$	(3,582,496)	\$ (3,955,926) \$	(5,550,249) \$	(5,055,911) \$	(6,490,469) \$	6 (7,641,378)	\$ (8,885,409)
CUMULATIVE BALANCE/DEFICIT		(\$10,228,559)	(\$14,488,679)		(\$18,071,175)	(\$22,027,101)	(\$27,577,350)	(\$32,633,261)	(\$39,123,729)	(\$46,765,107)	(\$55,650,515)
										N	
										Significant	accumulated
										debt by	2019-20
										MARRIE PROVINCIA	RED STOLEMENT OF COMPANY
PROJECTED REVENUE: RELIANCE ON STATE FUNDING AND FEE INCOM	VE TO MEET EXPECT	TED COMMITMEN	TS								
PERCENT OF TOTAL - Sources of Projected Funds											
STATE/ENROLLMENT SUPPORT	40%	41%	41%		41%	41%	43%	43%	43%	43%	43%
FEE INCOME	25%	27%	28%		28%	28%	29%	29% 3	28%	28%	28%
STUDENT AD	13%	14%	14%		1494	1.494	15%	15%	15%	15%	15%
	40/	494	404		40/	1470	40/	10 %	1076	40/	40/
	470	470	470		470	470	470	470	470	470	470
OTHER (ICR: STID: Letter: Sender for ev.)	470	470	470		470	4%	470	0%	0%	0%	0%
OTHER (ICR, STIP; Lollery; Seanes, lor ex.)	13%	10%	10%		10%	10%	0%	10%	10%	10%	10%
PERCENT OF TOTAL - Use of Projected Funds											
INSTRUCTION AND RESEARCH	29%	30%	31%		31%	27%	27%	27%	27%	26%	26%
ACADEMIC PLANNING, SUPPORT & LIBRARY	11%	10%	9%		9%	10%	10%	10%	10%	10%	9%
STUDENT AFFAIRS	8%	7%	7%		7%	8%	8%	8%	8%	8%	8%
STUDENT AID	12%	13%	14%		14%	14%	14%	14%	14%	14%	14%
GENERAL ADMIN AND SERVICES	30%	30%	29%		31%	34%	32%	32%	32%	32%	32%
DEBT SERVICE (Core Operating)	1%	2%	2%		2%	2%	4%	4%	4%	4%	5%

6%

6%

6%

6%

6%

4.4

#### ASSUMPTIONS:

A. Enrollment growth is based on growth of zero (0 FTE) per year in outyears.

OTHER (UCRP;Addl Staffing; Public Service, for ex.)

B. Student enrollment support is valued at \$10,000 per FTE with expected \$6M-\$12M-\$18M over the next 3 years.

C. \$6.3 million for student enrollment support received in FY 2008-09 will continue in the base funding for UC Merced.

D. Student fees raised 15% 2009-10 midyear increase Ed Fee Only; Grad Fees flat; 15% Ed Fee in 2010-11; flat in out years; Reg Fee flat at 2009-10 levels.

E. Ongoing OMP remains flat.

F. Student/faculty workload ratio is 18.7:1 to derive Faculty FTE generated; actual approved recruitments based on 17-17-16 plan; zero (0 FTE) faculty recruitment plan in out years.

8%

8%

8%

6%

6%

# Our Space Challenge and the10 Year Capital Plan



UCMERCED

Exhibit I

# Exhibit J CPEC Analyses

J-1 CPEC analysis for 600 growth J-2 CPEC analysis for 300 growth J-3 CPEC analysis for 000 growth

See accompanying excel files.



### Exhibit J-1

### DRAFT CPEC SPACE ANALYSIS (2010-11 to 2020-21)

Draft as of: April 23, 2010		Based	on Historica	al Data					Based on L	Jpdated 600	FTE Growt	h Enrollmer	t Scenario			
	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
TOTAL STUDENT FTE	862	1,285	2,008	2,780	3,420	4,140	4,828	5,478	6,095	6,699	7,303	7,886	8,473	9,077	9,680	10,277
Annual enrollment growth		423	723	772	640	720	688	650	617	604	604	583	587	604	603	597
Annual % enrollment growth	004	49%	56%	38%	23%	21%	17%	13%	11%	10%	9%	8%	7%	7%	7%	6%
Annual enrollment growth	024	382	1,000 670	2,017	505	<b>3,900</b> 715	<b>4,34</b> 7	<b>5,155</b>	5,751	<b>0,202</b>	<b>0,022</b>	7,344 522	7, <b>070</b>	6,413 5/3	<b>0,932</b>	9,402 530
Annual % enrollment growth	_	14.7%	26.2%	28.3%	23.0%	22.5%	16.6%	13.4%	11.2%	9.6%	8.6%	7.7%	7.2%	6.9%	6.4%	5.9%
UG Majors by School		11.170	20.270	20.070	20.070	22.070	10.070	10.170	11.270	0.070	0.070	1.170	7.270	0.070	0.170	0.07
ENG			18.8%	20.5%	19.1%	19.1%	18.6%	18.1%	18.1%	18.1%	17.5%	17.0%	16.5%	16.0%	15.5%	15.0%
NS			37.7%	34.9%	36.5%	36.6%	36.2%	35.7%	34.9%	34.9%	34.5%	34.5%	34.5%	35.0%	35.0%	35.0%
SSHA			43.5%	44.6%	44.4%	44.3%	45.2%	46.2%	47.0%	47.0%	48.0%	48.5%	49.0%	49.0%	49.5%	50.0%
Graduate	38	79	124	164	235	240	281	323	364	417	481	542	603	664	728	795
Annual enrollment growth	-	41	45	40	51	5	41	42	41	53	64	61	61	61	64	67
Annual % enrollment growth	-	108.2%	56.7%	32.3%	31.3%	2.0%	17.1%	14.9%	12.7%	14.6%	15.3%	12.7%	11.3%	10.1%	9.6%	9.2%
% Grad enrollment	-	6.1%	6.2%	5.9%	6.9%	5.8%	5.8%	5.9%	6.0%	6.2%	6.6%	6.9%	7.1%	7.3%	7.5%	7.7%
Total Eaculty ETE	62	105	126	195	200	221	271	206	220	272	405	427	470	502	526	560
Ladder	45	69	83	110	118	135	152	169	185	202	219	235	252	269	285	303
Ladder Faculty Growth	10	24	14	27	8	17	17	17	16	17	17	16	17	17	16	16
% Ladder Rank of faculty	71.4%	65.7%	61.0%	59.5%	59.0%	58.2%	56.0%	55.2%	54.5%	54.2%	54.0%	53.7%	53.6%	53.4%	53.1%	52.9%
Grad Student/Ladder Faculty	0.84	1.14	1.49	1.49	1.99	1.78	1.85	1.91	1.97	2.07	2.20	2.31	2.40	2.47	2.56	2.64
Total Lad Fac FTE by School																
ENG			24	28	26	29	32	34	37	39	42	44	47	49	52	54
%			28%	25%	22%	22%	21%	20%	20%	19%	19%	19%	19%	18%	18%	18%
NS			32	41	47	52	56	61	65	70	74	78	82	86	90	93.5
% \$\$UA			38%	37%	39%	38%	37%	36%	35%	34%	34%	33%	32%	32%	31%	31%
%			29	42	40 30%	40%	42%	42%	43%	00 44%	97	45%	45%	46%	46%	40.2
Strategic Hires			-	-	-		7 <u>م</u> 1	-1270	-1070		6	-570	4070 Q	11	12	13
%			0%	0%	0%	0%	1%	2%	2%	2%	3%	3%	4%	4%	4%	4%
Lecturer	18	36	53	75	82	97	119	137	155	171	186	203	218	234	251	268
Stu/Fac ratio	13.7	12.2	14.8	15.0	17.1	17.9	17.8	17.9	18.0	18.0	18.0	18.0	18.0	18.1	18.1	18.1
Post Docs	6	11	9	17	18	24	31	39	47	56	66	76	87	100	113	126
Ratio Post Docs to FTE Faculty	0.10	0.10	0.07	0.09	0.09	0.10	0.11	0.13	0.14	0.15	0.16	0.17	0.19	0.20	0.21	0.22
Annual Post Doc Growth		5	(2)	8	1	6	7	8	8	9	10	10	11	12	13	14
IAS	15	26	36	50	64 50	93	109	123	136	149	161	1/3	185	198	211	223
Net New TA	55	40	52 10	52 14	50 14	42 29	42	42 14	42 13	42	42	42	43	42	42	43
Total Staff FTE	349	377	486	563	629	671	812	948	1,085	1,229	1,376	1,530	1,691	1,860	2,037	2,219
Ratio Staff FTE / Fac FTE	5.5	3.6	3.6	3.0	3.1	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9
Net New Staff FTE		28	109	77	66	42	141	136	137	144	147	154	161	169	177	182
Annual % Staff FTE Growth		8%	29%	16%	12%	7%	21%	17%	14%	13%	12%	11%	11%	10%	10%	9%
		0,0				. ,.										
CPEC I&R Analysis	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
CPEC I&R Analysis	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
CPEC I&R Analysis Classroom Allowance	<b>05-06</b> 4,961	06-07 7,369	07-08	08-09	<b>09-10</b> 19,582	<b>10-11</b> 23,757	<b>11-12</b> 27,703	<b>12-13</b> 31,428	<b>13-14</b> 34,962	<b>14-15</b> 38,408	<b>15-16</b> 41,840	<b>16-17</b> 45,154	<b>17-18</b> 48,491	<b>18-19</b> 51,926	<b>19-20</b> 55,353	<b>20-21</b> 58,741
CPEC I&R Analysis Classroom Allowance Inventory Date	<b>05-06</b> 4,961 28,273 23,212	06-07 7,369 28,273 20,004	07-08 11,517 28,273	08-09 15,951 28,273	09-10 19,582 28,273	<b>10-11</b> 23,757 30,633	<b>11-12</b> 27,703 30,633 2,020	<b>12-13</b> 31,428 30,633 (705)	<b>13-14</b> 34,962 30,633 (4,220)	<b>14-15</b> 38,408 30,633 (7,775)	<b>15-16</b> 41,840 40,633 (1,207)	<b>16-17</b> 45,154 40,633 (4,521)	<b>17-18</b> 48,491 42,433 (6.058)	<b>18-19</b> 51,926 42,433 (0,402)	<b>19-20</b> 55,353 58,358	<b>20-21</b> 58,741 72,608
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy	05-06 4,961 28,273 23,312 570%	06-07 7,369 28,273 20,904 384%	07-08 11,517 28,273 16,756 245%	08-09 15,951 28,273 12,322 177%	09-10 19,582 28,273 8,691 144%	10-11 23,757 30,633 6,876 129%	11-12 27,703 30,633 2,930 111%	<b>12-13</b> 31,428 30,633 (795) <b>97%</b>	<b>13-14</b> 34,962 30,633 (4,329) <b>88%</b>	<b>14-15</b> 38,408 30,633 (7,775) <b>80%</b>	<b>15-16</b> 41,840 40,633 (1,207) <b>97%</b>	<b>16-17</b> 45,154 40,633 (4,521) <b>90%</b>	17-18 48,491 42,433 (6,058) 88%	<b>18-19</b> 51,926 42,433 (9,493) <b>82%</b>	<b>19-20</b> 55,353 58,358 3,005 <b>105%</b>	<b>20-21</b> 58,741 72,608 13,867 <b>124%</b>
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory	05-06 4,961 28,273 23,312 570%	06-07 7,369 28,273 20,904 384%	07-08 11,517 28,273 16,756 245%	08-09 15,951 28,273 12,322 177%	09-10 19,582 28,273 8,691 144%	10-11 23,757 30,633 6,876 129%	11-12 27,703 30,633 2,930 111%	<b>12-13</b> 31,428 30,633 (795) <b>97%</b>	<b>13-14</b> 34,962 30,633 (4,329) <b>88%</b>	<b>14-15</b> 38,408 30,633 (7,775) <b>80%</b>	<b>15-16</b> 41,840 40,633 (1,207) <b>97%</b>	<b>16-17</b> 45,154 40,633 (4,521) <b>90%</b>	17-18 48,491 42,433 (6,058) 88%	<b>18-19</b> 51,926 42,433 (9,493) <b>82%</b>	<b>19-20</b> 55,353 58,358 3,005 <b>105%</b>	20-21 58,741 72,608 13,867 124%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance	05-06 4,961 28,273 23,312 570% 8,652	06-07 7,369 28,273 20,904 384% 12,852	07-08 11,517 28,273 16,756 245% 20,085	08-09 15,951 28,273 12,322 177% 27,819	09-10 19,582 28,273 8,691 144% 34,152	10-11 23,757 30,633 6,876 129% 41,432	11-12 27,703 30,633 2,930 111% 48,314	12-13 31,428 30,633 (795) 97% 54,811	13-14 34,962 30,633 (4,329) 88% 60,975	14-15 38,408 30,633 (7,775) 80% 66,983	<b>15-16</b> 41,840 40,633 (1,207) <b>97%</b> 72,969	16-17 45,154 40,633 (4,521) 90% 78,748	17-18 48,491 42,433 (6,058) 88% 84,568	18-19 51,926 42,433 (9,493) 82% 90,560	19-20 55,353 58,358 3,005 105% 96,536	20-21 58,741 72,608 13,867 124%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory	05-06 4,961 28,273 23,312 570% 8,652 25,915	06-07 7,369 28,273 20,904 384% 12,852 25,915	07-08 11,517 28,273 16,756 245% 20,085 25,915	08-09 15,951 28,273 12,322 177% 27,819 25,915	09-10 19,582 28,273 8,691 144% 34,152 25,915	10-11 23,757 30,633 6,876 129% 41,432 30,555	11-12 27,703 30,633 2,930 111% 48,314 30,555	12-13 31,428 30,633 (795) 97% 54,811 30,555	13-14 34,962 30,633 (4,329) 88% 60,975 30,555	14-15 38,408 30,633 (7,775) 80% 66,983 37,586	<b>15-16</b> 41,840 40,633 (1,207) <b>97%</b> 72,969 40,586	<b>16-17</b> 45,154 40,633 (4,521) <b>90%</b> 78,748 40,586	17-18 48,491 42,433 (6,058) 88% 84,568 44,786	18-19 51,926 42,433 (9,493) 82% 90,560 44,786	<b>19-20</b> 55,353 58,358 3,005 <b>105%</b> 96,536 44,786	20-21 58,741 72,608 13,867 124% 102,445 54,386
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904)	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237)	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877)	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759)	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) (24,256)	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420)	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397)	<b>15-16</b> 41,840 40,633 (1,207) <b>97%</b> 72,969 40,586 (32,383)	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162)	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782)	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774)	<b>19-20</b> 55,353 58,358 3,005 <b>105%</b> 96,536 44,786 (51,750)	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059)
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Percent (Scholarty Activity	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129%	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93%	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76%	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74%	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) <b>63%</b>	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56%	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50%	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56%	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56%	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52%	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53%	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49%	<b>19-20</b> 55,353 58,358 3,005 <b>105%</b> 96,536 44,786 (51,750) <b>46%</b>	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129%	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93%	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76%	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74%	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) <b>63%</b>	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56%	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50%	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56%	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56%	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52%	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53%	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49%	<b>19-20</b> 55,353 58,358 3,005 <b>105%</b> 96,536 44,786 (51,750) <b>46%</b>	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435	<b>19-20</b> 55,353 58,358 3,005 <b>105%</b> 96,536 44,786 (51,750) <b>46%</b> <i>48,200</i>	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649	<b>19-20</b> 55,353 58,358 3,005 <b>105%</b> 96,536 44,786 (51,750) <b>46%</b> <i>48,200</i> 102,741	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) <b>63%</b> 27,554 55,873 43,836	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837	<b>19-20</b> 55,353 58,358 3,005 <b>105%</b> 96,536 44,786 (51,750) <b>46%</b> 48,200 102,741 99,044	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) <b>63%</b> 27,554 55,873 43,836 127,264	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921	<b>19-20</b> 55,353 58,358 3,005 <b>105%</b> 96,536 44,786 (51,750) <b>46%</b> 48,200 102,741 99,044 249,985	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719 265,710
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,550	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) <b>63%</b> 27,554 55,873 43,836 127,264 149,850 22,586	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4155	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887	18-19           51,926           42,433           (9,493)           82%           90,560           44,786           (45,774)           49%           45,435           96,649           91,837           233,921           246,452           12 531	<b>19-20</b> 55,353 58,358 3,005 <b>105%</b> 96,536 44,786 (51,750) <b>46%</b> 48,200 102,741 99,044 249,985 260,452 10,467	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719 265,710 265,710 269,402 3,692
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy % Adequacy	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192%	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142%	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128%	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 149,850 40,560 137%	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) <b>63%</b> 27,554 55,873 43,836 127,264 149,850 22,586 <b>118%</b>	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118%	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107%	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119%	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110%	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102%	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113%	18-19           51,926           42,433           (9,493)           82%           90,560           44,786           (45,774)           49%           45,435           96,649           91,837           233,921           246,452           12,531           105%	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104%	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059 53% 50,237 108,754 106,719 265,710 265,710 269,402 3,692 101%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Adequacy Adequacy Adequacy Adequacy Adequacy Adequacy	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192%	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142%	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128%	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137%	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118%	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118%	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107%	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119%	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110%	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102%	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113%	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105%	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104%	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719 265,710 265,710 265,710
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Adequacy Adequacy Adequacy Adequacy Adequacy Adequacy Adequacy Adequacy Adequacy Adequacy Adequacy Adequacy	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192%	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142%	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128%	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137%	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118%	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118%	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107%	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119%	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110%	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102%	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113%	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105%	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104%	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059 53% 50,237 108,754 106,719 265,710 265,710 265,402 3,692 101%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Activity Allowance Inventory Delta % Adequacy Activity Allowance Inventory Delta % Adequacy Activity Allowance Inventory Delta	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192% 8,342 2,925	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 (1,789)	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 11,281	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137%	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118%	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107%	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119% 20,995	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 22,491	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 226,577	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104%	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719 265,710 265,710 265,710 265,402 3,692 101%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Activity Allowance ENG NS SSHA SSHA SSHA Total Allowance Inventory Delta % Adequacy Activity Allowance ENG NS SSHA SSHA	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 117,170 56,290 192% 8,342 13,395 12,721	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 22,024	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 13,711 25,341	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118% 15,779 29,119 29,119	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,092	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,262	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 222,491 41,981 47,981	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 69,555	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 7,232	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719 265,710 265,710 265,402 3,692 101% 29,320 59,415
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance ENG NS SSHA	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 117,170 56,290 192% 8,342 13,395 13,731 35,468	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 13,711 25,341 28,808 67,861	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118% 15,779 29,119 34,927 79,824	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477 90,389	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 22,491 41,981 57,126 121,588	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 74,212 153 129	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719 265,710 269,402 3,692 101% 29,320 59,415 86,714
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 117,170 56,290 192% 8,342 13,395 13,731 35,468 61,260	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 40,560 137% 13,711 25,341 28,808 67,861 77,130	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118% 15,779 29,119 34,927 79,824 77,130	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477 90,389 77,130	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 22,491 41,981 57,126 121,598 95,268	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 246,452 12,531 105% 26,577 52,341 74,212 153,129 110,268	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 164,349 125,268	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059 53% 50,237 108,754 106,719 265,710 265,710 265,402 3,692 101% 29,320 59,415 86,714 175,448 125,268
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance Inventory Delta	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192% 8,342 13,395 13,731 35,468 61,260 61,260	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260 61,260	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260 61,260	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 40,560 137% 13,711 25,341 28,808 67,861 77,130 77,130	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118% 15,779 29,119 34,927 79,824 77,130	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477 90,389 77,130 77,130	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130 77,130	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 335,881 73,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268 90,268	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 22,491 41,981 57,126 121,598 95,268	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268 95,268	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268 110,268	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 74,212 153,129 110,268 110,268	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 164,349 125,268	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719 265,710 265,710 265,710 265,710 265,402 3,692 101% 29,320 59,415 86,714 175,448 125,268
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance Inventory Delta NS SSHA Total Allowance Inventory Delta % Adequacy	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192% 8,342 13,395 13,731 35,468 61,260 61,260 173%	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260 61,260 125%	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260 61,260 111%	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 40,560 137% 13,711 25,341 28,808 67,861 77,130 77,130 77,130	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 127,264 127,264 127,264 127,264 127,264 127,264 127,264 127,264 129,850 22,586 118% 77,130 77,130 97%	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477 90,389 77,130 77,130 85%	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130 77,130 77%	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268 90,268 81%	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 22,491 41,981 57,126 121,598 95,268 95,268 95,268	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268 95,268 95,268	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268 110,268 77%	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 74,212 153,129 110,268 110,268 110,268	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 164,349 125,268 125,268 125,268 125,268	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719 265,710 265,710 265,710 265,710 265,710 265,710 265,710 265,714 86,714 175,448 125,268 125,268 71%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance Inventory Delta % Adequacy Academic Office Facilities	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192% 8,342 13,395 13,731 35,468 61,260 61,260 173%	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260 61,260 125%	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260 61,260 111%	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 13,711 25,341 28,808 67,861 77,130 77,130	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118% 15,779 29,119 34,927 79,824 77,130 77,130 97%	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477 90,389 77,130 85%	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130 77,130 77,130	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268 90,268 81%	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 22,491 41,981 57,126 121,598 95,268 95,268 95,268	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268 95,268 95,268	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268 110,268 77%	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 74,212 153,129 110,268 110,268 110,268 72%	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 164,349 125,268 125,268 125,268 76%	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 53% 50,237 108,754 106,719 265,710 269,402 3,692 101% 269,402 3,692 101% 29,320 59,415 86,714 175,448 125,268 125,268 71%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192% 8,342 13,395 13,731 35,468 61,260 61,260 173% 24,276	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260 61,260 125% 21,688	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260 61,260 111% 231,560	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 13,711 25,341 28,808 67,861 77,130 77,130 114%	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118% 15,779 29,119 34,927 79,824 77,130 77,130 97%	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477 90,389 77,130 85% 47,250	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130 77,130 77,130	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268 90,268 81% 56,876	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 222,491 41,981 57,126 121,598 95,268 95,268 95,268 78%	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268 95,268 95,268 72%	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268 110,268 110,268 77% 68,677	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 74,212 153,129 110,268 110,268 110,268 72%	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 164,349 125,268 125,268 125,268 76%	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059 53% 53% 50,237 108,754 106,719 265,710 269,402 3,692 101% 269,402 3,692 101% 269,415 586,714 175,448 125,268 125,268 71%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192% 8,342 13,395 13,731 35,468 61,260 61,260 173% 24,276 40,518	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260 61,260 125% 31,688 53,666	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260 61,260 111% 31,560 62,506	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 13,711 25,341 28,808 67,861 77,130 77,130 114% 37,720 74,473	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 127,264 149,850 22,586 118% 72,586 118% 72,579 29,119 34,927 79,824 77,130 77,130 97% 43,333 84,992	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477 90,389 77,130 85% 47,350 94,858	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130 77,130 77,130 77,130 77,130 77%	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268 90,268 81% 56,876 113,029	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 22,491 41,981 57,126 121,598 95,268 95,268 95,268 78% 61,020 121,081	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268 95,268 95,268 72% 64,518 130,091	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268 110,268 110,268 77% 68,672 138,883	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 74,212 153,129 110,268 110,268 110,268 110,268 72%	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 10,467 104% 28,122 55,905 80,322 164,349 125,268 125,268 125,268 76% 76,322 158,645	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059 53% 53% 50,237 108,754 106,719 265,710 269,402 3,692 101% 269,402 3,692 101% 269,320 59,415 86,714 175,448 125,268 125,268 71% 79,558
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192% 8,342 13,395 13,731 35,468 61,260 61,260 173% 24,276 40,518 31,554	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260 61,260 125% 31,688 53,666 46,491	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260 61,260 111% 31,560 62,506 52,622	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 13,711 25,341 28,808 67,861 77,130 77,130 114% 37,720 74,473 64,957	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 127,264 127,264 122,586 127,264 149,850 22,586 118% 72,579 29,119 34,927 79,824 77,130 77,130 97% 43,333 84,992 78,763	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477 90,389 77,130 85% 47,350 94,858 91,051	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130 77,130 77,130 77,130 77,130 77,130	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268 90,268 81% 56,876 113,029 115,229	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 222,491 41,981 57,126 121,598 95,268 95,268 95,268 78% 61,020 121,081 128,190	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268 95,268 95,268 72% 64,518 130,091 140,446	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 113,347	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 74,212 153,129 110,268 110,268 110,268 72% 72,011 148,990 166,049	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 10,467 104% 28,122 55,905 80,322 164,349 125,268 125,268 125,268 76% 76,322 158,645 179,367	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059 53% 50,237 108,754 106,719 265,710 269,402 3,692 101% 269,320 59,415 86,714 175,448 125,268 125,268 71% 79,558 168,169 193,432
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance Allowan	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192% 8,342 13,395 13,731 35,468 61,260 61,260 173% 24,276 40,518 31,554 96,348	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260 61,260 125% 31,688 53,666 46,491 131,845	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260 61,260 111% 31,560 62,506 52,622 146,688	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 13,711 25,341 28,808 67,861 77,130 77,130 114% 37,720 74,473 64,957 177,151	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 127,264 122,586 127,264 149,850 22,586 118% 72,130 79,824 77,130 77,130 97% 43,333 84,992 78,763 207,088	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477 90,389 77,130 85% 47,350 94,858 91,051 233,259	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130 77,130 77% 52,607 103,188 103,285 259,080	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268 90,268 81% 56,876 113,029 115,229 285,133	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 222,491 41,981 57,126 121,598 95,268 95,268 95,268 78% 61,020 121,081 128,190 310,291	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268 95,268 95,268 72% 64,518 130,091 140,446 335,055	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268 110,268 77% 68,672 138,883 153,347 360,903	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 74,212 153,129 110,268 110,268 110,268 72% 72,011 148,990 166,049 387,050	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 164,349 125,268 125,268 125,268 76% 76,322 158,645	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059 53% 50,237 108,754 106,719 265,710 269,402 3,692 101% 269,402 3,692 101% 269,402 3,692 101% 269,402 3,692 101% 79,558 168,169 193,432 441,158
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance ENG NS SSHA	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192% 8,342 13,395 13,731 35,468 61,260 61,260 173% 24,276 40,518 31,554 96,348 178,430	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260 61,260 125% 31,688 53,666 46,491 131,845 178,430	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260 61,260 111% 31,560 62,506 52,622 146,688 178,430	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 13,711 25,341 28,808 67,861 77,130 114% 37,720 74,473 64,957 177,151 226,980	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118% 72,264 149,850 22,586 118% 77,130 77,130 97% 43,333 84,992 78,763 207,088 226,980	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 17,320 32,591 40,477 90,389 77,130 85% 47,350 94,858 91,051 233,259 246,184	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130 77,130 77% 52,607 103,188 103,285 259,080 246,184	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268 90,268 81% 56,876 113,029 115,229 285,133 297,720	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 22,491 41,981 57,126 121,598 95,268 95,268 78% 61,020 121,081 128,190 310,291 302,720	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268 95,268 95,268 72% 64,518 130,091 140,446 335,055 302,720	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268 77% 68,672 138,883 153,347 360,903 356,720	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 74,212 153,129 110,268 110,268 72% 72,011 148,990 166,049 387,050 356,720	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 164,349 125,268 125,268 125,268 125,268 76% 76,322 158,645 179,367 414,334 385,720	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059 53% 50,237 108,754 106,719 265,710 269,402 3,692 101% 269,402 3,692 101% 269,402 3,692 101% 79,558 125,268 125,268 125,268 71% 79,558 168,169 193,432 441,158 394,670
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 111,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192% 8,342 13,395 13,731 35,468 61,260 61,260 173% 224,276 40,518 31,554 96,348 178,430 82,082 18,430 82,082 1955 18,430 178,450 178,450 178,450 178,450 178,450	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260 61,260 125% 31,688 53,666 46,491 131,845 178,430 46,585 125,915 12,322 177% 131,845 178,430 46,585 125,915 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 12,322 177% 142% 11,188 11,188 11,7760 20,214 49,163 61,260 12,5% 131,845 131,845 131,845 131,845 132,845 132,853 132,120 12,5% 132,120 132,120 134,120 1	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260 61,260 111% 31,560 62,506 52,622 146,688 178,430 31,742 20,278 17,430 17,440 17,440 17,450 17,450 17,660 17,660 11,260 11,260 11,260 11,260 11,260 12,506 12,506 12,506 12,506 12,506 12,506 12,506 11,260 11,260 11,260 11,260 11,260 11,260 11,260 11,260 12,26	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 13,711 25,341 28,808 67,861 77,130 114% 37,720 74,473 64,957 177,151 226,980 49,829 49,829	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118% 15,779 29,119 34,927 79,824 77,130 97% 43,333 84,992 78,763 207,088 226,980 19,892 410%	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477 90,389 77,130 85% 47,350 94,858 91,051 233,259 246,184 12,925 246,184 12,925	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130 77,130 77,130 77% 52,607 103,188 103,285 259,080 246,184 (12,896) 266,184	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 63,966 63,966 63,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268 81% 56,876 113,029 115,229 285,133 297,720 12,587 10,447	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 22,491 41,981 57,126 121,598 95,268 95,268 78% 61,020 121,081 128,190 310,291 302,720 (7,571) 000	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268 95,268 95,268 95,268 72% 64,518 130,091 140,446 335,055 302,720 (32,335) 000	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268 110,268 77% 68,672 138,883 153,347 360,903 356,720 (4,183) 00%	18-19 51,926 42,433 (9,493) 82% 90,560 90,560 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 74,212 153,129 110,268 110,268 72% 72,011 148,990 166,049 387,050 356,720 (30,330) 02%	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 164,349 125,268 125,2	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719 265,710 269,402 3,692 101% 269,402 3,692 101% 79,558 168,714 175,448 125,268 71% 79,558 168,169 193,432 441,158 394,670 (4,488)
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Cesearch + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy % Adequacy % Adequacy % Adequacy % Adequacy % Adequacy	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192% 8,342 13,395 13,731 35,468 61,260 61,260 173% 24,276 40,518 31,554 96,348 178,430 82,082 185%	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260 61,260 125% 31,688 53,666 46,491 131,845 178,430 46,585 135%	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260 61,260 111% 31,560 62,506 52,622 146,688 178,430 31,742 122%	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 13,711 25,341 28,808 67,861 77,130 114% 37,720 74,473 64,957 177,151 226,980 49,829 128%	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118% 15,779 29,119 34,927 79,824 77,130 77,130 97% 43,333 84,992 78,763 207,088 226,980 19,892 110%	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477 90,389 77,130 77,130 85% 47,350 94,858 91,051 233,259 246,184 12,925 106%	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130 77% 52,607 103,188 103,285 259,080 246,184 (12,896) 95%	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268 90,268 81% 56,876 113,029 115,229 285,133 297,720 12,587 104%	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 22,491 41,981 57,126 121,598 95,268 95,268 78% 61,020 121,081 128,190 310,291 302,720 (7,571) 98%	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268 72% 64,518 130,091 140,446 335,055 302,720 (32,335) 90%	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 113,347 360,903 356,720 (4,183) 99%	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 74,212 153,129 110,268 110,268 110,268 72% 72,011 148,990 166,049 387,050 356,720 (30,330) 92%	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 748,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 164,349 125,268 125,268 125,268 76% 76,322 158,645 179,367 414,334 385,720 (28,614) 93%	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719 265,710 269,402 3,692 101% 269,402 3,692 101% 29,320 59,415 86,714 175,448 125,268 125,268 125,268 168,169 193,432 441,158 394,670 (46,488) 89%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA	05-06	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 17,170 56,290 192% 8,342 13,395 13,731 35,468 61,260 61,260 61,260 173% 24,276 40,518 31,554 96,348 178,430 82,082 185%	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260 61,260 125% 31,688 53,666 46,491 131,845 178,430 46,585 135%	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260 61,260 111% 31,560 62,506 52,622 146,688 178,430 31,742 122%	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 13,711 25,341 28,808 67,861 77,130 77,130 77,130 114% 37,720 74,473 64,957 177,151 226,980 49,829 128%	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118% 15,779 29,119 34,927 79,824 17,130 97% 43,333 84,992 77,130 97% 43,333 84,992 78,763 207,088 226,980 19,892 110% 11-12	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 118% 17,320 32,591 40,477 90,389 77,130 77,130 85% 47,350 94,858 91,051 233,259 246,184 12,925 106%	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130 77,130 777% 52,607 103,188 103,285 259,080 246,184 (12,896) 95%	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268 90,268 81% 56,876 113,029 115,229 285,133 297,720 12,587 104%	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 22,491 41,981 57,126 121,598 95,268 95,268 95,268 78% 61,020 121,081 128,190 310,291 302,720 (7,571) 98%	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268 95,268 95,268 72% 64,518 130,091 140,446 335,055 302,720 (32,335) 90%	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268 110,268 110,268 77% 68,672 138,883 110,268 100,3347 360,903 356,720 (4,183) 99%	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 72,341 74,212 153,129 110,268 110,268 110,268 72,011 148,990 166,049 387,050 356,720 (30,330) 92%	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 10,467 104% 76,322 158,645 125,268 76% 76,322 158,645 179,367 414,334 385,720 (28,614) 93%	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719 265,710 269,402 3,692 101% 269,402 3,692 101% 29,320 59,415 86,714 175,448 125,268 125,268 71% 79,558 168,169 193,432 441,158 394,670 (46,488) 89%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research / Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG Allowance ENG Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy	05-06 4,961 28,273 23,312 570% 8,652 25,915 17,263 300%	06-07 7,369 28,273 20,904 384% 12,852 25,915 13,063 202%	07-08 11,517 28,273 16,756 245% 20,085 25,915 5,830 129% 15,934 27,123 17,822 60,880 117,170 56,290 192% 8,342 13,395 13,548 61,260 61,260 173% 24,276 40,518 31,554 96,348 178,430 82,082 185% 07-08	08-09 15,951 28,273 12,322 177% 27,819 25,915 (1,904) 93% 20,500 35,906 26,277 82,683 117,170 34,487 142% 11,188 17,760 20,214 49,163 61,260 61,260 125% 31,688 53,666 46,491 131,845 178,430 46,585 135% 08-09 1,008	09-10 19,582 28,273 8,691 144% 34,152 25,915 (8,237) 76% 20,278 41,664 29,598 91,541 117,170 25,629 128% 11,281 20,842 23,024 55,147 61,260 61,260 111% 31,560 62,506 52,622 146,688 178,430 31,742 122% 09-10 1,008	10-11 23,757 30,633 6,876 129% 41,432 30,555 (10,877) 74% 24,009 49,132 36,149 109,290 149,850 40,560 137% 13,711 25,341 28,808 67,861 77,130 114% 37,720 74,473 64,957 177,151 226,980 49,829 128% 10-11 1,308	11-12 27,703 30,633 2,930 111% 48,314 30,555 (17,759) 63% 27,554 55,873 43,836 127,264 149,850 22,586 118% 15,779 29,119 34,927 79,824 77,130 97% 43,333 84,992 78,763 207,088 226,980 19,892 110% 11-12 1,308	12-13 31,428 30,633 (795) 97% 54,811 30,555 (24,256) 56% 30,029 62,267 50,574 142,870 169,054 26,184 17,320 32,591 40,477 90,389 77,130 85% 47,350 94,858 91,051 233,259 246,184 12,925 106% 12-13	13-14 34,962 30,633 (4,329) 88% 60,975 30,555 (30,420) 50% 33,310 67,653 57,303 158,266 169,054 10,788 107% 19,297 35,535 45,982 100,814 77,130 77% 52,607 103,188 103,285 259,080 246,184 (12,896) 95% 13-14	14-15 38,408 30,633 (7,775) 80% 66,983 37,586 (29,397) 56% 35,881 73,966 63,966 63,966 63,966 63,966 173,813 207,452 33,639 119% 20,995 39,063 51,263 111,321 90,268 81% 56,876 113,029 115,229 285,133 297,720 12,587 104% 14-15 1,658	15-16 41,840 40,633 (1,207) 97% 72,969 40,586 (32,383) 56% 38,530 79,100 71,064 188,693 207,452 18,759 110% 22,491 41,981 57,126 121,598 95,268 95,268 78% 61,020 121,081 128,190 310,291 302,720 (7,571) 98%	16-17 45,154 40,633 (4,521) 90% 78,748 40,586 (38,162) 52% 40,709 84,818 77,770 203,297 207,452 4,155 102% 23,809 45,273 62,676 131,758 95,268 95,268 72% 64,518 130,091 140,446 335,055 302,720 (32,335) 90%	17-18 48,491 42,433 (6,058) 88% 84,568 44,786 (39,782) 53% 43,360 90,362 84,842 218,565 246,452 27,887 113% 25,313 48,521 68,505 142,338 110,268 77% 68,672 138,883 153,347 360,903 356,720 (4,183) 99% 17-18	18-19 51,926 42,433 (9,493) 82% 90,560 44,786 (45,774) 49% 45,435 96,649 91,837 233,921 246,452 12,531 105% 26,577 52,341 74,212 153,129 110,268 110,268 72% 72,011 148,990 166,049 387,050 356,720 (30,330) 92% 18-19 1.658	19-20 55,353 58,358 3,005 105% 96,536 44,786 (51,750) 46% 48,200 102,741 99,044 249,985 260,452 10,467 104% 28,122 55,905 80,322 164,349 125,268 76% 76,322 158,645 179,367 414,334 385,720 (28,614) 93% 19-20	20-21 58,741 72,608 13,867 124% 102,445 54,386 (48,059) 53% 50,237 108,754 106,719 265,710 269,402 3,692 101% 269,402 3,692 101% 79,558 168,714 175,448 125,268 71% 79,558 168,169 193,432 441,158 394,670 (46,488) 89% 20-21

Parking																
Total Number of Spaces	903	954	1,441	1,441	2,091	2,091	2,091	2,091	2,691	3,016	3,016	3,366	3,366	3,826	3,826	4,376
Spaces / Student FTE	1.05	0.74	0.72	0.52	0.61	0.51	0.43	0.38	0.44	0.45	0.41	0.43	0.40	0.42	0.40	0.43
Addl Spaces to Maintain .7 CR					303	807	1,289	1,744	1,576	1,673	2,096	2,154	2,565	2,528	2,950	2,818
Addl Acre Req .7 CR (120 SP/A)					2.5	6.7	10.7	14.5	13.1	13.9	17.5	18.0	21.4	21.1	24.6	23.5

1,106

1,431

1,740

1,692

1,994

2,285

2,579

2,881

2,632

2,931

<sup>A</sup> : Data based on the most recent campus modeling by the Office of Institutional Planning & Analysis (IPA).

Addl Beds to Maintain 2.0 Ratio

<sup>B</sup>: Post-doctoral figures were modeled by using the most recent historical Post-Doc to Faculty ratio (.09 in 09/10) and assuming level increases to achieve a .22 ratio by 20-21.

<sup>C</sup> : Staff FTE are based on the most recent campus modeling by IPA. This data will need to be revised based on more recent considerations regarding staffing levels.

<sup>D</sup>: Classroom space allowances are driven by Weekly Student Contact Hours (WSCH). Spaces covered by the "Classroom" category are: Classroom (Code 110); Seminar (Code 130); Classroom Service (Code 125). Merced's most recent formal submission of classroom utilization data (2009) indicated approximately 82% of total WSCHs took place in a classroom environment. Preliminary analysis of 2009 utilization data indicates this proportion decreased to 78%. For the purposes of this model, 82% of WSCH were apportioned to classroom.

762

702

E : Class Laboratory space allowances are driven by WSCH. Spaes covered by the "Class Laboratory" category are: Class Laboratory (Code 260); Special Class Laboratory (Code 261); Shop - Teaching Lab (Code 711), Storage - Teaching Lab (Code 721); Class Lab Service (Code 265); Shop Service - Teaching Lab (Code 726). Merced's most recent formal submission of classroom utilization data (2009) indicated approximately 18% of total WSCHs took place in a class lab environment. Preliminary analysis of 2009 utilization data indicates this proportion increased to 22%. For the purposes of this model, 18% of WSCH were apportioned to class lab.

F: Research / Scholarly Activity is driven by Faculty FTE, Grad Student headcount and Postdoc headcount, with varying allowances by discipline. Spaces covered by the "Research / Scholarly Activity" category are: Research Lab/Studio (Code 210); Research Office (Graduate Students) (Code 211); Scholarly Activity (Code 250); Shop (Code 710); Storage (Code 720); Research Lab or Office Service (Codes 010, 225, 226, 255, 510 515, 560, 565, 715).

<sup>G</sup>: Academic Office Facilities are driven by Faculty FTE, Teaching Assistant headcount and Postdoc headcount. Spaces covered by the "Academic Office" category are: Academic Office (310); Other Office (320); Conference Room (340); Storage - Office (322); Office/Conference Room Service (Codes 335, 345).

H : The number of additional beds required to meet the LRDP goal of a two-year housing guarantee (or a 2.0 student to bed ratio). Some number of this excess demand could be met through convert double rooms to triples.

<sup>1</sup>: The number of additional parking spaces required to meet the LRDP target of a .7 parking space to student FTE ratio.

## Exhibit J-2 DRAFT CPEC SPACE ANALYSIS (2010-11 to 2020-21)

		Bacad	on Historia	al Data					Pasad on I	Indated 200	ETE Growt	h Enrollmor	t Sconario			
	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
TOTAL STUDENT FTE	862	1,286	1,953	2,780	3,481	4,327	5,063	5,716	6,026	6,344	6,646	6,946	7,247	7,539	7,833	8,109
Annual enrollment growth		424	667	827	701	846	736	653	310	318	302	300	301	292	294	276
Annual % enrollment growth		49%	52%	42%	25%	24%	17%	13%	5%	5%	5%	5%	4%	4%	4%	4%
Undergraduate	824	1,207	1,827	2,590	3,245	4,085	4,782	5,393	5,656	5,919	6,160 244	6,405	6,661	6,909	7,162	7,397
Annual % enrollment growth	-	303 14.8%	23.9%	29.5%	25.3%	040 25.9%	097 17 1%	12.8%	203	203	241 4.1%	245 4.0%	200	240	255	230
UG Majors by School	_	14.070	20.070	23.370	20.070	23.370	17.170	12.070	4.370	4.070	4.170	4.078	4.078	5.770	5.770	3.37
ENG			43.5%	44.6%	44.4%	44.3%	45.2%	46.2%	47.0%	47.0%	48.0%	48.5%	49.0%	49.0%	49.5%	50.0%
NS			18.8%	20.5%	19.1%	19.1%	18.6%	18.1%	18.1%	18.1%	17.5%	17.0%	16.5%	16.0%	15.5%	15.0%
SSHA			37.7%	34.9%	36.5%	36.6%	36.2%	35.7%	34.9%	34.9%	34.5%	34.5%	34.5%	35.0%	35.0%	35.0%
Graduate	38	79	126	190	236	242	281	323	370	425	486	541	586	630	671	712
Annual enrollment growth	-	41	47	64	52	6	39	42	47	55	61	55	45	44	41	41
Annual % enrollment growth	-	107.9%	59.5%	50.8%	27.4%	2.5%	10.1%	14.9% 5.7%	14.0%	6.7%	7 20/	7 90/	8.3%	7.5% 0.40/	0.5%	0.1%
% Grad enrollment	-	0.1%	0.5%	0.0%	0.0%	5.0%	0.0%	5.7%	0.1%	0.7%	1.3%	1.0%	0.170	0.4%	0.0%	0.0%
Total Faculty FTE	63	105	136	185	200	231	271	306	322	339	355	371	388	403	419	434
Ladder	45	69	83	110	118	135	152	169	185	193	202	210	218	227	235	243
Ladder Faculty Growth		24	14	27	8	17	17	17	16	9	9	8	9	9	8	8
% Ladder Rank of faculty	71.4%	65.7%	61.0%	59.5%	59.0%	58.2%	56.0%	55.2%	57.3%	56.9%	56.8%	56.5%	56.3%	56.2%	56.0%	56.0%
Grad Student/Ladder Faculty	0.84	1.14	1.52	1.73	2.00	1.80	1.85	1.91	2.00	2.20	2.41	2.58	2.69	2.78	2.86	2.93
FNG			24	28	26	29	32	34	37	38	40	41	42	43	45	45 5
%			28%	25%	22%	22%	21%	20%	20%	20%	20%	19%	19%	19%	19%	19%
NS			32	41	47	52	56	61	65	67	69	71	73	75	77	79
%			38%	37%	39%	38%	37%	36%	35%	35%	34%	34%	33%	33%	33%	33%
SSHA			29	42	46	54	63	71	79	84	88	92	97	101	105	109.7
%			34%	38%	39%	40%	42%	42%	43%	43%	44%	44%	44%	45%	45%	45%
Strategic Hires			-	-	-	-	10/	3 2%	4	5 2%	5 2%	0 3%	3%	8 3%	8 3%	8.5
Lecturer	18	36	53	75	82	97	119	137	138	146	154	162	169	177	184	191
Stu/Fac ratio	13.7	12.2	14.4	15.0	17.4	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7
Post Docs	6	11	9	17	18	24	31	39	44	51	58	65	72	80	88	96
Ratio Post Docs to FTE Faculty	0.10	0.10	0.07	0.09	0.09	0.10	0.11	0.13	0.14	0.15	0.16	0.17	0.19	0.20	0.21	0.22
Annual Post Doc Growth	45	5	(2)	8	1	6	7	8	6	6	7	7	7	8	8	8
Ratio TA / Undergrad	13	<b>20</b>	<b>30</b> 51	50 52	<b>04</b> 51	93	109	123	129	135	140	140	151	157	163	108
Net New TA	55	40	10	14	14	29	16	14	6		5	6	5	6	6	5
Total Staff FTE	349	377	486	563	629	671	812	948	1,031	1,120	1,208	1,300	1,395	1,492	1,592	1,691
Ratio Staff FTE / Fac FTE	5.5	3.6	3.6	3.0	3.1	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9
Net New Staff FTE		28	109	77	66	42	141	136	83	89	88	92	95	97	100	99
Annual % Staff FTE Growth		8%	29%	16%	12%	7%	21%	17%	9%	9%	8%	8%	7%	7%	7%	6%
CPEC I&R Analysis	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
Classroom																
Allowance	4,960	7,374	11,192	15,919	19,935	24,840	29,067	32,810	34,555	36,337	38,020	39,698	41,393	43,037	44,696	46,251
Inventory	28,273	28,273	28,273	28,273	28,273	30,633	30,633	30,633	30,633	30,633	40,633	40,633	42,433	42,433	58,358	72,608
	23,313	20,899	17,081	12,354	8,338	5,793	1,566	(2,177)	(3,922)	(5,704)	2,613	935	1,040	(604)	13,662	26,357
% Adequacy	570%	383%	203%	178%	142%	123%	105%	93%	89%	84%	107%	102%	103%	99%	131%	157%
Allowance	8.651	12.861	19.519	27,763	34.767	43.321	50.694	57.220	60.264	63.372	66.307	69.233	72.189	75.057	77.950	80.662
Inventory	25,915	25,915	25,915	25,915	25,915	30,555	30,555	30,555	30,555	37,586	40,586	40,586	44,786	44,786	44,786	54,386
Delta	17,264	13,054	6,396	(1,848)	(8,852)	(12,766)	(20,139)	(26,665)	(29,709)	(25,786)	(25,721)	(28,647)	(27,403)	(30,271)	(33,164)	(26,276
% Adequacy	300%	202%	133%	93%	75%	71%	60%	53%	51%	59%	61%	59%	62%	60%	57%	67%
Allowance																
ENG			21,170	27,730	28,577	33,756	40,216	45,428	47,600	49,979	53,049	55,705	58,570	60,778	63,789	66,288
NS			22,616	31,046	35,243	41,517	46,448	51,417	53,854	56,555	58,361	60,365	62,212	64,087	66,024	67,790
SSHA			16,900	24,094	27,655	33,915	40,623	46,258	49,314	52,487	55,327	58,287	61,362	64,751	67,775	70,871
Total Allowance			60,686	82,870	91,475	109,188	127,287	143,103	150,767	159,021	166,738	174,358	182,145	189,617	197,587	204,949
Delta			56 484	34,300	25 695	40 662	22 563	25 951	18 287	48 431	40 714	33 094	64 307	240,452 56 835	62 865	64 453
% Adequacy			193%	141%	128%	137%	118%	118%	112%	130%	124%	119%	135%	130%	132%	131%
Academic Office Facilities																
Allowance			(0.000	(=	10.10.1										17 1 19	
ENG			12,629	17,063	18,484	23,033	27,605	31,567	33,377	35,125	37,391	39,432	41,500	43,204	45,443	47,384
SSHA			12,725	17.850	20.775	25.960	30.926	35,154	37.299	39.751	41.867	44.220	46.633	49,445	51,899	54.371
Total Allowance			35,468	49,163	55,147	67,861	79,824	90,389	95,687	101,304	106,577	111,964	117,376	122,829	128,480	133,768
Inventory			61,260	61,260	61,260	77,130	77,130	77,130	77,130	90,268	95,268	95,268	110,268	110,268	125,268	125,268
Delta			61,260	61,260	61,260	77,130	77,130	77,130	77,130	90,268	95,268	95,268	110,268	110,268	125,268	125,268
			173%	125%	111%	114%	97%	85%	81%	89%	89%	85%	94%	90%	98%	94%
% Adequacy Research + Office Excilition																
% Adequacy Research + Office Facilities Allowance					47.061	56,789	67,821	76,995	80,976	85,104	90,440	95,137	100,070	103,982	109,232	113,673
% Adequacy Research + Office Facilities Allowance ENG			33,799	44,793	47,007	,										-
% Adequacy Research + Office Facilities Allowance ENG NS			33,799 32,730	44,793 45,296	51,132	60,385	67,742	75,084	78,865	82,983	85,680	88,677	91,455	94,268	97,161	99,802
% Adequacy Research + Office Facilities Allowance ENG NS SSHA Totel Allowance			33,799 32,730 29,625	44,793 45,296 41,944	47,007 51,132 48,430	60,385 59,875	67,742 71,549	75,084 81,412	78,865 86,612	82,983 92,238	85,680 97,194	88,677 102,507	91,455 107,995	94,268 114,196	97,161 119,674	99,802 125,242
% Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory			33,799 32,730 29,625 96,154 178,430	44,793 45,296 41,944 132,033 178,430	47,007 51,132 48,430 146,622 178,430	60,385 59,875 177,049 226,980	67,742 71,549 207,112 226 980	75,084 81,412 233,492 246 184	78,865 86,612 246,454 246,184	82,983 92,238 260,326	85,680 97,194 273,314 302 720	88,677 102,507 286,322 302 720	91,455 107,995 299,521 356 720	94,268 114,196 312,446 356 720	97,161 119,674 326,067 385 720	99,802 125,242 338,717 394,670
% Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta			33,799 32,730 29,625 96,154 178,430 82,276	44,793 45,296 41,944 132,033 178,430 46,397	47,007 51,132 48,430 146,622 178,430 31,808	60,385 59,875 177,049 226,980 49,931	67,742 71,549 207,112 226,980 19,868	75,084 81,412 233,492 246,184 12,692	78,865 86,612 246,454 246,184 (270)	82,983 92,238 260,326 297,720 37,394	85,680 97,194 273,314 302,720 29,406	88,677 102,507 286,322 302,720 16,398	91,455 107,995 299,521 356,720 57,199	94,268 114,196 312,446 356,720 44,274	97,161 119,674 326,067 385,720 59,653	99,802 125,242 338,717 394,670 55,953
% Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy			33,799 32,730 29,625 96,154 178,430 82,276 <b>186</b> %	44,793 45,296 41,944 132,033 178,430 46,397 <b>135%</b>	47,087 51,132 48,430 146,622 178,430 31,808 <b>122%</b>	60,385 59,875 177,049 226,980 49,931 <b>128%</b>	67,742 71,549 207,112 226,980 19,868 <b>110%</b>	75,084 81,412 233,492 246,184 12,692 <b>105%</b>	78,865 86,612 246,454 246,184 (270) <b>100%</b>	82,983 92,238 260,326 297,720 37,394 114%	85,680 97,194 273,314 302,720 29,406 <b>111%</b>	88,677 102,507 286,322 302,720 16,398 <b>106%</b>	91,455 107,995 299,521 356,720 57,199 <b>119%</b>	94,268 114,196 312,446 356,720 44,274 <b>114%</b>	97,161 119,674 326,067 385,720 59,653 <b>118%</b>	99,802 125,242 338,717 394,670 55,953 <b>117%</b>
% Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy			33,799 32,730 29,625 96,154 178,430 82,276 <b>186%</b>	44,793 45,296 41,944 132,033 178,430 46,397 <b>135%</b>	47,087 51,132 48,430 146,622 178,430 31,808 <b>122%</b>	60,385 59,875 177,049 226,980 49,931 <b>128%</b>	67,742 71,549 207,112 226,980 19,868 <b>110%</b>	75,084 81,412 233,492 246,184 12,692 <b>105%</b>	78,865 86,612 246,454 246,184 (270) <b>100%</b>	82,983 92,238 260,326 297,720 37,394 114%	85,680 97,194 273,314 302,720 29,406 111%	88,677 102,507 286,322 302,720 16,398 <b>106%</b>	91,455 107,995 299,521 356,720 57,199 <b>119%</b>	94,268 114,196 312,446 356,720 44,274 <b>114%</b>	97,161 119,674 326,067 385,720 59,653 <b>118%</b>	99,802 125,242 338,717 394,670 55,953 <b>117%</b>
% Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Auxiliary Analysis	05-06	06-07	33,799 32,730 29,625 96,154 178,430 82,276 <b>186%</b> <b>07-08</b>	44,793 45,296 41,944 132,033 178,430 46,397 135% 08-09	47,081 51,132 48,430 146,622 178,430 31,808 122% 09-10	60,385 59,875 177,049 226,980 49,931 <b>128%</b> <b>10-11</b>	67,742 71,549 207,112 226,980 19,868 <b>110%</b>	75,084 81,412 233,492 246,184 12,692 105% 12-13	78,865 86,612 246,454 246,184 (270) <b>100%</b> <b>13-14</b>	82,983 92,238 260,326 297,720 37,394 114%	85,680 97,194 273,314 302,720 29,406 111% 15-16	88,677 102,507 286,322 302,720 16,398 106%	91,455 107,995 299,521 356,720 57,199 119%	94,268 114,196 312,446 356,720 44,274 114% 18-19	97,161 119,674 326,067 385,720 59,653 <b>118%</b> <b>19-20</b>	99,802 125,242 338,717 394,670 55,953 117% 20-21

Addl Beds to Maintain 2.0 Ratio

Total Student FTE / Built Beds

Parking																
Total Number of Spaces	903	954	1,441	1,441	2,091	2,091	2,091	2,091	2,691	3,016	3,016	3,366	3,366	3,826	3,826	4,376
Spaces / Student FTE	1.05	0.74	0.74	0.52	0.60	0.48	0.41	0.37	0.45	0.48	0.45	0.48	0.46	0.51	0.49	0.54
Addl Spaces to Maintain .7 CR					346	938	1,453	1,910	1,527	1,425	1,636	1,496	1,707	1,451	1,657	1,300
Addl Acre Req .7 CR (120 SP/A)					2.9	7.8	12.1	15.9	12.7	11.9	13.6	12.5	14.2	12.1	13.8	10.8

3.87

1,224

4.37

1,550

4.61

1,705

3.83

1,514

4.01

1,665

4.19

1,815

4.37

1,966

4.55

2,112

3.55

1,709

3.67

1,847

<sup>A</sup> : Data based on the most recent campus modeling by the Office of Institutional Planning & Analysis (IPA).

1.43

2.14

1.94

<sup>B</sup>: Post-doctoral figures were modeled by using the most recent historical Post-Doc to Faculty ratio (.09 in 09/10) and assuming level increases to achieve a .22 ratio by 20-21.

2.76

3.45

733

<sup>C</sup> : Staff FTE are based on the most recent campus modeling by IPA. This data will need to be revised based on more recent considerations regarding staffing levels.

<sup>D</sup>: Classroom space allowances are driven by Weekly Student Contact Hours (WSCH). Spaces covered by the "Classroom" category are: *Classroom* (Code 110); *Seminar* (Code 130); *Classsroom Service* (Code 125). Merced's most recent formal submission of classroom utilization data (2009) indicated approximately 82% of total WSCHs took place in a classroom environment. Preliminary analysis of 2009 utilization data indicates this proportion decreased to 78%. For the purposes of this model, 82% of WSCH were apportioned to classroom.

3.31

856

<sup>E</sup> : Class Laboratory space allowances are driven by WSCH. Spaes covered by the "Class Laboratory" category are: Class Laboratory (Code 260); Special Class Laboratory (Code 261); Shop - Teaching Lab (Code 711), Storage - Teaching Lab (Code 721); Class Lab Service (Code 265); Shop Service - Teaching Lab (Code 726). Merced's most recent formal submission of classroom utilization data (2009) indicated approximately 18% of total WSCHs took place in a class lab environment. Preliminary analysis of 2009 utilization data indicates this proportion increased to 22%. For the purposes of this model, 18% of WSCH were apportioned to class lab.

F : Research / Scholarly Activity is driven by Faculty FTE, Grad Student headcount and Postdoc headcount, with varying allowances by discipline. Spaces covered by the "Research / Scholarly Activity" category are: Research Lab/Studio (Code 210); Research Office (Graduate Students) (Code 211); Scholarly Activity (Code 250); Shop (Code 710); Storage (Code 720); Research Lab or Office Service (Codes 010, 225, 226, 255, 510 515, 560, 565, 715).

<sup>G</sup>: Academic Office Facilities are driven by Faculty FTE, Teaching Assistant headcount and Postdoc headcount. Spaces covered by the "Academic Office" category are: Academic Office (310); Other Office (320); Conference Room (340); Storage - Office (322); Office/Conference Room Service (Codes 335, 345).

<sup>H</sup>: The number of additional beds required to meet the LRDP goal of a two-year housing guarantee (or a 2.0 student to bed ratio). Some number of this excess demand could be met through convert double rooms to triples.

<sup>1</sup>: The number of additional parking spaces required to meet the LRDP target of a .7 parking space to student FTE ratio.

#### DRAFT CPEC SPACE ANALYSIS (2010-11 to 2020-21) Exhibit J-3

		Based	on Historica	al Data					Based on	Updated 0	FTE Growth	Enrollment	Scenario			
	05-06	06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
TOTAL STUDENT FTE	862	1,286	1,953	2,780	3,481	4,327	5,063	5,716	5,725	5,727	5,720	5,725	5,706	5,671	5,629	5,582
Annual enrollment growth		424	667	827	701	846	736	653	9	2	(7)	5	(19)	(35)	(42)	(47)
Annual % enrollment growth		49%	52%	42%	25%	24%	17%	13%	0%	0%	0%	0%	0%	-1%	-1%	-1%
Undergraduate	824	1,207	1,827	2,590	3,245	4,085	4,782	5,393	5,355	5,302	5,241	5,203	5,153	5,097	5,040	4,985
Annual enrollment growth	-	383	620	763	655	840	697	611	(38)	(53)	(61)	(38)	(50)	(56)	(57)	(55)
Annual % enrollment growth	-	14.8%	23.9%	29.5%	25.3%	25.9%	17.1%	12.8%	-0.7%	-1.0%	-1.2%	-0.7%	-1.0%	-1.1%	-1.1%	-1.1%
			12 50/	44 69/	44 40/	44 20/	45 20/	46 00/	47.00/	47.00/	49.00/	10 50/	40.09/	40.09/	40 59/	E0.09/
ENG NS			43.3%	44.0% 20.5%	44.4%	44.3%	40.2%	40.2%	47.0%	47.0%	40.0%	40.3%	49.0%	49.0%	49.3%	50.0% 15.0%
SSHA			37 7%	20.5%	36.5%	36.6%	36.2%	35.7%	3/ 0%	3/ 0%	34.5%	34.5%	34.5%	35.0%	35.0%	35.0%
Graduate	38	79	126	190	236	242	281	323	370	425	479	522	553	574	589	597
Annual enrollment growth	-	41	47	64	52	6	39	42	47	55	54	43	31	21	15	8
Annual % enrollment growth	-	107.9%	59.5%	50.8%	27.4%	2.5%	16.1%	14.9%	14.6%	14.9%	12.7%	9.0%	5.9%	3.8%	2.6%	1.4%
% Grad enrollment	-	6.1%	6.5%	6.8%	6.8%	5.6%	5.6%	5.7%	6.5%	7.4%	8.4%	9.1%	9.7%	10.1%	10.5%	10.7%
Total Faculty FTE	63	105	136	185	200	231	271	306	306	306	306	306	305	303	301	299
Ladder	45	69	83	110	118	135	152	169	185	185	185	185	185	185	185	185
Ladder Faculty Growth		24	14	27	8	17	17	17	16	-	-	-	-	-	-	-
% Ladder Rank of faculty	71.4%	65.7%	61.0%	59.5%	59.0%	58.4%	56.1%	55.2%	60.5%	60.5%	60.5%	60.5%	60.7%	61.1%	61.5%	61.9%
Grad Student/Ladder Faculty	0.84	1.14	1.52	1.73	2.00	1.79	1.85	1.91	2.00	2.30	2.59	2.82	2.99	3.10	3.18	3.23
ENC			24	20	26	20	22	24	27	27	27	27	27	27	27	27
eng %			24	20	20	29	32 210/	20%	20%	20%	20%	200/	20%	200/	20%	200/
NS			32	41	47	52	56	61	65	65	65	65	65	65	65	64 5
%			38%	37%	39%	38%	37%	36%	35%	35%	35%	35%	35%	35%	35%	35%
SSHA			29	42	46	54	63	71	79	79	79	79	79	79	79	79.2
%			34%	38%	39%	40%	42%	42%	43%	43%	43%	43%	43%	43%	43%	43%
Strategic Hires			-	-	-	-	1	3	4	4	4	4	4	4	4	4
%			0%	0%	0%	0%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Lecturer	18	36	53	75	82	96	119	137	121	121	121	121	120	118	116	114
Stu/Fac ratio	13.7	12.2	14.4	15.0	17.4	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.7
Post Docs	6	11	9	17	18	24	31	39	42	46	50	53	57	60	63	66
Ratio Post Docs to FTE Faculty	0.10	0.10	0.07	0.09	0.09	0.10	0.11	0.13	0.14	0.15	0.16	0.17	0.19	0.20	0.21	0.22
Annual Post Doc Growth	45	5	(2)	8	1	6	100	8	4	4	4	4	3	3	3	3
IAS Detio TA / Undergrod	15	26	30 51	50	64 51	93	109	123	122	121	119	118	117	116	115	113
Net New TA	55	40	51	52 14	51 14	44 20	44	44	(1)	(1)	(2)	(1)	(1)	44	44	44
Total Staff FTE	349	377	486	563	629	670	813	949	979	1.010	1.040	1.071	1.098	1.121	1,144	1.166
Ratio Staff FTE / Fac FTE	5.5	3.6	3.6	3.0	3.1	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9
Net New Staff FTE		28	109	77	66	41	143	136	30	31	30	31	27	23	23	22
Annual % Staff FTF Growth		00/	2001/	160/	12%	7%	21%	17%	3%	3%	3%	3%	3%	2%	2%	2%
Annual 70 Otali I TE Olowin		8%	29%	10 /6	12/0	. ,0	=		070		0,0				=73	
	05.00	8%	29%	00.00	00 10	10.11	44.40	10.10	42.44	14.45	45.46	46.47	47.40	49.40	40.20	20.24
CPEC I&R Analysis	05-06	8%	29%	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
CPEC I&R Analysis Classroom Allowance	<b>05-06</b> 4,960	06-07	07-08	08-09 15,919	09-10	<b>10-11</b> 24,840	<b>11-12</b> 29,067	<b>12-13</b> 32,810	<b>13-14</b> 32,807	<b>14-15</b> 32,755	<b>15-16</b> 32,652	<b>16-17</b> 32,631	<b>17-18</b> 32,485	<b>18-19</b> 32,257	<b>19-20</b> 31,996	<b>20-21</b> 31,714
CPEC I&R Analysis Classroom Allowance Inventory	<b>05-06</b> 4,960 28,273	8% 06-07 7,374 28,273	29% 07-08 11,192 28,273	08-09 15,919 28,273	09-10 19,935 28,273	<b>10-11</b> 24,840 30,633	<b>11-12</b> 29,067 30,633	<b>12-13</b> 32,810 30,633	<b>13-14</b> 32,807 30,633	<b>14-15</b> 32,755 30,633	<b>15-16</b> 32,652 40,633	<b>16-17</b> 32,631 40,633	<b>17-18</b> 32,485 42,433	<b>18-19</b> 32,257 42,433	<b>19-20</b> 31,996 58,358	<b>20-21</b> 31,714 72,608
CPEC I&R Analysis Classroom Allowance Inventory Delta	<b>05-06</b> 4,960 28,273 23,313	8% 06-07 7,374 28,273 20,899	29% 07-08 11,192 28,273 17,081	08-09 15,919 28,273 12,354	09-10 19,935 28,273 8,338	<b>10-11</b> 24,840 30,633 5,793	<b>11-12</b> 29,067 30,633 1,566	<b>12-13</b> 32,810 30,633 (2,177)	<b>13-14</b> 32,807 30,633 (2,174)	14-15 32,755 30,633 (2,122)	<b>15-16</b> 32,652 40,633 7,981	<b>16-17</b> 32,631 40,633 8,002	<b>17-18</b> 32,485 42,433 9,948	<b>18-19</b> 32,257 42,433 10,176	<b>19-20</b> 31,996 58,358 26,362	<b>20-21</b> 31,714 72,608 40,894
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy	05-06 4,960 28,273 23,313 570%	8% 06-07 7,374 28,273 20,899 383%	29% 07-08 11,192 28,273 17,081 253%	08-09 15,919 28,273 12,354 178%	09-10 19,935 28,273 8,338 142%	10-11 24,840 30,633 5,793 123%	<b>11-12</b> 29,067 30,633 1,566 <b>105%</b>	<b>12-13</b> 32,810 30,633 (2,177) <b>93%</b>	<b>13-14</b> 32,807 30,633 (2,174) <b>93%</b>	14-15 32,755 30,633 (2,122) 94%	<b>15-16</b> 32,652 40,633 7,981 <b>124%</b>	<b>16-17</b> 32,631 40,633 8,002 <b>125%</b>	<b>17-18</b> 32,485 42,433 9,948 <b>131%</b>	<b>18-19</b> 32,257 42,433 10,176 <b>132%</b>	19-20 31,996 58,358 26,362 182%	<b>20-21</b> 31,714 72,608 40,894 <b>229%</b>
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory	<b>05-06</b> 4,960 28,273 23,313 <b>570%</b>	06-07 7,374 28,273 20,899 383%	23% 07-08 11,192 28,273 17,081 253%	08-09 15,919 28,273 12,354 178%	09-10 19,935 28,273 8,338 142%	10-11 24,840 30,633 5,793 123%	<b>11-12</b> 29,067 30,633 1,566 <b>105%</b>	12-13 32,810 30,633 (2,177) 93%	<b>13-14</b> 32,807 30,633 (2,174) <b>93%</b>	14-15 32,755 30,633 (2,122) 94%	<b>15-16</b> 32,652 40,633 7,981 <b>124%</b>	16-17 32,631 40,633 8,002 125%	17-18 32,485 42,433 9,948 131%	<b>18-19</b> 32,257 42,433 10,176 <b>132%</b>	19-20 31,996 58,358 26,362 182%	<b>20-21</b> 31,714 72,608 40,894 <b>229%</b>
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory	05-06 4,960 28,273 23,313 570% 8,651 25,915	8% 06-07 7,374 28,273 20,899 383% 12,861 12,861 25 915	23% 07-08 11,192 28,273 17,081 253% 19,519 25 915	08-09 15,919 28,273 12,354 178% 27,763 25,915	09-10 19,935 28,273 8,338 142% 34,767 25 915	10-11 24,840 30,633 5,793 123% 43,321 30,555	11-12 29,067 30,633 1,566 105% 50,694 30,555	12-13 32,810 30,633 (2,177) <b>93%</b> 57,220 30,555	<b>13-14</b> 32,807 30,633 (2,174) <b>93%</b> 57,216 30,555	14-15 32,755 30,633 (2,122) 94% 57,125 37 586	15-16 32,652 40,633 7,981 124% 56,945 40,586	<b>16-17</b> 32,631 40,633 8,002 <b>125%</b> 56,909 40,586	17-18 32,485 42,433 9,948 131% 56,653 44 786	18-19 32,257 42,433 10,176 132% 56,257 44 786	19-20 31,996 58,358 26,362 182% 55,801 44 786	20-21 31,714 72,608 40,894 229% 55,309 54,386
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264	8% 06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054	23% 07-08 11,192 28,273 17,081 253% 19,519 25,915 6,396	08-09 15,919 28,273 12,354 178% 227,763 25,915 (1,848)	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852)	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766)	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139)	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665)	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661)	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539)	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359)	<b>16-17</b> 32,631 40,633 8,002 <b>125%</b> 56,909 40,586 (16,323)	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867)	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471)	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015)	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 253% 19,519 25,915 6,396 133%	08-09 15,919 28,273 12,354 178% 227,763 25,915 (1,848) 93%	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75%	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71%	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60%	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53%	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53%	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66%	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71%	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71%	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79%	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80%	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80%	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 <b>383%</b> 12,861 25,915 13,054 <b>202%</b>	23% 07-08 11,192 28,273 17,081 253% 19,519 25,915 6,396 133%	08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93%	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75%	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71%	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60%	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53%	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53%	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66%	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71%	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71%	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) <b>79%</b>	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80%	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80%	20-21 31,714 72,608 40,894 229% 55,309 55,309 54,386 (923 98%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 <b>383%</b> 12,861 25,915 13,054 <b>202%</b>	23% 07-08 11,192 28,273 17,081 253% 19,519 25,915 6,396 133%	08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93%	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75%	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71%	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60%	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53%	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53%	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66%	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71%	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71%	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) <b>79%</b>	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80%	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80%	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	06-07 7,374 28,273 20,899 <b>383%</b> 12,861 25,915 13,054 <b>202%</b>	23% 07-08 11,192 28,273 17,081 253% 19,519 25,915 6,396 133% 221,170 221,170	15,919 28,273 12,354 178% 27,763 25,915 (1,848) <b>93%</b> 27,730	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 26,5240	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,779	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 55,000	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,754
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 <b>383%</b> 12,861 25,915 13,054 <b>202%</b>	23% 07-08 11,192 28,273 17,081 253% 19,519 25,915 6,396 133% 221,170 22,616 16,900	18 % 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24 004	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 23,820	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,608	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46 975	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,100	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 45,124 51,715 47,280	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,236	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 <b>383%</b> 12,861 25,915 13,054 <b>202%</b>	23% 07-08 11,192 28,273 17,081 253% 19,519 25,915 6,396 133% 21,170 22,616 16,900 60,686	18 % 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,608 127,242	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 45,124 51,715 47,280 144,119	17-18 32,485 42,433 9,948 131% 566,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	06-07 7,374 28,273 20,899 <b>383%</b> 12,861 25,915 13,054 <b>202%</b>	23% 07-08 11,192 28,273 17,081 253% 19,519 25,915 6,396 133% 22,616 16,900 60,686 117,170	08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,608 127,242 149,850	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 142,855	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 45,124 51,715 47,280 144,119 207,452	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 <b>383%</b> 12,861 25,915 13,054 <b>202%</b>	23% 07-08 11,192 28,273 17,081 253% 19,519 25,915 6,396 133% 22,616 16,900 60,686 117,170 56,484	08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,608 127,242 149,850 22,608	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 142,855 169,054 26,199	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193%	08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141%	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128%	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138%	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,608 127,242 149,850 22,608 118%	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118%	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 142,855 169,054 26,199 118%	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145%	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144%	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144%	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171%	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171%	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182%	20-21 31,714 72,608 40,894 229% 55,309 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Adequacy Adequacy Allowance Allowance Allowance Allowance Allowance Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193%	08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141%	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128%	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138%	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,608 127,242 149,850 22,608 118%	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118%	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118%	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145%	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144%	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144%	17-18 32,485 42,433 9,948 131% 566,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171%	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171%	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182%	20-21 31,714 72,608 40,894 229% 55,309 55,309 55,309 55,309 55,309 142,816 269,402 126,586 189%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance SNO	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193%	1878 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,000	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128% 40,494	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138%	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,608 127,242 149,850 22,608 118%	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118%	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118%	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145%	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144%	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144%	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171%	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171%	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182%	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 <b>383%</b> 12,861 25,915 13,054 <b>202%</b>	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115	1878 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,063 14,250	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128% 18,484 15,888	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,202	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 22,666	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,230	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,967	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 <b>383%</b> 12,861 25,915 13,054 <b>202%</b>	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725	1878 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,063 14,250 17,850 17,850	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 117,170 25,695 118,484 18,484 15,888 20,775	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,292 30,923	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 23,666	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468	1878 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,063 141% 17,063 142,50 17,850 49,163	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 117,170 25,695 118,484 18,484 15,888 20,775 55,147	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,292 30,923 79,819	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance Inventory Delta	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 <b>383%</b> 12,861 25,915 13,054 <b>202%</b>	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 221,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260	18% 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,063 14,250 17,850 49,163 61,260	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 117,170 25,695 128% 18,484 18,484 15,888 20,775 55,147 61,260	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,292 30,923 79,819 77,130	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665 77,130	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257 110,268	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance Inventory Delta	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 221,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 61,260	18% 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,063 14,250 17,850 49,163 61,260 61,260	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128% 18,484 15,888 20,775 55,147 61,260 61,260	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 77,130	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,608 127,242 149,850 22,608 118% 227,604 21,292 30,923 79,819 77,130 77,130	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130 77,130	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665 77,130 77,130	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 90,268	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257 110,268 110,268	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 110,268	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 125,268	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 <b>383%</b> 12,861 25,915 13,054 <b>202%</b>	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 221,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 61,260 173%	18% 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 117,170 34,300 141% 17,063 14250 17,850 49,163 61,260 61,260 125%	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 91,475 117,170 25,695 117,170 25,695 128% 18,484 15,888 20,775 55,147 61,260 61,260 111%	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 77,130 114%	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,292 30,923 79,819 77,130 77,130 97%	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130 77,130 85%	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665 77,130 77,130 85%	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 90,268 90,268	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268 95,268 95,268	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268 95,268 95,268	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257 110,268 110,268 110,268 110,268	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 110,268 110,268	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 125,268 125,268 136%	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268 125,268 136%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance Inventory Delta % Adequacy Research + Office Facilities	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 <b>383%</b> 12,861 25,915 13,054 <b>202%</b>	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 61,260 173%	15,919 28,273 12,354 178% 27,763 25,915 (1,848) <b>93%</b> 27,730 31,046 24,094 82,870 117,170 34,300 117,170 34,300 117,170 34,300 117,063 141% 17,063 14250 17,850 49,163 61,260 61,260 125%	12% 09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 91,475 117,170 25,695 117,170 25,695 117,170 25,695 118,484 18,484 15,888 20,775 55,5147 61,260 61,260 111%	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 77,130 114%	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,292 30,923 79,819 77,130 77,130 97%	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130 77,130 85%	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665 77,130 77,130 85%	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 90,268 99%	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268 95,268 95,268	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268 95,268 95,268	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 44,786 144,169 246,452 102,283 171% 32,073 244,060 36,124 92,257 110,268 110,268 110,268 110,268	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 110,268 110,268	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 125,268 125,268 136%	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268 125,268 136%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 61,260 173%	15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 117,170 34,300 117,170 34,300 117,063 141% 17,063 142,50 17,850 49,163 61,260 61,260 125%	12% 09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 91,475 117,170 25,695 128% 18,484 15,888 20,775 55,147 61,260 61,260 111% 47,061	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 77,130 114% 56,559	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,292 30,923 79,819 77,130 97% 87%	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130 85% 26,064	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665 77,130 77,130 85%	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 90,268 99% 75,409	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268 91,478 95,268	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268 95,268 104% 77,040	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 44,786 144,169 246,452 102,283 171% 32,073 244,060 36,124 92,257 110,268 110,268 110,268 110,268	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 110,268 110,268	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 125,268 125,268 136%	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268 125,268 136%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 61,260 173% 33,799 32,730	18% 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 117,170 34,300 141% 17,063 14,250 17,850 49,163 61,260 61,260 125% 44,793 45,296	12% 09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 117,170 25,695 117,170 25,695 128% 18,484 15,888 20,775 55,147 61,260 61,260 111% 47,061 51,122	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 77,130 114% 56,588 60,266	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,292 30,923 79,819 77,130 97% 67,810 67,810 67,220	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130 77,130 85% 76,984 76,984 76,984	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665 77,130 77,130 85% 75,250 75,250 75,280	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 90,268 90,268 99% 75,408 76,213	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268 91,478 95,268 95,268	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268 95,268 104% 77,019 75,835	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257 110,268 110,268 110,268 110,268	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 110,268 110,268 110,268	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 125,268 125,268 136% 76,874 74,953	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268 125,268 125,268 136%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 61,260 173% 33,799 32,730 29,625	18% 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,063 14,250 17,850 49,163 61,260 61,260 125% 44,793 45,296 41,944	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128% 18,484 18,484 15,888 20,775 55,147 61,260 61,260 111% 47,061 51,132 48,430	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 77,130 114% 56,588 60,266 59,723	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,205 46,428 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,292 30,923 79,819 77,130 77,130 97% 67,810 67,720 71,532	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130 77,130 85% 76,984 76,984 76,984 76,984	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665 77,130 77,130 85% 75,250 75,789 82,481	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 90	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268 91,478 95,268 95,268 104% 76,387 75,915 82,837	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268 95,268 104% 77,019 75,835 83,248	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257 110,268 110,268 110,268 110,268 110,268 110,268 120%	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 110,268 110,268 110,268 110,268	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 136% 125,268 136% 125,274 125,268 136% 125,268 136% 125,268 136% 125,268 136% 125,268 136% 125,268 136% 125,268 136% 125,268 136% 13	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268 125,268 136% 76,711 74,522 83,727
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 61,260 173% 33,799 32,730 29,625 96,154	18% 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,063 14,250 17,850 49,163 61,260 61,260 125% 44,793 45,296 41,944 132,033	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128% 18,484 18,484 15,888 20,775 55,147 61,260 61,260 111% 47,061 51,132 48,430 146,622	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 77,130 114% 56,588 60,266 59,723 176,576	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,205 46,428 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,292 30,923 79,819 77,130 77,130 97% 67,810 67,720 71,532 207,061	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130 77,130 85% 76,984 76,984 76,984 233,440	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665 77,130 77,130 85% 75,250 75,789 82,481 233,520	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 90,273 80,273 90,273 90,273 90,273 90,273 90,273 90,275 90	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268 91,478 95,268 91,478 95,268 91,478	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268 95,268 104% 77,019 75,835 83,248 236,102	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257 110,268 110,268 110,268 110,268 110,268 120% 77,342 75,623 83,460 236,426	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 100,268	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 125,268 125,268 136% 76,874 74,953 83,871 235,697	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268 125,268 125,268 136% 76,711 74,522 83,727 234,960
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 61,260 173% 33,799 32,730 29,625 96,154 178,430	18% 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,063 14,250 17,850 49,163 61,260 61,260 125% 44,793 45,296 41,944 132,033 178,430	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128% 18,484 15,888 20,775 55,147 61,260 61,260 111% 47,061 51,132 48,430 146,622 178,430	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 77,130 114% 56,588 60,266 59,723 176,576 226,980	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,008 57,604 21,292 30,923 79,819 77,130 97% 67,810 67,720 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061 22,006 71,532 20,7061	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130 77,130 85% 76,984 76,984 76,984 233,440 246,184	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661)) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665 77,130 77,130 85% 75,250 75,789 82,481 233,520 246,184	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 90,275 1,275	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268 95,268 95,268 104% 76,387 75,915 82,837 235,139 302,720	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268 95,268 95,268 104% 77,019 75,835 83,248 236,102 302,720	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257 110,268 110,268 110,268 110,268 110,268 110,268 120% 77,342 75,623 83,460 236,426 356,720	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 125,268 125,268 125,268 136% 76,874 74,953 83,871 235,697 385,720	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268 125,268 136% 76,711 74,522 83,727 234,960 394,670
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance Inventory Delta % SSHA Total Allowance Inventory Delta	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	8% 06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 61,260 173% 33,799 32,730 29,625 96,154 178,430 82,276	18% 08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,063 14,250 14,250 14,250 61,260 125% 49,163 61,260 125% 49,163 61,260 125% 44,793 45,296 41,944 132,033 178,430 46,397	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128% 18,484 15,888 20,775 55,147 61,260 61,260 111% 47,061 51,132 48,430 146,622 178,430 31,808	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 77,130 114% 56,588 60,266 59,723 176,576 226,980 50,404	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,008 57,810 67,810 67,810 67,720 71,532 207,061 226,980 19,715 20,7061 226,980 19,715 20,707 10,919 10,919 10,919 10,919	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130 77,130 85% 76,984 76,984 76,984 233,440 246,184 12,744	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661)) 53% 44,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665 77,130 85% 75,250 75,789 82,481 233,520 246,184 12,664	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 90	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268 91,478 95,268 91,478 95,268 91,478 95,268 91,478 95,268 91,478 95,268 91,478 95,268 91,478 95,268	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268 95,268 104% 77,019 75,835 83,248 236,102 302,720 66,618	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257 110,268 110,268 110,268 110,268 110,268 120% 77,342 75,623 83,460 236,426 356,720 120,294	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 110,268 110,268 119% 76,881 75,284 83,875 236,040 356,720 120,680	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 125,268 125,268 125,268 136% 76,874 74,953 83,871 235,697 385,720 150,023	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268 125,268 125,268 136% 76,711 74,522 83,727 234,960 394,670 159,710
CPEC I&R Analysis         Classroom         Allowance         Inventory         Delta         % Adequacy         Class Laboratory         Allowance         Inventory         Delta         % Adequacy         Class Laboratory         Allowance         Inventory         Delta         % Adequacy         Research/Scholarly Activity         Allowance         ENG         NS         SSHA         Total Allowance         Inventory         Delta         % Adequacy         Academic Office Facilities         Allowance         ENG         NS         SSHA         Total Allowance         Inventory         Delta         % Adequacy         Research + Office Facilities         Allowance         ENG         NS         SSHA         Total Allowance         Inventory         Delta         % Adequacy         Research + Office Facilities         Allowance	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 61,260 173% 33,799 32,730 29,625 96,154 178,430 82,276 186%	15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 117,170 34,300 117,170 34,300 117,063 14,250 17,850 49,163 61,260 61,260 61,260 125% 44,793 45,296 41,944 132,033 178,430 46,397 135%	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128% 18,484 15,888 20,775 55,147 61,260 61,260 111% 47,061 51,132 48,430 146,622 178,430 31,808 122%	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 114% 56,588 60,266 59,723 176,576 226,980 50,404 129%	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,205 46,428 40,205 46,428 40,205 22,608 127,242 149,850 22,608 118% 27,604 21,292 30,923 79,819 77,130 97% 67,810 67,720 71,532 207,061 226,980 19,919 110%	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130 85% 76,984 76,984 76,984 76,984 233,440 246,184 12,744 105%	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 15,507 90,665 77,130 85% 123,520 246,184 12,664 12,664 12,664 12,664 12,664 12,664 12,664 12,664 12,664 12,664 12,664 12,664 12,664 12,664 12,664 10,5% 10,	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 90,278 90	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268 95,268 91,478 95,268 95,268 104% 76,387 75,915 82,837 235,139 302,720 67,581 129%	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268 95,268 91,983 95,268 104% 77,019 75,835 83,248 236,102 302,720 66,618 128%	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257 110,268 110,268 110,268 110,268 110,268 110,268 120% 77,342 75,623 83,460 236,426 356,720 120,294 151%	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 110,268 120,680 151%	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 126,474 76,874 7	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268 125,268 125,268 136% 76,711 74,522 83,727 234,960 394,670 159,710 168%
CPEC I&R Analysis Classroom Allowance Inventory Delta % Adequacy Class Laboratory Allowance Inventory Delta % Adequacy Research/Scholarly Activity Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Academic Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy Research + Office Facilities Allowance ENG NS SSHA Total Allowance Inventory Delta % Adequacy	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 21,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 61,260 173% 33,799 32,730 29,625 96,154 178,430 82,276 186%	08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,063 14,250 17,850 49,163 61,260 61,260 125% 44,793 45,296 41,944 132,033 178,430 46,397 135%	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128% 18,484 15,888 20,775 55,147 61,260 61,260 111% 47,061 51,132 48,430 146,622 178,430 31,808 122%	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 114% 56,588 60,266 59,723 176,576 226,980 50,404 129%	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,292 30,923 79,819 77,130 97% 67,810 67,720 71,532 207,061 226,980 19,919 110%	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,751 90,383 77,130 85% 76,984 75,062 81,394 233,440 246,184 12,744 105%	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 44,117 51,763 46,975 142,855 1	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 127,459 127,458	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 224,138 35,728 91,478 95,268 95,268 104% 76,387 75,915 82,837 235,139 302,720 67,581 129%	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 45,124 45,124 45,124 56,909 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268 95,268 95,268 104% 777,019 75,835 83,248 236,102 302,720 66,618 128%	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257 110,268 110,268 110,268 110,268 110,268 110,268 120% 777,342 75,623 83,460 236,426 356,720 120,294 151%	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 110,268 110,268 119% 76,881 75,284 83,875 236,040 356,720 120,680 151%	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 136% 76,874 74,953 83,871 235,697 385,720 150,023 164%	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268 125,268 125,268 136% 76,711 74,522 83,727 234,960 394,670 159,710 168%
CPEC I&R Analysis         Classroom         Allowance         Inventory         Delta         % Adequacy         Class Laboratory         Allowance         Inventory         Delta         % Adequacy         Class Laboratory         Allowance         Inventory         Delta         % Adequacy         Research/Scholarly Activity         Allowance         ENG         NS         SSHA         Total Allowance         Inventory         Delta         % Adequacy         Academic Office Facilities         Allowance         ENG         NS         SSHA         Total Allowance         Inventory         Delta         % Adequacy         Research + Office Facilities         Allowance         ENG         NS         SSHA         Total Allowance         ENG         NS         SSHA         Total Allowance         Inventory         Delta	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 253% 19,519 25,915 6,396 133% 221,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 61,260 61,260 61,260 173% 33,799 32,730 29,625 96,154 178,430 82,276 186%	08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,063 14,250 17,850 49,163 61,260 61,260 61,260 61,260 125% 44,793 45,296 41,944 132,033 178,430 46,397 135%	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128% 18,484 15,888 20,775 55,147 61,260 61,260 61,260 111% 47,061 51,132 48,430 146,622 178,430 146,622 178,430 31,808 122%	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 114% 56,588 60,266 59,723 176,576 226,980 50,404 129% 10-11	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,292 30,923 79,819 77,130 77,130 97% 67,810 67,810 67,720 71,532 207,061 226,980 19,919 110%	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130 77,130 85% 76,984 75,062 81,394 233,440 246,184 12,744 105% 12-13	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 444,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665 77,130 85% 75,250 75,789 82,481 233,520 246,184 12,664 105%	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 90,268 90,268 90,268 90,268 90,268 90,268 90,268 143,343 207,452 64,109 145% 75,408 75,408 75,408 76,213 82,891 234,512 297,720 63,208 127%	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268 95,268 104% 76,387 75,915 82,837 235,139 302,720 67,581 129%	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268 91,983 95,268 104% 77,019 75,835 83,248 236,102 302,720 66,618 128%	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257 110,268 110,268 110,268 110,268 120% 77,342 75,623 83,460 236,426 356,720 120,294 151%	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 110,268 110,268 110,268 119% 76,881 75,284 83,875 236,040 356,720 120,680 151%	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 136% 76,874 74,953 83,871 235,697 385,720 150,023 164%	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268 136% 76,711 74,522 83,727 234,960 394,670 159,710 168%
CPEC I&R Analysis         Classroom         Allowance         Inventory         Delta         % Adequacy         Class Laboratory         Allowance         Inventory         Delta         % Adequacy         Class Laboratory         Allowance         Inventory         Delta         % Adequacy         Research/Scholarly Activity         Allowance         ENG         NS         SSHA         Total Allowance         Inventory         Delta         % Adequacy         Academic Office Facilities         Allowance         ENG         NS         SSHA         Total Allowance         Inventory         Delta         % Adequacy         Research + Office Facilities         Allowance         ENG         NS         SSHA         Total Allowance         Inventory         Delta         % Adequacy         Research + Office Facilities         Allowance	05-06 4,960 28,273 23,313 570% 8,651 25,915 17,264 300%	06-07 7,374 28,273 20,899 383% 12,861 25,915 13,054 202%	23% 07-08 11,192 28,273 17,081 25,915 6,396 133% 221,170 22,616 16,900 60,686 117,170 56,484 193% 12,629 10,115 12,725 35,468 61,260 60,855 61,260 61,26	08-09 15,919 28,273 12,354 178% 27,763 25,915 (1,848) 93% 27,730 31,046 24,094 82,870 117,170 34,300 141% 17,063 14,250 17,850 49,163 61,260 61,260 61,260 61,260 61,260 49,163 61,260 61,260 49,163 61,260 61,260 49,163 61,260 61,260 125% 44,793 45,296 41,944 132,033 178,430 46,397 135% 08-09 1,008	09-10 19,935 28,273 8,338 142% 34,767 25,915 (8,852) 75% 28,577 35,243 27,655 91,475 117,170 25,695 128% 18,484 15,888 20,775 55,147 61,260 61,260 111% 47,061 51,132 48,430 146,622 178,430 31,808 122% 09-10 1,008	10-11 24,840 30,633 5,793 123% 43,321 30,555 (12,766) 71% 33,619 41,431 33,820 108,871 149,850 40,979 138% 22,969 18,835 25,903 67,706 77,130 77,130 114% 56,588 60,266 59,723 176,576 226,980 50,404 129% 10-11 1,308	11-12 29,067 30,633 1,566 105% 50,694 30,555 (20,139) 60% 40,205 46,428 40,608 127,242 149,850 22,608 118% 27,604 21,292 30,923 79,819 77,130 77,130 97% 67,810 67,820 67,810 67,720 71,532 207,061 226,980 19,919 110% 11-12 1,308	12-13 32,810 30,633 (2,177) 93% 57,220 30,555 (26,665) 53% 45,418 51,397 46,242 143,057 169,054 25,997 118% 31,566 23,666 35,151 90,383 77,130 77,130 85% 76,984 75,062 81,394 233,440 246,184 12,744 105% 12-13 1,308	13-14 32,807 30,633 (2,174) 93% 57,216 30,555 (26,661) 53% 444,117 51,763 46,975 142,855 169,054 26,199 118% 31,133 24,025 35,507 90,665 77,130 77,130 85% 75,250 75,789 82,481 233,520 246,184 12,664 12,664 12,664 12,664 12,758 14,117 14,005 13,113 14,005 13,114 1,308	14-15 32,755 30,633 (2,122) 94% 57,125 37,586 (19,539) 66% 44,224 51,973 47,146 143,343 207,452 64,109 145% 31,184 24,239 35,745 91,169 90,268 90,268 99% 75,408 76,213 82,891 234,512 297,720 63,208 127%	15-16 32,652 40,633 7,981 124% 56,945 40,586 (16,359) 71% 44,775 51,778 47,109 143,661 207,452 63,791 144% 31,612 24,138 35,728 91,478 95,268 95,268 104% 76,387 75,915 82,837 235,139 302,720 67,581 129% 15-16 1,658	16-17 32,631 40,633 8,002 125% 56,909 40,586 (16,323) 71% 45,124 51,715 47,280 144,119 207,452 63,333 144% 31,895 24,120 35,968 91,983 95,268 95,268 104% 77,019 75,835 83,248 236,102 302,720 66,618 128% 16-17 1,658	17-18 32,485 42,433 9,948 131% 56,653 44,786 (11,867) 79% 45,269 51,563 47,336 144,169 246,452 102,283 171% 32,073 24,060 36,124 92,257 110,268 110,268 110,268 110,268 120% 777,342 75,623 83,460 236,426 356,720 120,294 151% 17-18 1,658	18-19 32,257 42,433 10,176 132% 56,257 44,786 (11,471) 80% 44,968 51,327 47,452 143,746 246,452 102,706 171% 31,913 23,957 36,423 92,293 110,268 110,268 110,268 110,268 110,268 119% 76,881 75,284 83,875 236,040 356,720 120,680 151% 18-19 1,658	19-20 31,996 58,358 26,362 182% 55,801 44,786 (11,015) 80% 44,896 51,096 47,384 143,376 260,452 117,076 182% 31,977 23,857 36,487 92,321 125,268 136% 76,874 74,953 83,871 235,697 385,720 150,023 164% 19-20 2,208	20-21 31,714 72,608 40,894 229% 55,309 54,386 (923) 98% 44,775 50,791 47,249 142,816 269,402 126,586 189% 31,936 23,730 36,478 92,144 125,268 136% 76,711 74,522 83,727 234,960 394,670 159,710 168% 20-21 2,208

Addl Beds to Maintain 2.0 Ratio

Draft as of: April 22 2010

Parking																
Total Number of Spaces	903	954	1,441	1,441	2,091	2,091	2,091	2,091	2,691	3,016	3,016	3,366	3,366	3,826	3,826	4,376
Spaces / Student FTE	1.05	0.74	0.74	0.52	0.60	0.48	0.41	0.37	0.47	0.53	0.53	0.59	0.59	0.67	0.68	0.78
Addl Spaces to Maintain .7 CR					346	938	1,453	1,910	1,317	993	988	642	628	144	114	(469)
Addl Acre Req .7 CR (120 SP/A)					2.9	7.8	12.1	15.9	11.0	8.3	8.2	5.3	5.2	1.2	1.0	(3.9)

3.87

1,224

4.37

1,550

1,555

1,206

1,202

1,205

1,195

3.42

1,178

2.55

607

583

<sup>A</sup> : Data based on the most recent campus modeling by the Office of Institutional Planning & Analysis (IPA).

1.43

2.14

1.94

<sup>B</sup>: Post-doctoral figures were modeled by using the most recent historical Post-Doc to Faculty ratio (.09 in 09/10) and assuming level increases to achieve a .22 ratio by 20-21.

2.76

733

<sup>C</sup> : Staff FTE are based on the most recent campus modeling by IPA. This data will need to be revised based on more recent considerations regarding staffing levels.

<sup>D</sup>: Classroom space allowances are driven by Weekly Student Contact Hours (WSCH). Spaces covered by the "Classroom" category are: Classroom (Code 110); Seminar (Code 130); Classroom Service (Code 125). Merced's most recent formal submission of classroom utilization data (2009) indicated approximately 82% of total WSCHs took place in a classroom environment. Preliminary analysis of 2009 utilization data indicates this proportion decreased to 78%. For the purposes of this model, 82% of WSCH were apportioned to classroom.

856

E : Class Laboratory space allowances are driven by WSCH. Spaes covered by the "Class Laboratory" category are: Class Laboratory (Code 260); Special Class Laboratory (Code 261); Shop - Teaching Lab (Code 711), Storage - Teaching Lab (Code 721); Class Lab Service (Code 265); Shop Service - Teaching Lab (Code 726). Merced's most recent formal submission of classroom utilization data (2009) indicated approximately 18% of total WSCHs took place in a class lab environment. Preliminary analysis of 2009 utilization data indicates this proportion increased to 22%. For the purposes of this model, 18% of WSCH were apportioned to class lab.

F: Research / Scholarly Activity is driven by Faculty FTE, Grad Student headcount and Postdoc headcount, with varying allowances by discipline. Spaces covered by the "Research / Scholarly Activity" category are: Research Lab/Studio (Code 210); Research Office (Graduate Students) (Code 211); Scholarly Activity (Code 250); Shop (Code 710); Storage (Code 720); Research Lab or Office Service (Codes 010, 225, 226, 255, 510 515, 560, 565, 715).

<sup>G</sup>: Academic Office Facilities are driven by Faculty FTE, Teaching Assistant headcount and Postdoc headcount. Spaces covered by the "Academic Office" category are: Academic Office (310); Other Office (320); Conference Room (340); Storage - Office (322); Office/Conference Room Service (Codes 335, 345).

H : The number of additional beds required to meet the LRDP goal of a two-year housing guarantee (or a 2.0 student to bed ratio). Some number of this excess demand could be met through convert double rooms to triples.

<sup>1</sup>: The number of additional parking spaces required to meet the LRDP target of a .7 parking space to student FTE ratio.

# Exhibit K Scenario summaries

K-1 – key indicators for 600 growth scenario K-2 – key indicators for 300 growth scenario K-3 – key indicators for 000 growth scenario



### UNIVERSITY OF CALIFORNIA

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



SANTA BARBARA • SANTA CRUZ

1111 Franklin Street Oakland, California 94607-5200 Phone: (510) 987-9074 Fax:(510) 987-9086 http://www.ucop.edu

### Codicil to the Memorandum of Understanding between UCOP and UC Merced October 24, 2011

In the year since President Yudof and Chancellor Kang signed the initial Memorandum of Understanding between UC Merced (UCM) and the Office of the President (UCOP), the campus has made significant progress in aligning the development of its educational and research programs with the available resources. Due, in part, to the strong support from the Office of the President, the campus has been able to continue to build critical educational and research support services in this time of great financial difficulty for both the state and the University of California. UC Merced is continuing to do its part to bring UC quality education and research to a part of the state that is economically challenged and has long been underserved. In addition, the campus continues to serve successfully a large population of students that is typically deemed to be at risk of failure in higher education.

### Year One of the MOU

The linchpin of the current MOU is the set of eight accountability metrics that were considered to be critical milestones of the campus' pathway toward long-term viability as a strong research university and financial stability. During the past year, the campus has made substantial progress in each of the eight accountability metrics and the following briefly recaps the current status of each of these as UC Merced prepares to embark on the second year of the MOU in FY 2011-12. Although there are a number of notable achievements over the past year, perhaps the most substantive was the strong showing the campus made around both its Capacity and Preparedness Review and the Educational Effectiveness Review in preparation for initial WASC accreditation.

# Metric 1: Meet goals for both undergraduate and graduate student enrollment growth.

During the past year, enrollment has increased significantly from 3,400 in the 2009-10 academic year prior to the MOU to a level in advance of 4,300 students in 2010-11. Enrollment numbers for the fall term of 2011 are once again up by over

10 percent for both first year and transfer students. The campus reached its enrollment target of 5,050 students for the 2011-12 academic year. The new student pool, once again, represents the strong ethnic and racial diversity that characterizes California, with a strong representation of students who are the first generation college attendees and who come from Pell-eligible families.

One area of continuing concern is the slow growth trajectory of the graduate programs. Although Merced expected to add approximately 70 new graduate students in the coming year, the number as a percent of total student enrollment continues to fall. The campus believes that a major part of this is the reluctance of junior faculty to commit to additional students when there is not a clear financial picture for their support. In order to alleviate this problem, UC Merced has invested in trying to build both the recruitment and retention efforts of graduate students by allocating \$1.5 million over a three-year period while also increasing the amount available for non-resident tuition. UCM is monitoring this investment by quantifying increases in applications, the number of admits, and the retention of students once they are accepted into its programs.

### Metric 2: Achieve initial WASC accreditation in July of 2011.

The six-year path to initial accreditation for the campus has come to a positive conclusion during the June 2011 meeting of the WASC Commission. UC Merced received written notification of its initial accreditation in July. The period of the initial accreditation is seven years with the next formal review scheduled for March 2018. There is, however, an interim report due in March 2014 that will cover UCM's road to financial independence and the progress it has made on institutionalizing its assessment culture.

### Metric 3: Continue the positive trajectory for growth in extramural research funding.

Extramural expenditures continue on a positive trajectory. During the most recent NSF survey for expenditures in the 2009-10 fiscal year, the campus moved into the top 250 institutions in total research expenditures. Although awards were down slightly in the 2009-10 year, the trajectory for expenditures continued its positive trend. As noted in Metric 5, the decision to build the social science and humanities faster than the natural sciences and engineering will likely result in a somewhat lower growth in extramural awards and expenditures. This coupled with the potential of significant reductions in federal and State expenditures on research are issues that may have a significant impact on the trajectory of extramural research support in the years to come.

### Metric 4: Track retention rates of UCM's first generation and at risk students.

Improving retention is one of the biggest challenges for a new campus. Relative to the larger more established campuses, UCM offers fewer majors and options for on-campus housing and recreational activities. Retention rates from first to second and second to third years, however, have shown significant increases over the past two years. This is even more impressive given the large at-risk population of first generation and low-income students enrolled at UC Merced. The first to second year retention of both of these groups grew to 87 percent for the class that entered in 2009, and was comparable to their more advantaged classmates. UCM continues to make progress in creating an environment of inclusive excellence that is targeted at early identification of problems in the students. The campus continues to seek external funding though its Hispanic Serving Institution (HSI) designation to provide additional services that will enhance retention and academic success.

#### Metric 5: Track enrollment in majors across the majors.

The campus has started to experience a shift in the subject distribution of its enrollments. In its opening years it showed a strong orientation to STEM-related fields. Recently, enrollments have become more evenly distributed across majors in the social sciences and humanities and STEM fields. The current (fall 2010) distribution of Social Sciences, Humanities, and Arts (SSHA) majors accounts for 41.3 percent of the declared under-graduate majors in contrast to 40.7 percent in fall 2009. In addition, campus administrators know that over two-thirds of the undeclared students end up with a SSHA major. In order to meet the shifting enrollment pattern, while also utilizing the current space inventory in the social sciences to the best advantage. UCM has moved faculty hires towards the non-STEM disciplines with 21 FTE allocated to these areas over the three years. In addition, to begin building the management program/school three Ladder Rank Faculty (LRF) management positions have been allocated outside of the normal allocation process. The intent is to authorize two more positions in the next academic year. These additional faculty lines are important factors in the strategy to increase enrollment in SSHA fields.

# Metric 6: Gather and report data on impacted classes and how the issue is being addressed.

Data indicates that only 1 percent of the undergraduate students are enrolled in less than 12 credits while 68 percent are enrolled in 15 or more credits. This suggests that UC Merced's four-year graduation rate should begin to show a significant uptick in the next couple of years. The projected six-year graduation rates for the class that entered in 2005 is 58 percent; and five-year data for the class entering in 2006 is at 54 percent; and the four-year rate of the class that entered in 2007 is estimated to be 34 percent. In order to make certain that course availability will not impede timely completion of the degree, UCM has added extra seats to the most impacted course sections and has grown the number and types of lower and upper division classes offered during the summer term. Undergraduate headcount enrollment in summer session increased 55 percent from 2009 to 2010, and is estimated to show a similar increase in the 2011 summer session. In addition, UCM has purchased a course tracking and prediction system (Platinum Analytics) that will allow them to make informed decisions about the size and timing of course offerings to improve scheduling and the ability of students to enroll in courses needed for graduation. These efforts should help the campus to further mitigate the number of impacted courses and improve time to degree.

### Metric 7: Define the model that will allow the campus to achieve financial stability.

If the campus maintains the currently planned rate of faculty and staff growth, financial stability for the campus is a very realistic projection in the 2015-16 fiscal year. The projected time table for reaching fiscal stability on the UC Merced campus is strongly linked to the following assumptions:

- continued growth of the student body by an additional 600 FTE each year to about 7500 students in 2012-16;
- space to accommodate the enrollment model of an annual increment of 600 FTE over the prior year's base; and
- controlled growth of the faculty and staff, including an additional 50 LRF in each three-year period and up to 30 staff per year on general funds.

### Metric 8: Recruit and retain excellent faculty members.

During the 2010-11 academic year, 18 new and three replacement LRF searches have been authorized. To date 13 have accepted offers and the remaining searches are still in various stages of the appointment processes. In the 2011-12 academic year, an additional 18 new FTE will be authorized. In addition, authorization will also be provided to search for replacements for the six faculty members who left the campus this year. In all cases, these departures were the result of spousal/family issues that are out of the immediate control of the campus. Nonetheless, campus administrators are working with the Deans and the Academic Senate to define retention strategies that it is hoped will allow UC Merced's junior faculty to successfully navigate the promotion and tenure process.

In addition to the lines initially authorized in support of the undergraduate and graduate programs in each of the three Schools, five strategic investment faculty lines were proposed to support the five research themes that represent emerging areas of research and educational strength on the campus. Proposal solicitations were sent to all members of the faculty. Thirteen proposals, representing all five areas, were submitted from groups of faculty throughout the institution. These proposals were evaluated by faculty from other UC campuses. Going forward, UCM will fund one FTE in the current year and plans to do one or two more selective investment hires in the coming year with the advice of the Academic Senate.

Given the arrival of Chancellor Leland, further discussions with the faculty may suggest that a slightly different allocation of new faculty to the several schools may

be indicated. If UCM determines that some flexibility in new faculty hires is useful, campus administrators will discuss directly with the University Provost before making changes in its initial plans detailed in the MOU.

### Year Two of the MOU

The expectation is that UC Merced will continue to make substantial progress in the seven remaining metrics during year two of the agreement.

In the coming year, Merced plans to allocate an additional 18 faculty lines across the three Schools. Half of these positions will be devoted to enhancing the School of Social Sciences, Humanities, and Arts. The Schools of Natural Sciences and Engineering will continue to grow in response to student enrollment demand. These new faculty positions will permit the strengthening of the base disciplines where faculty numbers are most needed, student demand is increasing, and where there is a need to build the graduate component of the program. Although the campus has generally agreed to restrict the growth of new majors, it is also recognized that the campus needs to expand its undergraduate majors in areas where there is significant student demand that can be accommodated through the current and planned faculty distribution. Several areas that have been discussed are undergraduate majors in public health, biochemistry, and English. There are a number of areas that can leverage existing coursework associated with other majors while providing a broader palette of offerings that will help to attract and retain students.

### Proposal to Extend the existing MOU

During the initial deliberations surrounding the formulation of the MOU, UCOP and campus leadership agreed to the development of a rolling three-year plan that would take into account any new dollars that the State provided for enrollment growth. In the 2010-2011 academic year, the State provided \$51.3 million to offset a portion of the unfunded students throughout the system. Of this amount, UC Merced received permanent enrollment support for approximately 2,020 students who were previously funded by temporary dollars from UCM's sister campuses. This State "catch-up" funding brought the campus' permanent enrollment support up to the enrollment target of 4020 students. In addition, UCOP provided \$1.7 million of temporary enrollment support for the over enrollment of 177 California resident students in 2010-11. The State's appropriation eliminated the need for UCOP to provide \$6 million in enrollment support from internal sources as specified for year one of the MOU.

Given these positive development in the MOU's first year, UC Merced requests that UCOP agree to a one-year extension of the existing MOU. This would extend the agreement from the original date of the 2012-13 academic year through the 2013-2014 year, but will not commit the Office of the President to any additional coverage of the amount defined in the MOU that was signed last year.

### Termination date for the MOU

18

If the current one year addition to the MOU is enacted, the termination date of the new agreement will be at the end of the 2013-14 fiscal year. The one year extension of the time table comes without any additional cost to UCOP. Because it is uncertain both as to future State support for enrollment and also the degree to which tuition and fees will rise over the next several years that will contribute to Merced's financial stability, this arrangement will be reviewed each year with the potential to extend the term of the MOU for an additional one to two years as necessary to help the campus achieve financial stability. This extension will be much easier if the State provides funding for enrollment growth that perhaps will be assigned to UCM as a permanent budget increase to fund their enrollment.

In the year since President Yudof and Chancellor Kang signed the initial Memorandum of Understanding between UC Merced and the Office of the President, the campus has made significant progress in aligning the development of its educational and research programs with the available resources. Due, in part, to the strong support from the Office of the President, the campus has been able to continue to build critical educational and research support services in this time of great financial difficulty for both the State and the University of California. UC Merced is continuing to bring UC quality education and research to a part of the state that is economically challenged and has long been underserved. In addition, the campus continues to successfully serve a large population of "at risk students" typically in need of additional academic resources and student support services to ensure their success in higher education. The Office of the President is firmly committed to helping Merced achieve a position of financial stability, and will use its resources as much as possible toward this goal.

Mark G. Yudof President University of California

Dorothy/Leland Chancellor University of California, Merced

# UCMERCED



2009-2010 ANNUAL FINANCIAL REPORT

(unaudited)




# Contents

Letter from Chancellor Sung Mo "Steve" Kang4
Management's Discussion and Analysis5
Financial Statements14
Statement of Net Assets For Fiscal Years Ended June 30, 2010 and 200915
Statement of Revenues, Expenses and Changes in Net Assets for Fiscal Years Ended June 30, 2010 and 200916
Statement of Cash Flows for Fiscal Years Ended June 30, 2010 and 200917
Notes to Financial Statements



#### Message from Chancellor Sung Mo "Steve" Kang

The University of California, Merced, reached a significant milestone in 2010: The completion of our first five years as the newest UC campus and the first research university built in the 21st century.

At the start of 2010-2011, our sixth academic year, our campus continues to show much progress as we work towards our mission to bring educational opportunities, cutting-edge research, jobs and economic growth to the region and state.

UC Merced's enrollment grew to 4,381, including 243 graduate students, which represents an increase of more than 28 percent from this time last year. We moved 1,595 students into campus housing and opened our newest residence facility, The Summits.

UC Merced added eight new ladder-ranked professors this year and we now have 130 faculty members and 100 lecturers. Non-academic staff numbers more than 600. We also welcomed two new deans for the Schools of Engineering and Social Sciences, Humanities and Arts. We were awarded nearly \$22 million in research funding during fiscal year 2009-2010 and have received nearly \$11 million in the first quarter of the current fiscal year.

Despite the state's sobering economic climate, our campus gained some much-needed ground regarding its expansion plans. California's 2010-2011 budget includes \$81 million for the construction of the Science and Engineering 2 Building and \$6.5 million for site development and infrastructure. We are also looking forward to the completion of the new Social Sciences and Management Building, which is expected to open in Fall 2011. The addition of these buildings will bring some relief regarding our space needs.

We are strengthening our campus' areas of academic distinction as identified in our Strategic Academic Vision 2025. We continue to make strides in developing our medical and health education programs to address the pressing health concerns throughout the region. This fall, we announced a partnership with UC Davis to establish the UC Merced San Joaquin Valley Program in Medical Education, which will start with an inaugural class of six students in Fall 2011.

We also are continuing preparation toward obtaining accreditation from the Western Association of Schools and Colleges (WASC). Additional documentation will be submitted in late 2010, and a site visit is planned for Spring 2011. The initial accreditation decision is expected in June 2011.

Our campus is extremely pleased about our ongoing progress. Although difficult budget times hit UC Merced at the most critical point in our development, the economic downturn does not alter our long-term commitment to establishing a world-class research university. We are committed to pulling together, affirming our vision and mission and keeping on task.

Sincerely,

b. m. Carl

Steve Kang Chancellor



## **Management's Discussion and Analysis**

The objective of Management's Discussion and Analysis (MD&A) is to give readers an overview of the financial position and operating activities of the University of California, Merced (UC Merced) for the fiscal year ended June 30, 2010. The Financial Statements should be read in conjunction with the discussion and accompanying notes.

UC Merced is the newest of 10 campuses within the University of California system. The UC Merced Annual Financial Report, while not separately audited, is prepared from the official University of California records and accounts, which are maintained in accordance with the standards prescribed by the Governmental Accounting Standards Board (GASB). The three basic Financial Statements in this report, the Statement of Net Assets, the Statement of Revenues, Expenses and Changes in Net Assets, and the Statement of Cash Flows, encompass the UC Merced campus and its discretely presented component, the UC Merced Foundation. However, the MD&A and the Notes to Financial Statements focus only on the campus. The condensed Statement of Net Assets related to the UC Merced Foundation can be found in this publication.

The University of California system (the University) is a public, state supported institution. The University's audited Financial Statements, the various campus foundations, and the University of California Retirement System are available at: http://www.universityofcalifornia.edu/finreports/.

## **Campus History**

The history of UC Merced dates back to 1988 when the UC Regents first authorized planning for at least one additional campus based on projections of long-range enrollment demand. From an initial review of more than 80 sites in the San Joaquin Valley, following a careful process, the Board of Regents selected the current site in eastern Merced County adjacent to Lake Yosemite Park, as the location for the 10th campus of the University of California in May 1995.

By 1997, UC Merced had established a regional office in Merced, and the UC Center in Fresno also served as a focal point for the new UC Merced campus.

In 1998, the University joined with the Merced County Board of Supervisors, the Virginia and Cyril Smith Trusts, the City of Merced, and the Merced Irrigation District to initiate a collaborative planning process for the University Community. The planning process produced a concept for a campus and community that could grow together in harmony with the landscape.

That same year, Carol Tomlinson-Keasey was appointed Senior Associate to UC President Atkinson to lead planning and development of the UC Merced campus. In 1999, Tomlinson-Keasey was appointed as founding Chancellor of UC Merced, and the Tri-College Center located on the Merced College campus began to present UC Extension courses offered by the UC Riverside, Davis and Berkeley campuses.

Careful analysis of the environmental factors of the site contributed to a decision to move the campus and community closer to existing urban areas and away from more environmentally sensitive lands. The concepts developed jointly by the community and the University formed the basis for the preparation of the campus Long-Range Development Plan (LRDP).

The Board of Regents approved the UC Merced LRDP and certified the associated Environmental Impact Report (EIR) in January 2002. Merced County approved the University Community Plan in December 2004 and certified the associated EIR. This action was a key milestone for the eventual development of the University Community.

Faculty members began to arrive in 2003 with graduate students in tow and began setting up research laboratories and programs at UC Merced's ancillary research facility on the former Castle Air Force Base, biding their time until buildings were ready on campus. The first graduate courses began in Fall 2004.

The campus celebrated its official grand opening and the arrival of the first class of undergraduate students on Sept. 5, 2005. The first semester saw most activities on campus taking place in the Valley Terrace housing complex and the Kolligian Library, as other campus buildings were not ready for use. The Classroom and Office Building and the Science and

Engineering Building opened for use in January 2006.

Chancellor Carol Tomlinson-Keasey left the University in 2006, subsequently retiring from the University of California. In her place, the University of California Board of Regents appointed Roderic B. Park, a veteran academic administrator who served as vice chancellor at UC Berkeley, interim Chancellor of the University of Colorado at Boulder, and senior associate to the Chancellor at UC Merced, as acting Chancellor of UC Merced.

Sung-Mo "Steve" Kang, UC Santa Cruz's School of Engineering Dean, was appointed Chancellor in March 2007. Kang was formally inaugurated in September 2007. He serves on the UC Merced Foundation as President, the Great Valley Center as Chairman of the Board, and the Central Valley Higher Education Consortium as an executive board member.



In 2009, an updated Long-Range Development Plan (LRDP) documenting the future physical development of the UC Merced campus through build-out was released. The plan reflects changes in the overall campus footprint, but retains and expands upon the vision and principles outlined in the original LRDP. The revisions modify the size and configuration of the campus and contiguous university community to reduce environmental impacts, achieve greater land-use efficiency, and accommodate both anticipated and unanticipated future development needs of a 25,000 student campus. The reconfigured campus site, at 815 acres, is approximately 10 percent smaller than the previous 910-acre layout.

In the spring of 2009, UC Merced was granted a key federal permit it needed to move ahead with future development of its planned 25,000-student campus and associated university community. The University's permit application was approved by the U.S. Army Corps of Engineers (USACE) under Section 404 of the U.S. Clean Water Act. The permit was required because a portion of the University's campus and



northern portion of the adjoining university community involves federally protected wetlands (approximately 85 acres).

One major goal for UC Merced is to become the greenest campus in the country. As of 2009, six campus buildings have earned LEED Gold certification by the U.S. Green Building Council (USGBC), with a seventh earning LEED Silver. No other university in the United States has earned LEED Silver or better for every building on campus. This unprecedented achievement demonstrates the University's dedication to excellence in environmentally responsible design, construction and operation.

UC Merced's commitment to environmental sustainability extends beyond building practices. Participation in the campus wide recycling program is the norm, not the exception. All campus operations focus on minimizing the negative impacts of the campus on the environment.

Also, part of our green-campus goal is land conservation. University officials, through a special collaboration with the Packard Foundation, the Hewlett Foundation, the Nature Conservancy, and the State of California, have set aside 25,000 acres of grassland habitat for permanent conservation.

In May 2009, the Pioneer Class of 2009 made a lasting mark on the newest UC. With First Lady Michelle Obama providing inspiration and encouragement, and with more than 12,000 attendees cheering them on, members of the University of California, Merced's historic inaugural class were awarded bachelor's degrees at the four-year-old university's first full commencement ceremony. As of fiscal year 2009-2010 there have been 758 undergraduate and 50 graduate and post doctorate degrees awarded at UC Merced.

In June 2009, the campus marked the completion of its new state-ofthe-art, sustainably built child care facility, the Early Childhood Education Center (ECEC). With the opening of ECEC, the university fulfills its goal of providing better ways to help children learn, increasing access to highquality early-learning programs, and helping to meet the demand for quality child care in Merced.

In July 2009, construction began on an 8-acre, 1-megawatt solar photovoltaic array. The system produces about two-thirds of the campus' electricity on a summer afternoon and 20 percent of its annual electricity needs. The project is part of the university's effort to build and operate the "greenest" campus in the country.

Work is continuing at the east side of campus, where the Social Sciences and Management Building is under construction. The building, which will house much of the School of Social Sciences, Humanities and Arts, will also be home to the future Ernest & Julio Gallo School of Management and an entrepreneurship center. The building is due for completion in Spring 2011.

#### **Student and Employee Data**

Student Full Time Eq	Fall <mark>2010</mark> Juivalent (FTE)	Fall 2009
Undergraduate Graduate	4,087 212	3,153 231
Employee Full Time	Equivalent (FTE)	
Faculty	234	199 647
All Other	/44	047

UC Merced guarantees housing for all new freshmen. 76 % of incoming freshmen in Fall 2009 lived on campus.

The UC Merced Library provides access to 35,000 online journals, 300 databases and 700,000 e-books. The on-site collection is supplemented by access to the entire University of California collection of approximately 39 million volumes which includes 2.7 million books in digital full-text format. Wireless connectivity throughout the library building allows users to access the entirety of the online information resources provided by UC Merced.

The amount of money spent at UC Merced on research, including graduate student salaries and benefits along with supplies and equipment for research projects surpassed \$14.1 million in the 2009-10 fiscal year. This is the highest total in the campus' history and nearly a 10 percent increase over the \$12.9 million in expenditures in 2008-09. Research awards received totaled around \$22 million for the second consecutive year.

## **Academic Programs**

#### **Academic Divisions and Schools**

School of Engineering School of Natural Sciences School of Social Sciences, Humanities & Arts

#### **Graduate Program Areas of Emphasis**

Applied Mathematics Biological Engineering & Small-scale Technologies Electronic Engineering and Computer Science Environmental Systems Mechanical Engineering and Applied Mechanics Physics and Chemistry Quantitative and Systems Biology Social and Cognitive Sciences World Cultures

# Majors at UC Merced with the largest number of Undergraduate Degrees Awarded in 2010

Biological Sciences	33%
Psychology	21%
Management	8%
Political Science	6%
Bioengineering	3%
All other degree areas	29 %
Total	100%





#### **Instructional Faculty**

Total Full-time Instructional Faculty	199
% Women Faculty	38%
% Faculty from Minority Groups	32%
% Faculty with Ph.D. or Equivalent	84%

UC Merced's academic programs offer an exemplary learning environment that provides small class size, critical hands-on experience in the student's area of interest, courses taught by outstanding faculty and numerous resources to help our students achieve a competitive edge.

# **Overview information by School**

#### **School of Engineering**

At UC Merced, engineering students have the unique opportunity to learn from the very best research faculty in the world, while in small classroom settings. It's engineering majors are the most cutting edge, they combine highly advanced scientific technology with the understanding of the theory and problem-solving skills key to any outstanding engineering education.

Each major is interdisciplinary; students receive a balanced education that builds a foundation of math, science, critical reading and writing, with decision-making and communication skills.

#### **School of Natural Sciences**

Graduates from the UC Merced School of Natural Sciences will have practical skills to enter the high-tech job market directly, as well as the in-depth knowledge needed to succeed in professional schools or graduate programs. The school has created a range of multidisciplinary majors in some of the most exciting and innovative areas of science: applied mathematical sciences, biological sciences (including tracks in molecular and cell biology, integrative biology and human biology), chemical sciences, earth systems sciences and physics.

#### School of Social Sciences, Humanities and Arts

The educational mission of the school is to create a rich learning environment by looking at people and society through the lenses of the many disciplines known as the social sciences, humanities and the arts. As a new campus, UC Merced has the singular opportunity to foster an integrative environment that draws from these disciplinary research traditions, but is not limited by their boundaries.

# **Research Centers and Institutes**

#### Sierra Nevada Research Institute

SNRI experts in the natural sciences, engineering and policy sciences, work together to address resource-related questions for the Sierra Nevada and the Central Valley of California with global implications, exploring fields like hydrology, fire science, ecology and climate change.

#### **Energy Research Institute**

Rising energy prices and the impact of fossil fuels on the environment are driving increased research of renewable energy supply systems. UC Merced is developing novel solutions for a reliable, cost-competitive and environmentally friendly energy system. As part of an international community of energy experts, UC Merced is positioned to develop new technologies that challenge the status quo of the current energy economic system.

#### UC Advanced Solar Technologies Institute (UC Solar)

UC Solar is made up of participants from the University of California's Merced, Berkeley and Santa Barbara campuses, and is supported by research grants, philanthropic gifts, and corporate sponsors. UC Solar faculty, students and postdoctoral researchers are dedicated to designing and developing innovative solar energy generation technologies that are more efficient, more affordable, and the first choice for California and the world.

#### **Health Sciences Research Institute**

The Health Sciences Research Institute (HSRI) applies knowledge from advanced research to create solutions for complex health issues in the San Joaquin Valley and across the world that affect the community's health, and future generations.

#### UC Merced Center of Excellence on Health Disparities

In September 2009, UC Merced was awarded a program grant by the National Institutes of Health's National Center on Minority Health and Health Disparities (NCMHD) to develop a Center of Excellence (COE) for the study of health disparities in the Central Valley. The mission of the NCMHD is to promote minority health and to lead, coordinate, support, and assess the NIH effort to reduce and ultimately eliminate health disparities.

#### **Center for Computational Biology**

The Center for Computational Biology (CCB) is a new research and education center at UC Merced. The center sponsors multidisciplinary scientific projects in which biological understanding is guided by computational modeling. The center also facilitates the development and dissemination of undergraduate and graduate course materials based on the latest research in computational biology.

Partnership research institutes are being planned by the faculty. UC Merced also has entered into collaborative partnerships with the National Park Service, the Lawrence Livermore National Laboratory and the Central Valley Higher Education Consortium.

The campus operates educational outreach centers in Bakersfield and Fresno, with dozens of professional development programs for K-12 teachers and administrators, interaction with students at each of the 144 Valley high schools and educational opportunities for students who want to take classes in the summers.



#### **The Campus' Financial Position**

The University of California, Merced's financial statements are prepared from the official University of California records and accounts, which are maintained and audited in accordance with the accounting principles established by the Governmental Accounting Standards Board (GASB).

The Statement of Net Assets on Page 15 presents UC Merced's financial position at the end of the fiscal year. It displays the assets and liabilities of the campus, accounted for on a local level. The difference between assets and liabilities is net assets, representing a measure of the current financial condition of the campus. At June 30, 2010 the campus' total assets were \$469 million, liabilities were \$74 million and net assets were \$395 million. Certain assets, liabilities and net assets, such as system-wide self-insurance liabilities, and debt and endowment funds, are not reflected at the campus level, and are not included in the UC Merced's Statement of Net Assets. Therefore, the campus level Statement of Net Assets does not reflect a complete picture of the campus' financial position. (In Thousands of Dollars):

	2009-10	2008-09
Assets		
Cash	41	200
Investments	55,812	45,153
Receivables, net	14,461	13,334
Capital Assets, net	393,368	367,880
Other Assets	5,931	6,170
Total Assets	469,613	432,737
Liabilities		
Current Long-Term Debt	5,002	1,912
Other Liabilities	28,187	23,291
Long-Term Debt	160,323	163,128
Total Liabilities	193,512	188,331
Net Assets		
Invested in Capital Assets	232,866	207,625
Other	43,235	36,781
Total Net Assets	276,101	244,406

See the Notes to Financial Statements on page 29 for the explanation of differences with the Statement of Net Assets on page 15.



#### The Campus' Assets

Long-term investments, the campus' portion of pooled debt, and the retirement system are accounted for on a system-wide basis through the Office of the President and are not reflected in the UC Merced stand alone Financial Statements. UC Merced does participate in a temporary investment pool that is administered by the Office of the President and the balance in this pool is reflected as part of the campus' assets on UC Merced Financial Statements under cash and cash equivalents. These funds are primarily invested in US Treasury securities, commercial paper and short-term corporate notes with cost approximating market value. The amount invested in the short-term investment pool at June 30, 2010, totaled \$56 million.

Accounts receivable increased from \$13.3 million in 2009 to \$14.4 million in 2010. Accounts receivable include those from the state and federal governments, revenue investment activity, local and private grants, and those related to student fees.

Net capital assets (original cost less depreciation) increased from \$367 million to \$393 million. Capital assets include land, infrastructure, buildings and improvements, equipment, software, library, special collections and construction in progress. The increase was primarily attributable to construction in progress and improvements to existing buildings and infrastructure.

Accumulated depreciation increased from \$63 million to \$81 million. There were no material disposals of capital assets during 2010.





# The Campus' Liabilities

Current liabilities of the campus, increased from \$68 million to \$74 million. Current liabilities consist largely of accounts payable to vendors for goods and services from operating activities, accrued compensation costs due to employees for services performed, deferred revenue and current portions of long-term debt utilized to finance capital assets.







#### The Campus' Net Assets

Net assets represent the residual interest in the campus' assets after all liabilities are deducted. During the year, the campus' net assets increased from \$364 million to \$395 million. This increase was driven primarily by the increase in campus' capital assets.

# The Campus' Results of Operations

The Statement of Revenues, Expenses and Changes in Net Assets is a presentation of the campus' operating results for the year. It indicates whether the financial condition has improved or deteriorated. In accordance with Governmental Accounting Standards Board (GASB) requirements, certain significant revenues relied upon and budgeted for fundamental operation support of the core instructional mission of the campus, including state education appropriations, private gifts, and investment income, are mandated to be recorded as non-operating revenues.

#### **Revenues**

The campus' revenues that support UC Merced core activities include State of California educational appropriation and the State of California special appropriation in conjunction with student tuition and fees. Grants and contracts provide opportunities for undergraduates and graduate students to participate in basic research alongside prominent researchers. Gifts to the campus allow crucial flexibility to faculty for support of their fundamental activities and new academic initiatives. Sales and service revenue includes student housing, food services, bookstore, parking, and educational activities. (In Thousands of Dollars):

	2009-10	2008-09
Student Tuition and Fees	33,994	22,612
State Appropriations	50,837	48,720
Contracts and Grants	23,923	20,879
Sales and services	12,715	9,668
Private Gifts	1,528	3,075
Other	1,891	1,901

# **Expenditures**

UC Merced's expenses associated with core activities for 2010 total \$131 million. Core expenses are related to salaries and benefits of academic and administrative staff working on behalf of the University. Other expenses are related to goods and services used for operation of core activities of the campus, depreciation of capital assets, and scholarship and fellowship payments to students. (In Thousands of Dollars):

	2009-10	2008-09
Salaries & Benefits	77,538	71,746
Scholarships & Fellowships	18.793	12,564
Utilities	3,366	3,286
Supplies & Materials	10,422	29,780
Depreciation	18,008	17,830
Other Operating Expenses	14,374	16,956

# Other Non-Operating Activities and Changes in Net Assets

UC Merced's non-operating activities are generally non-cash transactions and thus are not available to support operations. This includes the financing costs associated with capital acquisitions, as well as the gain or loss on the disposal of capital assets.

# **Cash Flows**

The Statement of Cash Flows presents the significant sources and uses of cash. UC Merced does not have its own bank accounts. UC Merced's cash is handled by the Office of the President, which invests available funds on a daily basis.





#### **Financial Statements Transmittal Letter**

(unaudited)

The accompanying Financial Statements reflect the financial position and the results of operations of the University of California, Merced (UCM), for the fiscal year ended June 30, 2010.

The UC Merced Financial Statements are not individually audited, but rather are audited as part of the Consolidated Annual Financial Report of the University of California by the firm of PricewaterhouseCoopers, whose report is transmitted to The Regents.

The accompanying Financial Statements and Management's Discussion and Analysis detail only local campus activity. This separate UC Merced Annual Financial Report, while not separately audited, is prepared from the official University of California records and accounts, which are maintained in accordance with the standards prescribed by the Governmental Accounting Standards Board (GASB).

In compliance with GASB Statement No. 39, Determining Whether Certain Organizations Are Component Units, the financial activity of the legally separate, tax-exempt UC Merced Foundation can be found discretely recorded in the campus' Annual Financial Report on page 27 titled UC Merced Foundation.

# University of California, Merced

Statement of Net Assets (unaudited)

For Fiscal Years Ended June 30, 2010	and 2009
(In Thousands of Dollars)	

ASSETS Current Assets Cash and cash equivalents Accounts receivable, net State and federal government Other Pledges receivable Inventories Other current assets Total current assets Pledges receivable Pledges receivable Cother current assets Pledges receivable Pledges receivable Cother current assets Pledges receivable State and special collections State and federal government Cother current assets Cother current
Current AssetsCash and cash equivalents\$ 55,853 \$ 45,353Accounts receivable, net11,572State and federal government11,572Other2,503Pledges receivable126Inventories664Other current assets677Total current assets71,394Fledges receivable260Inventories260Other current assets71,394Fledges receivable260Inventories664Other current assets71,394Fledges receivable260State and, buildings, equipment, libraries and special collections473,639Ads.273(80,935)Less: Accumulated depreciation(80,935)Other noncurrent assets5,254State and special collections5,254State and special collections398 219State and procurrent assets398 219
Cash and cash equivalents \$ 55,853 \$ 45,353   Accounts receivable, net 11,572 9,660   State and federal government 11,572 9,660   Other 2,503 3,379   Pledges receivable 126 102   Inventories 664 702   Other current assets 677 1,031   Total current assets 677 1,031   Noncurrent Assets 71,394 60,227   Noncurrent Assets 260 193   Land, buildings, equipment, libraries and special collections 473,639 430,273   Less: Accumulated depreciation (80,935) (63,094)   Other noncurrent assets 5,254 5,139   Total noncurrent assets 5,254 5,139
Accounts receivable, netState and federal government11,5729,660Other2,5033,379Pledges receivable126102Inventories664702Other current assets6771,031Total current assets6771,031Noncurrent Assets71,39460,227Noncurrent Assets260193Land, buildings, equipment, libraries and special collections473,639430,273Less: Accumulated depreciation(80,935)(63,094)Other noncurrent assets5,2545,139Total noncurrent assets398,219372,510
State and federal government 11,572 9,660   Other 2,503 3,379   Pledges receivable 126 102   Inventories 664 702   Other current assets 677 1,031   Total current assets 677 1,031   Noncurrent Assets 71,394 60,227   Noncurrent Assets 260 193   Land, buildings, equipment, libraries and special collections 473,639 430,273   Less: Accumulated depreciation (80,935) (63,094)   Other noncurrent assets 5,254 5,139   Total noncurrent assets 398,219 372,510
Other   2,503   3,379     Pledges receivable   126   102     Inventories   664   702     Other current assets   677   1,031     Total current assets   677   1,031     Noncurrent Assets   71,394   60,227     Noncurrent Assets   71   94     Pledges receivable   260   193     Land, buildings, equipment, libraries and special collections   473,639   430,273     Less: Accumulated depreciation   (80,935)   (63,094)     Other noncurrent assets   5,254   5,139     Total poncurrent assets   398,219   372,510
Pledges receivable 126 102   Inventories 664 702   Other current assets 677 1,031   Total current assets 71,394 60,227   Noncurrent Assets 71 94   Pledges receivable 260 193   Land, buildings, equipment, libraries and special collections 473,639 430,273   Less: Accumulated depreciation (80,935) (63,094)   Other noncurrent assets 5,254 5,139   Total poncurrent assets 398,219 372,510
Inventories664702Other current assets6771,031Total current assets71,39460,227Noncurrent Assets7194Pledges receivable260193Land, buildings, equipment, libraries and special collections473,639430,273Less: Accumulated depreciation(80,935)(63,094)Other noncurrent assets5,2545,139Total poncurrent assets398,219372,510
Other current assets6771,031Total current assets71,39460,227Noncurrent Assets71,39460,227Pledges receivable260193Land, buildings, equipment, libraries and special collections473,639430,273Less: Accumulated depreciation(80,935)(63,094)Other noncurrent assets5,2545,139Total noncurrent assets398,219372,510
Total current assets71,39460,227Noncurrent Assets260193Pledges receivable260193Land, buildings, equipment, libraries and special collections473,639430,273Less: Accumulated depreciation(80,935)(63,094)Other noncurrent assets5,2545,139Total noncurrent assets398,219372,510
Noncurrent AssetsPledges receivable260193Land, buildings, equipment, libraries and special collections473,639430,273Less: Accumulated depreciation(80,935)(63,094)Other noncurrent assets5,2545,139Total noncurrent assets398,219372,510
Pledges receivable260193Land, buildings, equipment, libraries and special collections473,639430,273Less: Accumulated depreciation(80,935)(63,094)Other noncurrent assets5,2545,139Total noncurrent assets398,219372,510
Land, buildings, equipment, libraries and special collections473,639430,273Less: Accumulated depreciation(80,935)(63,094)Other noncurrent assets5,2545,139Total noncurrent assets398,219372,510
Less: Accumulated depreciation(80,935)(63,094)Other noncurrent assets5,2545,139Total noncurrent assets398 219372 510
Other noncurrent assets   5,254   5,139     Total noncurrent assets   398 219   372 510
Total noncurrent assets 398 219 372 510
Total assets 469,613 432,737
LIABILITIES
Current liabilities
Accounts payable 11,052 7,032
Accrued salaries and benefits 6,205 8,625
Deferred revenue 3,692 3,623
Current portion of long-term debt 437 504
Funds held for others 329 388
Other current liabilities 49.379 45.325
Total current liabilities71,09465,498
Noncurrent liabilities
Federal refundable loans(38)8
Long-term debt (Note 1)
Mortgages and other borrowings 538 593
Capital lease obligations 843 1,187
Other noncurrent liabilities 1,808 1,140
Total noncurrent liabilities3,1512,928
Total liabilities74,24468,427
NET ASSETS
Invested in capital assets, net of related debt 352,134 327,530
Restricted
Expendable
Endowment Income 2,734 2,262
Gifts 7,634 9,619
Capital projects (3,517) 4,066
Debt service (8) (9)
Appropriations (30) 230
Other 392 392
Unrestricted
Unrestricted 36,030 20.222
Total net assets \$ 395,369 \$ 364,311

# University of California, Merced

Statement of Revenues, Expenses and Changes in Net Assets (unaudited)

For Fiscal Years Ended June 30, 2010 and 2009

(In Thousands of Dollars)

	2010	2009
OPERATING REVENUES		
Student tuition and fees, net (Note 2)	\$ 22,276	\$ 11,327
Grants and contracts		
Federal	12,303	14,853
State	25,431	25,491
Private	2,970	3,633
Local	7	266
Educational activities	2	2
Auxiliary enterprises, net	12,713	9,666
Other operating revenues, net	1,754	1,757
Total operating revenues	77,456	66,995
OPERATING EXPENSES		
Salaries and wages	61,222	58,503
Benefits	16,316	13,243
Scholarships and fellowships (Note 3)	7,580	(916)
Utilities	3,366	3,286
Supplies and materials	10,422	29,780
Depreciation	18,008	17,830
Other operating expenses	14,275	16,532
Total operating expenses	131,189	138,258
Operating loss	(53,733)	(71,263)
NonOperating Revenues (Expenses)		
State educational appropriations	10,309	8,948
State financing appropriations	16,408	16,408
Federal financing appropriation	3	0
Federal pell grants	7,332	0
Private gifts	1,528	3,075
Interest expense	1	(6)
Loss on disposal of capital assets, net	(53)	(409)
Other nonoperating expenses	(47)	(9)
Total nonoperating revenues	35,481	28,007
Loss before other changes in net assets	(18,252)	(43,256)
OTHER CHANGES IN NET ASSETS		
State capital appropriations	11,929	8,883
Capital gifts and grants	19	205
Transfer	37,361	25,957
(Increase) Decrease in Net Assets	31,057	(8,211)
NET ASSETS		
Net assets, beginning of year	364,311	372,521
Net assets, end of year	\$ 395,368	\$ 364,310

See Notes to Financial Statements on Page 29

# University of California, Merced

STATEMENT OF CASH FLOWS (unaudited) For Fiscal Years Ended June 30, 2010 and 2009 (In Thousands of Dollars)

	2010	2009
CASH FLOWS FROM OPERATING ACTIVITIES		
Student tuition and fees (Note 2)	\$ 22,396	\$ 11,323
Grants and contracts	40,228	42,021
Educational activities	2	2
Auxiliary enterprises	12,636	9,721
Payments to employees	(60,636)	(56,690)
Payments for benefits	(16,159)	(12,452)
Payments to suppliers and utilities	(26,583)	(51,593)
Payments for scholarships and fellowships (Note 3)	(7,580)	916
Other receipts (payments)	2,721	2,962
Net cash provided (used) by operating activities	(32,975)	(53,790)
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES		
State educational appropriations	10,309	8,948
Federal pell grants	7,304	-
Other private gifts	1,436	5,240
Other receipts (payments)	(256)	(1,451)
Net cash flows from noncapital financing activities	18,793	12,737
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
State capital appropriations	9,570	8,995
State financing appropriations	16,408	16,408
Federal financing appropriations	3	-
Capital gifts and grants	1	1,509
Proceeds from debt issuance	925	3,034
Proceeds from the sale of capital assets	25	-
Purchases of capital assets	(40,322)	(21,908)
Principal paid on debt and capital leases	(508)	(415)
Interest paid on debt and capital leases	(113)	(116)
Net cash provided (used) by capital and related financing activities	(14,011)	7,507
CASH FLOWS FROM TRANSFERS	37,361	25,957
Net increase (decrease) in cash	10,556	7,030
Cash and cash equivalents, beginning of year	45,401	39,002
Cash and cash equivalents, end of year	\$ 55,957	\$ 46,032

See Notes to Financial Statements on Page 29



First Lady Michelle Obama providing inspiration and encouragement, to the University of California, Merced's historic inaugural class at the university's first full commencement ceremony in May 2009.

#### Notes to Financial Statements (unaudited) For Fiscal Years Ended June 30, 2010, and 2009

#### **Organization/Financial Reporting Entity**

The University of California ("the University") was founded in 1868 as a public, state-supported institution. The California State Constitution provides that the University shall be a public trust administered by the corporation, "The Regents of the University of California," which is vested with full powers of organization and government, subject only to such legislative control necessary to ensure the security of its funds and compliance with certain statutory and administrative requirements. The majority of the 26 member independent governing board (The Regents) are appointed by the Governor and approved by the state Senate. Various University programs and capital outlay projects are funded through appropriations from the state's Annual Budget Act. The University's Financial Statements are discretely presented in the state's general purpose Financial Statements as a component unit.

Additionally, the consolidated Financial Statements of the University, including ten campuses, five medical centers, a statewide agricultural extension program, the University of California Retirement System, and certain operational results of three major Department of Energy laboratories, are subjected to an annual independent audit. In addition, the financial position and operating results of certain other legally separate organizations are included in the University's financial reporting entity on a blended basis, if The Regents are determined to be financially accountable for the organization. The University's Financial Statements include the combined Financial Statements of the University of California campus foundations which are legally separate, tax-exempt, affiliated organizations. The Regents have fiduciary responsibility for the University of California Retirement System (UCRS) which includes two defined benefit plans and three defined contribution plans. The UCRS Statements of Plans' Fiduciary Net Assets and Changes in Plans' Fiduciary Net Assets are also presented discretely in the University's Financial Statements.

The accounts of the UC Merced campus are subject to limited-scope procedures as a part of the annual audit of the Financial Statements of the entire University of California. The Financial Statements for the Merced campus have not been individually audited.

The UC Merced Foundation is a nonprofit, public benefit corporation organized for the purpose of accepting and administering the full range of private contributions for the campus. The financial activities of the separately incorporated foundation are not reflected in the campus' records until such time as gifts are transferred from the foundation



to the campus. However, in accordance with the statements of the Governmental Accounting Standards Board (GASB), detailed below, foundation activity is noted on the campus' Financial Statements.

# **Summary of Significant Accounting Policies**

UC Merced's Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States of America, including all applicable effective statements of the Governmental Accounting Standards Board (GASB) and all statements of the Financial Accounting Standards Board (FASB) through November 30, 1989, using the economic resources measurement focus and the accrual basis of accounting.

The significant accounting policies followed by UC Merced are summarized below.

#### Cash:

UC Merced considers all balances in demand deposit accounts to be cash. All other highly liquid cash equivalents are considered short-term investments

#### Short-term investments:

UC Merced participates in a temporary investment pool that is administered by the University of California Office of the President. Income earned on investments is distributed based on average investments in the pool. This pool invests primarily in US Treasury securities, commercial paper and short-term corporate notes with cost approximating market value. These temporary investments are considered cash equivalents for the purposes of the Statement of Cash Flows.

#### **Investments:**

Investments for endowment monies and other similar funds are primarily administered centrally by the Office of the President and are not reflected on the UC Merced local Financial Statements. These funds consist of endowments, funds functioning as endowment, and annuity and life income funds. Endowments require that the principal be invested in perpetuity, with the income used in accordance with the terms specified by the donor. Funds functioning as endowment are primarily gifts and related gains that the University treats as endowments, with the exception that any portion of these funds may be expended at the University's discretion. Annuity and life income funds are held in trust by the University with the annuity or income paid periodically to designated beneficiaries. Principal of these funds vests with the University and payments cease upon the death of the beneficiaries.

Monies are invested by the Treasurer of The Regents and the income is transferred to individual campuses annually. A substantial portion of the net assets of endowment and similar funds participates in a general endowment pool. Each individual fund subscribes to or disposes of units on the basis of the market value per unit at the end of the calendar month within which the transaction takes place. Investments include equities and bonds.

#### **Accounts Receivable:**

Accounts receivable include reimbursements due from state and federal sponsors of externally funded research and other receivables. Other receivables include local government and private grants and contracts, pledges, educational activities, and amounts due from students, employees, and faculty for services.

#### **Pledges:**

Unconditional pledges of private gifts to UC Merced to be received in the future are recorded as pledges receivable and revenue in the year promised at the present value of expected cash flows. Conditional pledges, including pledges of endowments to be received in future periods and intentions to pledge, are recognized as receivables and revenues when the specified conditions are met.

#### **Notes Receivable:**

Loans to students are provided from federal student loan programs and from other university sources.

#### **Inventories:**

Inventories, consisting primarily of supplies and merchandise for resale, are valued at cost, typically determined using the weighted average method, which is not in excess of net realizable value.

# Land, infrastructure, buildings, equipment, libraries and collections:

Land, infrastructure, buildings and improvements, equipment, libraries and collections, and special collections are recorded at cost at the date of acquisition, or fair value at the date of donation in the case of gifts. Estimates of fair value involve assumptions and estimation methods that are uncertain and, therefore, the estimates could differ from actual results. Capital leases are recorded at the present value of future minimum lease payments. Significant additions, replacements, major repairs, and renovations are generally capitalized if the cost exceeds \$35,000 and if they have a useful life of more than one year. Minor renovations are charged to operations. Equipment with cost in excess of \$5,000 and a useful life of more than one year is capitalized. All costs of land, library collections and special collections are capitalized.

Depreciation is calculated using the straight-line method over the

estimated economic life of the asset. Leasehold improvements are amortized using the straight-line method over the shorter of the life of the applicable lease or the economic life of the asset.

#### Estimated economic lives are generally as follows:

Infrastructure	25 years
Buildings and Improvements	15-33 years
Equipment	2-20 years
Computer software	3-7 years
Library Books and Materials	15 years

Capital assets acquired through federal grants and contracts where the federal government retains a reversionary interest are also capitalized and depreciated.

Inexhaustible capital assets such as land or special collections that are protected, preserved and held for public exhibition, education or research, including art, museum, scientific and rare book collections are not depreciated.

Interest on borrowings to finance facilities is capitalized during construction, net of any investment income earned during the temporary investment of project-related borrowings.

#### **Deferred revenue:**

Deferred revenue primarily includes amounts received from grant and contract sponsors that have not been earned under the terms of the agreement, and other revenue billed in advance of the event, such as student tuition and fees, and fees for housing and dining services.

#### Federal refundable loans:

Certain loans to students are administered by UC Merced with funding primarily supported by the federal government. UC Merced's Statement of Net Assets includes both the notes receivable and the related federal refundable loan liability representing federal capital contributions owed upon termination of the program.

#### Funds held for others:

Funds held for others result from UC Merced acting as an agent or fiduciary on behalf of organizations that are not significant or financially accountable to UC Merced.

#### Net assets:

Net assets are classified for accounting and reporting purposes into the following categories:

Invested in capital assets, net of related debt. This category includes all

of UC Merced's capital assets, net of accumulated depreciation, reduced by outstanding debt attributable to the acquisition, construction or improvement of those assets.

Restricted. UC Merced classifies net assets resulting from transactions with purpose restrictions as restricted net assets until the specific resources are used for the required purpose or for as long as the provider requires the resources to remain intact.

Nonexpendable. Net assets subject to externally imposed restrictions that must be retained in perpetuity by UC Merced are classified as nonexpendable net assets. Such assets include UC Merced's permanent endowment funds that are held by the University of California and are not included in the UC Merced Financial Statements.

Expendable. Net assets whose use by UC Merced is subject to externally imposed restrictions that can be fulfilled by actions of UC Merced pursuant to those restrictions or that expire by the passage of time are classified as expendable net assets.

Unrestricted. Net assets that are neither restricted nor invested in capital assets, net of related debt, are classified as unrestricted net assets. Unrestricted net assets may be designated for specific purposes by management or The Regents. Substantially all of the unrestricted net assets are allocated for academic and research initiatives or programs or for capital programs.

#### **Revenues and expenses:**

Operating revenues include receipts from student tuition and fees, grants and contracts for specific operating activities, and sales and services from educational activities and auxiliary enterprises. Operating expenses incurred in conducting the programs and services of UC Merced are presented in the Statement of Revenues, Expenses and Changes in Net Assets.

Certain significant revenues relied upon and budgeted for fundamental operational support of the core instructional mission of UC Merced are mandated by the GASB to be recorded as non-operating revenues, including state educational appropriations, private gifts, and investment income, since the GASB does not consider them to be related to the principal operating activities of UC Merced.

The campus foundation was established to financially support UC Merced. Private gifts to the campus foundation are recognized as operating revenues on the foundation's Financial Statements since, in contrast to the University, such contributions are fundamental to the core mission of the foundation. Foundation grants to UC Merced are recognized as operating expenses. When the gift is transferred from



Commencement speaker 2010 - Lester Holt is the weekend anchor for the flagship broadcast NBC Nightly News, and is also the co-anchor of the weekend edition of TODAY.

the foundation to UC Merced, the campus records the revenue as nonoperating revenue.

Non-operating revenues and expenses include state educational appropriations (for the support of UC Merced operating expenses), state financing appropriations, private gifts for other than capital purposes, investment income, net unrealized appreciation or depreciation in the fair value of investments, interest expense, and gain or loss on the disposal of capital assets.

State capital appropriations, capital gifts and grants, and gifts for endowment purposes are classified as other changes in net assets.

#### Student tuition and fees:

Substantially all of the student tuition and fees provide for current operations of the campus. A small portion of student fees is required for debt service associated with the recreation center. Certain waivers of student tuition and fees considered scholarship allowances are recorded as an offset to revenue.

#### State appropriations:

The State of California provides appropriations to UC Merced on an annual basis. State educational appropriations are recognized as non-operating revenue; however, the related expenses are incurred to support either educational operations or other specific operating purposes. State financing appropriations provide for principal and interest payments associated with lease-purchase agreements with the State Public Works Board and are also reported as non-operating revenue. State appropriations for capital projects are recorded as revenue on the Statement of Revenues, Expenses, and Changes in Net Assets, under Other Changes in Net Assets when the related expenditures are incurred. A special state appropriation for tobacco related disease research is reported as grant revenue.

#### Grant and contract revenue:

UC Merced receives grant and contract revenue from governmental and private sources. The campus recognizes revenue associated with the direct costs of sponsored programs as the related expenditures are incurred. Recovery of facilities and administrative costs of federally sponsored programs is at an estimated cost reimbursement rate negotiated with UC Merced's federal cognizant agency, the Department of Health and Human Services.

For the fiscal year ended June 30, 2009, the facilities and administrative cost recovery totaled \$2,345,616, which consisted of \$1,772,707 from federally sponsored programs and \$747,793 from other sponsors. For the fiscal year ended June 30, 2010 the facilities and administrative cost recovery totaled \$3,159,083, which consisted of \$2,450,341 from federally sponsored programs and \$572,909 from other sponsors.

UC Merced is required to transfer all facilities and administrative cost recoveries received from performance under grants and contracts to the Office of the President as part of the closing process. A portion of the recoveries is returned to the campus in the annual budgetary allocation from the Office of the President.

#### **Scholarship allowances:**

UC Merced recognizes certain scholarship allowances, including both financial aid and fee waivers, as the difference between the stated charge for tuition and fees, housing and dining charges, recreational center fees, etc., and the amount that is paid by the student or by the third parties making payments on behalf of the student. Payments of financial aid made directly to students are classified as scholarship and fellowship expenses.

#### **Compensated absences:**

UC Merced accrues annual leave for employees at rates based upon length of service and job classification, and compensatory time based upon job classification and hours worked.

#### **Endowment spending:**

Under provisions of California law, the Uniform Management of Institutional Funds Act allows for investment income, as well as a portion of realized and unrealized gains, to be expended for the operational requirements of University programs.

#### Tax exemption:

President Jimmy Carter visited the University of California, Merced campus to deliver the keynote address at a National Parks Institute seminar and received the 2010 Alice and Clifford Spendlove Prize in Social Justice, Diplomacy and Tolerance.

UC Merced is qualified as a tax-exempt organization under the provisions of Section 501(c)(3) of the Internal Revenue Code and are exempt from federal and state income taxes on related income.

#### Use of estimates:

The preparation of Financial Statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the Financial Statements, as well as the reported amounts of revenues and expenditures during the reporting period. Actual amounts could differ from those estimates.



#### **Comparative information:**

2009 financial information is included as comparative values to the 2010 presentation.

#### 1. CASH AND CASH EQUIVALENTS

All University operating entities invest surplus cash balances in a short-term investment pool ("STIP") managed by the Treasurer of The Regents. The Regents are responsible for managing the STIP investments and establishing investment policy, which is carried out by the Treasurer of The Regents. UC Merced's deposits into the STIP are considered demand deposits. At June 30, 2010 and 2009, the carrying amount of UC Merced's demand deposits was \$41,000 and \$200,000 respectively.

#### 2. ACCOUNTS RECEIVABLE

Accounts receivable and the allowances for uncollectible amounts at June 30, 2010 and 2009, are as follows (In Thousands of Dollars):

State	e and Federal Government	Other	Total
At June 30, 2010	Government	Other	lotar
Accounts receivable	\$11,572	\$2,635	\$14,207
Allowance for uncollectible amounts	-	(132)	(132)
Accounts receivable, net	\$11,572	\$2,503	\$14,075
At June 30, 2009			
Accounts receivable	\$9,660	\$3,404	\$13,064
Allowance for uncollectible amounts	-	(25)	(25)
Accounts receivable, net	\$9,660	\$3,379	\$13,039

Other accounts receivable are primarily related to private grants and contracts, tuition and fees, and auxiliary enterprises.

#### 3. PLEDGES RECEIVABLE

The composition of pledges receivable at June 30, 2010, and 2009 is summarized as follows (In Thousands of Dollars):

	2010	2009
Total pledges receivable outstanding	\$420	\$315
Less: Unamortized discount to present value	(21)	(11)
Allowance for uncollectible amounts	(13)	(9)
Total pledges receivable, net	\$386	\$295
Less: Current portion of pledges receivable	126	102
Noncurrent portion of pledges receivable	\$260	\$193

Payments of pledges receivable for each of the five fiscal years subsequent to June 30, 2010 and thereafter are as follows (In Thousands of Dollars):

#### Year ended June 30

2011	131
2012	25
2013	88
2014	88
2015	88
Total payments on pledges receivable	\$420

#### 4. LAND, INFRASTRUCTURE, BUILDINGS, EQUIPMENT, LIBRARIES AND COLLECTIONS

The campus' capital asset activity for the years ended June 30, 2010 and 2009, is as follows (In Thousands of Dollars):

ORIGINAL COST	2009	ADDITIONS	DISPOSALS	2010
Land	12,029		0	12,029
Buildings & improvements	306,071	1,229	0	307,300
General Improvements/Infrastructure	47,347	1,774	0	49,121
Equipment	31,511	2,398	(246)	33,663
Software under \$10 million	1,426	6	0	1,432
Libraries & collections	7,801	1,284	0	9,085
Special collections	132	0	0	132
Third party capital assets	2,005	0	0	2,005
Construction in progress	21,951	36,920	0	58,871
Capital assets at original cost	\$430,273	\$43,611	(\$246)	\$473,638
ACCUMULATED DEPRECIATION				
AND AMORTIZATION	2009	ADDITIONS	DISPOSALS	2010
Buildings & improvements	41,050	10,823	0	51,873
General Improvements/Infrastructure	8,443	2,496	0	10,939
Equipment	11,019	3,988	(168)	14,839
Software under \$10 million	1,256	93	0	1,349
Libraries & collections	968	520	0	1,488
Third party capital assets	359	87	0	446
Accumulated Depreciation	\$63,095	\$18,007	(\$168)	\$80,934
Net Capital Assets	\$367,178			\$392,705

#### 5. DEBT

The Regents of the University of California may finance the construction, renovation, and acquisition of certain facilities and equipment for UC Merced and other UC campuses through the issuance of debt obligations. Long-term financing includes revenue bonds, mortgages, capital lease obligations, and other borrowings. UC Merced's outstanding debt at June 30, 2010 and 2009 is as follows (In Thousands of Dollars):

Total Outstanding Debt			\$ 46,057	\$ 45,136
Mortgage	Various	2010-2018	594	645
Capital lease obligations	4.09% - 7.9%	2010-2013	1,224	1,639
Commercial Paper Advances	Various	Various	2,798	3,019
Endowment advances	Various	Various	35,954	34,346
Notes payable to UCOP	2.6%	Various	5,487	5,487
	INTEREST RATE	MATURITY YEARS	2010	2009

Mortgage consists of a contractual obligation resulting from the acquisition of a building in Modesto. Capital leases consist of leases entered into for vehicles and equipment such as phone systems and postage machines.

#### 6. SELF INSURANCE AND OTHER LIABILITIES

UC Merced's other liabilities consist of the following (In Thousands of Dollars):

	2010		2	2009		
	Current	Non-current	Current	Non-current		
Compensated absences	4,547	1,808	2,051	1,140		
Other liabilities	586	0	414	0		
Total Other Liabilities	\$5,133	\$1,808	\$2,465	\$1,140		

Changes in other non-current liabilities for the years ended June 30, 2010 and 2009 are as follows (In Thousands of Dollars):

#### Year Ended June 30, 2010

Compensated Absences	2010	2009
Liabilities at June 30, 2009	1,140	809
New obligations	5,145	2,382
Reclassification to current	(4,477)	(2,051)
Liabilities At June 30, 2010	\$1,808	\$1,140

The University is self-insured for worker's compensation, employee health care and general liability claims. These risks are subject to various claim and aggregate limits, with excess liability coverage provided by an independent insurer. Liabilities are recorded on a system-wide basis when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated. Each campus funds the self-insurance liability through predetermined rates applied to payroll and other expenses. These amounts are reflected as operating expenses in UC Merced's Statement of Revenues, Expenses and Changes in Net Assets. UC Merced's Financial Statements do not reflect any liability amounts for self-insurance claims as these estimated liabilities are recorded on a system-wide basis.

#### 7. ENDOWMENTS AND FOUNDATION GIFTS

#### The Regents' Endowments

Endowment funds consist of monies gifted to UC Merced for which the donor has specified that only the earnings from investment of the principal may be expended. Expenditures of these funds are typically restricted to a specific purpose. Funds donated to UC Merced, like those donated to the nine other University of California campuses, are managed by the Treasurer of The Regents of the University of California. The financial activities of the separately incorporated campus foundation are not included in UC Merced's Financial Statements until such time as gifts are transferred from the campus foundation to UC Merced.

The portion of investment returns earned on endowments held by The Regents and distributed each year to support current operations is based on a rate (stated in dollars per share) that is approved by The Regents. The total distribution from endowments held by The Regents to UC Merced was \$1,360,328 and \$1,245,256 for the years ended June 30, 2010 and 2009, respectively.

#### **Campus' Foundation**

Under University policies approved by The Regents, each individual campus may establish a separate foundation to provide valuable assistance in fundraising, public outreach and other support for the missions of the campus and the University. Although an independent board governs the UC Merced Foundation, its assets are dedicated for the benefit of UC Merced.

During the years ended June 30, 2010 and 2009, gifts of \$472,258 and \$1,795,210 respectively were transferred to UC Merced from the UC Merced Foundation. In 2010 and 2009, the Foundation's net assets were \$7,072,486 and \$5,533,799 respectively.



# **UC Merced Foundation**

Condensed Statement of Net Assets (In Thousands of Dollars):

	2009-10	2008-09
Assets		
Current assets	1,103	836
Noncurrent assets	5,970	4,701
Total Assets	7,073	5,537
Liabilities		
Current liabilities	1	4
Total Liabilities	1	4
Net Assets		
Unrestricted	573	739
Restricted		
Nonexpendable (Endowment)	4,949	4,322
Expendable (Endowment)	138	39
Expendable (Gift)	1,412	433
Total Net Assets	7,072	5,533



# The Foundation's Assets

Current assets of the Foundation consist of cash, short-term investments and pledges receivable expected to be collected in the current year. In 2010, current assets increased by \$266,000 as compared to 2009. The increase relates to the new pledge from Foster Poultry Farms, which is expected to be fully paid in 2019.

Noncurrent assets consist of investment balances primarily pertaining to endowment principal funds, as well as pledges receivable expected to be collected after the end of the next fiscal year. In 2010, noncurrent assets increased by \$1,269,643 as compared to 2009. This increase includes the new pledge from Foster Poultry Farms for current use scholarships and fellowships. Despite the market's slow down, the Foundation received contributions to new and existing endowments during the fiscal year. Of the \$356,921 contributed to endowments, \$20,950 is from two new endowments: Michael & Arline Colvin Scholarship Fund and the Stephanie Rae Tomford Scholarship Fund. Noncurrent pledges receivable increased by \$528,540 primarily because of the new Foster Poultry Farms pledge for scholarships/fellowships expected to be fully paid by 2019. Lastly, the above described increases were a result of a decrease in unrealized holding loss from (\$591,012) as of June 30, 2009 to an unrealized holding loss of (\$177,833) as of June 30, 2010.

# The Foundation's Liabilities

The decrease in liabilities for accounts payable is not significant.

# The Foundation's Net Assets

Non-expendable restricted net assets increased by \$627,670 due to a combination of \$356,921 in contributions to new and existing endowments offset by decreases in unrealized holding losses. Due to the market decline in the Foundation's long-term investments, the fair value of certain donor restricted endowments fell below the original donated value. Of the total endowments, the Foundation identified a decline below the original donated value of \$150,071 in 16 funds at June 30, 2010. Expendable restricted net assets increased by \$99,084 primarily due to unrealized gains on investments during the year. The operating gains in the current year are a result of increases in donations to the Foundation.

#### 8. OPERATING EXPENSES BY FUNCTION

Operating expenses, by functional classification, for Fiscal Years Ended June 30, 2010 and 2009, are as follows (In Thousands of Dollars):

	2010	2009
Instruction	23,317	21,271
Research	14,153	12,891
Public service	5,158	6,247
Academic support	10,570	10,678
Student services	8,173	7,620
Institutional support	24,842	25,400
Operations and maintenance of plant	10,286	11,559
Student financial aid	18,972	12,563
Auxiliary enterprises	8,535	7,262
Depreciation	18,008	17,830
Other	893	18,780
Total Operating Expenses	\$131,189	\$138,259

#### 9. THE RETIREMENT PLAN

Most University employees participate in the University of California Retirement System (UCRS). The UCRS consists of a single employer defined benefit plan funded by University and employee contributions; a defined benefit plan for University employees who elected early retirement under the Public Employees Retirement System Voluntary Early Retirement Incentive Program (PERS-VERIP) and two defined contribution plans with several investment portfolios funded by employee non-elective and elective contributions. The Board of Regents is the trustee for all UCRS and PERS-VERIP funds. Accordingly these funds are separately identified in the system-wide financial report.

#### **10. COMMITMENTS AND CONTINGENCIES**

#### **Commitments**

Amounts committed but unexpended for construction projects totaled \$37,087,104 and \$16,410,950 at June 30, 2010 and 2009, respectively. UC Merced leases equipment under agreements recorded as operating leases. Operating lease expenses for the years ended June 30, 2010 and 2009 were \$965,606 and \$934,263 respectively. The terms of operating leases extend through July 2015. Future minimum payments on operating leases with initial or remaining non-cancelable terms in excess of one year are as follows (In Thousands of Dollars):

#### Minimum annual lease payments

Total	\$4,858
2015	424
2014	870
2013	963
2012	1,095
2011	1,506

#### Contingencies

Substantial amounts are received and expended by UC Merced under federal and state grants and contracts and are subject to audit by cognizant governmental agencies. This funding relates to research, student aid, and other programs. UC Merced management believes that any liabilities arising from such audits will not have a material effect on UC Merced's Financial Statements. UC Merced is contingently liable in connection with certain other claims and contracts, including those currently in litigation, arising in the normal course of its activities. Although there are inherent uncertainties in any litigation, UC Merced management and general counsel are of the opinion that the outcome of such matters will not have a material effect on UC Merced's financial position.

# Notes to Financial Statements (unaudited)

For Fiscal Years Ended June 30, 2010 and 2009

#### Note 1: Long-Term Debt

The Statement of Net Assets currently reflects long-term debt combined with Invested in Capital Assets, net of related debt and Current-Other Liabilities. The breakdown of long-term debt is reflected in the Campus' Financial Position section on page 11.

#### Note 2: Student Tuition and Fees

The Statement of Revenues, Expenses, and Changes in Net Assets and the Statement of Cash Flows currently reflects Student Tuition and Fees incorrectly calculated. The corrected Student Tuition and Fees numbers are reflected in the The Campus' Results of Operations-Revenues section on page 13.

#### **Note 3: Scholarships and Fellowships**

The Statement of Revenues, Expenses, and Changes in Net Assets and the Statement of Cash Flows currently reflects the Scholarships and Fellowships numbers incorrectly calculated. The corrected numbers are reflected in Scholarships and Fellowships in The Campus' Results of Operations-Expenditures section on page 13 and as Student Financial Aid in the Notes to Financial Statements, section 8 Operating Expenses by Function on Page 28.























# UCMERCED

# www.ucmerced.edu

#### **Produced by:**

University of Califiornia, Merced

**Financial Services** 

5200 N. Lake Road

Merced, CA 95343

(209) 228-4070



UNIVERSITY OF CALIFORNIA, MERCED 2012–2013 Annual Financial Report (unaudited) 

# **Table of Contents**

Letter from the Vice Chancellor for Business and Administrative Services	.1
Management's Discussion and Analysis	.2
Financial Statements Transmittal Letter	13
Financial Statements	14
Notes to Financial Statements	17

#### Message from Vice Chancellor Michael Reese

#### Dear Readers,

I am very pleased to present this Annual Financial Report for Fiscal Year 2012-13.

Despite facing unprecedented fiscal challenges over the last few years, the University of California continues to provide a high-quality and affordable education while also driving innovation through its research and public service. As new UC President Janet Napolitano says, "We teach for California. We research for the world."

UC Merced is proud to be a part of that vision. As the UC System's newest campus, UC Merced represents a strategic investment in California's future economy within the San Joaquin Valley. Our contributions to date have been sizeable – over \$1.7 billion in direct expenditures statewide, of which over \$946 million is focused in the Valley.

Student demand is as strong as ever, realizing the vision of the campus' founders by providing a unique first-class teaching and research experience to underserved and first generation students. Applications for admission continue to climb significantly as the campus' reputation expands throughout California and the world. In fact, UC Merced is one of the fastest growing campuses within the University of California system, with total applications received during Fall 2013 up over 14 percent compared to Fall 2012. For the Fall 2013 freshmen admit class, 64 percent of admits were the first generation in their family to attend college. UC Merced has had the highest percentages of first generation college students and the highest admission rates within the University of California System for the past three years in a row.

UC Merced is now developing strategies for continuing to meet this demand. With the primary goal of supporting an enrollment level of 10,000 students and becoming a vibrant, collaborative and sustainable campus, we are undergoing a major project titled the 2020 Project designed to develop strategies to include facilities needed to support this ambitious undertaking. The project includes academic, administrative, research and recreational buildings, student residences and student service buildings, utilities and infrastructure, outdoor recreation areas and associated roadways, and parking and landscaping by the year 2020.

In addition to presenting a picture of the financial status of the campus, this document should give you a sense of the vitality, energy, quality and pride that define UC Merced.

Sincerely,

Michael Reese Vice Chancellor for Business and Administrative Services

# **Management's Discussion and Analysis**

The objective of Management's Discussion and Analysis (MD&A) is to give readers an overview of the financial position and operating activities of the University of California, Merced (UC Merced), for the fiscal year ended June 30, 2013 with selected comparative information for the fiscal year ended June 30, 2012. This discussion should be read in conjunction with the financial statements and accompanying notes.

UC Merced is the newest of ten campuses within the University of California System. The UC Merced Annual Financial Report, while not separately audited, is prepared from the official University of California records and accounts, which are maintained in accordance with the standards prescribed by the Governmental Accounting Standards Board (GASB). The three basic financial statements in this report, the statements of net position, the statements of revenues, expenses and changes in net position, and the statements of cash flows for UC Merced and the affiliated UC Merced Foundation. The financial statements for the UC Merced Foundation are presented discretely from UC Merced. The notes to the financial statements provide additional information that is essential to a full understanding of the financial statements.

# The University of California

The University of California, one of the largest and most acclaimed institutions of higher learning in the world, is dedicated to excellence in teaching, research, health care and public service. The University has annual resources of nearly \$25.1 billion and encompasses ten campuses, five medical schools and medical centers, four law schools, and a statewide Division of Agricultural and Natural Resources. The University is also involved in the operation and management of three national laboratories for the U.S. Department of Energy (DOE).

# The UC Merced Campus

UC Merced is the newest campus within the University of California, opening in the fall of 2005 with the primary mission of research, teaching and service. The financial statements included in this annual report encompass the following:

The Merced campus spans 7,045 acres in Merced and is devoted to undergraduate and graduate scholarship serving over 6,000 students in the following schools and graduate programs:

#### Academic Schools and Divisions

School of Engineering School of Natural Sciences School of Social Sciences, Humanities & Arts

#### Graduate Studies

Applied Mathematics\* Biological Engineering & Small-Scale Technologies\* Chemistry and Chemical Biology Cognitive and Information Sciences Electrical Engineering and Computer Science\* Environmental Systems Mechanical Engineering\* Physics\* Political Science Psychological Sciences Quantitative and Systems Biology Social Sciences\* World Cultures\*

\* Emphasis within the Individual Graduate Program

During the 2012-2013 academic year, receiving more than 15,000 applications for Fall 2012, UC Merced was able to enroll nearly 5,800 students. This marks the eighth academic year for UC Merced with record enrollment. The increase is attributed to a record high of 1,500 incoming freshmen and a 23% increase in graduate-student enrollment. The number of applications received was up nearly 10% from Fall 2011. During the year, the campus's graduating class increased by over 30% to 898 degrees awarded in the 2012-2013 academic year as compared to 683 degrees in the prior year. The increase has led to aggressive faculty hiring, adding 26 new faculty members to teach and conduct advanced research increasing the total size of UC Merced's ladder-rank faculty to more than 150, compared with just 60 when the campus opened in 2005. While UC Merced consists of three schools, the School of Engineering, Natural Sciences, and Social Sciences, Humanities and Arts, there are plans to open two additional schools, a school of management and school of medicine in the future.

The campus' mission also includes a strong dedication to research and public service, embodied in its proud claim of being the first American research university of the 21<sup>st</sup> century. The amount of money spent at UC Merced on research, including graduate student salaries and benefits, along with supplies and equipment for research projects was \$33.7 million for fiscal year 2013 as compared to \$32.3 million for 2012. The UC Merced library provides access to approximately 70,000 online journals 580 databases, 102,000 books and almost 4.0 million e-books. The on-site collection is supplemented by access to the entire University of California collection of approximately 39 million volumes, which includes 2.7 million books in digital full-text format.

In addition to its educational and research mission, UC Merced is an important strategic investment in California's future economy. The campus serves as an engine of economic growth throughout the San Joaquin Valley where unemployment and poverty rates substantially exceed California averages. To date, the campus has contributed approximately \$946 million to the valley economy in wages and benefits, employing over 1,300 employees, construction contracts to local businesses and goods and services purchased from local businesses. Statewide, UC Merced's cumulative economic contribution has exceeded \$1.7 billion since the campus opened.

UC Merced is considered a leader in sustainability design and construction with a commitment to being zero waste and zero net emissions by 2020. All of UC Merced's buildings are certified by the 3<sup>rd</sup> party verification system, Leadership in Energy and Environmental Design (LEED) with the vision of LEED Gold being the campus minimum for all projects since 2009.

While UC Merced's financial information concerning assets, liabilities, revenues and core activity expenditures is discussed in further detail in the subsequent sections of the MD&A, the following table reflects the composition of the campus for 2013, listing enrollment figures, full-time equivalent employee figures and operating expenses by school.

(\$ amounts in thousands)	Headcount F		FTE						
·· /	Under- graduates	Graduates	Employees	Salaries & Wages		Other Expenditures		Total Expenditures	
School of Engineering	1,027		120	\$	9,099	\$	5,648	\$	14,747
School of Natural Sciences	1,749		219		13,201		9,448		22,649
School of Social Sciences, Humanities & Arts	2,002		252		11,209		6,525		17,734
Graduate Studies		329	7		600		429		1,029
Undeclared	670								
All others, including auxiliaries, student services, etc.			705		52,109		71,905		124,014
Subtotal	5,448	329	1,303	\$	86,218	\$	93,955	\$	180,173
Depreciation Expense									21,294
Total								\$	201.467

#### The Campus' Financial Position



The statement of net position presents UC Merced's financial position at the end of the fiscal year. It displays all of UC Merced's assets and liabilities. The difference between assets and liabilities is net position.

#### The Campus' Assets

UC Merced's total assets have grown to \$728.2 million in 2013, compared to \$662.8 million in 2012. Generally, over the past two years, capital assets and cash and cash equivalents have increased.

Cash and cash equivalents increased by \$20.5 million from the prior year due primarily to an increase in state educational appropriations to meet operating needs, which offset a decline in contracts and grants receipts from state resources as compared to the prior year. Accounts receivable increased from \$14.5 million in 2012 to \$16.6 million in 2013 primarily due to timing of receipts of state financing appropriations.

Capital spending continues to increase in order to provide the facilities necessary to support UC Merced's teaching, research and public service mission. The facilities include core academic buildings, a library, student services, housing and auxiliary enterprises, utility plant and infrastructure. Total additions to capital assets were \$86.5 million in 2013 compared to \$46.4 million in the prior year. Capitalized buildings and improvements include a new science and engineering building which is in progress of being constructed, a student services building, and a new 364 bed student housing building.

#### The Campus' Liabilities

Campus liabilities remained relatively unchanged in 2013 as compared to the prior year. Current liabilities increased by \$9.8 million compared to 2012 primarily due to an increase in salary and wage liabilities and an increase in accounts payable to vendors for goods and services, both of which are due to timing of payment. Further, the increase in current liabilities was offset by a \$8.0 million decrease in long-term debt as a result of normal debt service on capital lease obligations.

#### The Campus' Net Position

Net position represents the residual interest in UC Merced's assets after all liabilities are deducted. During the year, net position increased from \$137.2 million to \$200.7 million due primarily to its continued investment in its physical facilities.
#### The Campus' Results of Operations

The statement of revenues, expenses and changes in net position is a presentation of the campus' operating results for the year. It indicates whether the financial condition has improved or deteriorated. In accordance with Governmental Accounting Standards Board (GASB) requirements, certain significant revenues relied upon and budgeted for fundamental operational support of the core instructional mission of the campus are required to be recorded as nonoperating revenues, including state educational appropriations, private gifts, and investment income.

A summarized comparison of the operating results from 2013 and 2012, arranged in a format that matches the revenue supporting the core activities of UC Merced with the expenses associated with core activities, is as follows:

(in thousands of dollars)												
			20	013					2	012		
	01	perating	Nono	perating		Total	0	perating	Non	operating		Total
REVENUES												
Student tuition and fees, net	\$	52,907			\$	52,907	\$	47,673			\$	47,673
State educational appropriations			\$	79,573		79,573			\$	54,549		54,549
Pell grants				14,805		14,805				12,939		12,939
Grants and contracts, net		18,858				18,858		35,027				35,027
Auxiliary enterprises, net		17,538				17,538		17,012				17,012
Private gifts, net				1,858		1,858				2,364		2,364
Investment income, net				1,792		1,792				2,166		2,166
Other revenues		5,553		17,917		23,470		4,954		18,225		23,179
<b>Revenues supporting core activities</b>		94,856	1	115,945	2	210,801	1	104,666		90,243	1	194,909
EXPENSES												
Salaries and benefits		118,423				118,423		102,857				102,857
Scholarships and fellowships		12,438				12,438		9,498				9,498
Utilities		3,575				3,575		4,377				4,377
Supplies and materials		17,583				17,583		17,747				17,747
Depreciation and amortization		21,294				21,294		20,865				20,865
Interest expense				16,224		16,224				17,200		17,200
Other expenses		28,154		911		29,065		24,975		1,673		26,648
Expenses associated with core activities		201,467		17,135	2	218,602		180,319		18,873	1	199,192
Income (loss) from core activities	\$(	106,611)	\$	98,810	\$	(7,801)	\$	(75,653)	\$	71,370	\$	(4,283)
OTHER CHANGES IN NET POSITION												
Capital gifts and grants, net						6,470						17,450
State capital appropriations						1,576						2,087
Contributions from the University for building	progra	ums				50,656						21,914
Other transfers						12,578						840
Increase in net position						63,479						38,008
NET POSITION												
Beginning of year						137,175						99,167
End of year					\$2	200,654					\$1	137,175

#### **Revenues Supporting Core Activities**

Revenues to support UC Merced's core activities, including those classified as nonoperating revenues, grew from \$194.9 million in 2012 to \$210.8 million in 2013, an increase of 15.9 million.

State of California educational appropriations, in conjunction with student tuition and fees, are the core components that support the instructional mission of the University. Grants and contracts provide opportunities for undergraduate and graduate students to participate in basic research alongside prominent researchers. Gifts to campus allow crucial flexibility to faculty for support of their fundamental activities or new academic initiatives. Other revenues are derived from educational activities and auxiliary enterprises, such as student housing, food service and parking.



Revenues in various categories have increased or decreased over the last year as follows:

A major financial strength of UC Merced includes a diverse source of revenues, including those from student fees, federally sponsored grants and contracts, the state of California, private support, self-supporting enterprises, and the commitment of the University of California ensuring UC Merced's success as a newer campus within the UC System.

2013
Other revenues
Investment income, net
Private gifts, net
Auxiliary enterprises, net
Grants and contracts, net
Pell grants
State educational appropriations
Student tuition and fees, net

Categories of both operating and nonoperating revenue that supported UC Merced's core activities in 2013 are as follows:

Student Tuition and Fees revenue, net of scholarship allowances, increased by \$5.2 million and account for 25% of UC Merced's revenue.

(in thousands of dollars)		
	2013	2012
Student tuition and fees	\$ 77,695	\$ 68,956
Summer sessions	5,619	5,306
Scholarship allowances	 (30,407)	(26,589)
Total student tuition and fees	\$ 52,907	\$ 47,673

Student enrollment increased by 11% on a year-over-year basis with enrolled students of 5,777 and 5,210 in the fall of 2012 and 2011, respectively. Student tuition and fees increased 12.7% in 2013 over the prior year, primarily as a result of increased student enrollment. Consistent with past practices, approximately one-third of the revenue generated from tuition and fees was used for financial aid. The increase in enrollment also resulted in a 14% increase in scholarship allowances.

State educational appropriations from the state of California was \$79.6 million and 54.5 million in 2013 and 2012, respectively, accounting for 38% of UC Merced's revenue. While the University of California received a 10% increase in state educational appropriations from the state of California due to tax initiatives approved by the voters of California in November 2012, UC Merced's share, an allocation determined by the University, increased by 18% as a result of the University's commitment to UC Merced's growth. The remaining \$15.0 million is due to start-up funding received from the State to support the growth of UC Merced classified in previous years as operating revenue with state grant and contracts revenue.

Grants and Contracts, net from federal, state, and private sources recognized as expenditures incur, including an overall facilities and administration cost recovery of \$3.4 million in both 2013 and 2012, was \$18.9 million and \$35.0 million.

	2013 2012			С	hange
Federal government	\$ 14,700	\$	15,245	\$	(545)
State agencies	1,389		18,501		(17,112)
Private industries	2,769		1,281		1,488
Total grants and contracts, net	\$ 18,858	\$	35,027	\$(	16,169)

(in thousands of dollars)

State grant and contract revenue decreased by \$17.1 million from 2012 primarily due from state appropriations related to the planning, start-up, and on-going support for the UC Merced campus. In 2013, the State included amounts for this activity as a special appropriation separate from state educational appropriations, which are classified as nonoperating revenue; however, due to changes in the state budget for fiscal year 2013, these amounts are grouped with state educational appropriations for 2013.

#### Expenses Associated with Core Activities

Expenses associated with UC Merced's core activities, including those classified as nonoperating expenses, were \$218.6 million and \$199.2 million in 2013 and 2012, respectively. Expenses increased in 2013 by \$19.4 million, due to higher salaries and benefits and an increase in payments to students for financial aid.



Expenses in the various categories have increased or decreased over the last year as follows:

Categories of both operating and nonoperating expenses that support core activities, as of June 30, 2013 are as follows:



*Salaries and benefits* cover approximately 1303 full-time-equivalent (FTE) positions, a 12% increase over the prior year. Over 54% of UC Merced's expenses are related to salaries and benefits, which increased by \$15.6 million. In 2013, salaries increased by 15.1%, \$11.8 million due to an increase in the number of FTEs and \$3.8 million due to an increase in the average salary per FTE. In 2012, salaries increased by 17.1%, \$9.8 million due to an increase in the number of FTEs and \$5.3 million due to an increase in the average salary per FTE. Employee benefits increased by 21% due to increased contributions to pension benefits, as determined by the University and higher health insurance costs.

*Scholarship and fellowships*, represented as payments of financial aid made directly to students, UC Merced places a high priority on student financial aid as part of its commitment to affordability. Reported as operating expenses, UC Merced experienced an increase of \$2.9 million or 31.0% in 2013.

Scholarship allowances, representing financial aid and fee waivers awarded by UC Merced, were \$36.6 million and \$32.4 million in 2013 and 2012, respectively. On a combined basis, as UC Merced continues its commitment to provide financial support for needy students, financial aid in all forms increased by \$7.1 million or 17.1%.

*Other expenses associated with core activities,* consist of a variety of expense categories, including materials and supplies, travel, rent, insurance, legal settlements, and repairs and maintenance, plus any gain or loss on disposals of capital assets and other nonoperating expenses.

#### **Operating Losses**

In accordance with the GASB's reporting standards, operating losses were \$106.6 million and \$75.7 million in 2013 and 2012, respectively. The operating loss in 2013 was partially offset by \$98.8 million of net revenue that is required by the GASB to be classified as nonoperating, but clearly supports core operating activities. Expenses associated with core activities in 2013 exceeded revenue available to support core activities by \$7.8 million.

The operating loss in 2012 was partially offset by \$71.4 million of net revenue that is required by the GASB to be classified as nonoperating, but clearly supports core operating activities of the University. Expenses associated with core activities in 2012 exceeded revenue available to support core activities by \$4.3 million.

#### **Other Changes in Net Position**

Similar to other nonoperating activities discussed above, other changes in net position are also not available to support the University's operating expenses in the current year. State capital appropriations and capital gifts and grants may only be used for the purchase or construction of the specified capital assets. Only income earned from gifts of permanent endowments is available in future years to support the specified program. UC Merced's enrollment growth requires new facilities; however, while other higher education institutions have a continuing need for renewal, modernization and seismic correction of existing facilities, because UC Merced is a newer campus fit to meet all safety regulations and meet most modern needs, we can put a higher level of our funds towards growing the campus with new facilities.

#### The Campus' Cash Flows

(in thousands of dollars)

The statement of cash flows presents the significant sources and uses of cash. A summary comparison of cash flows for 2013 and 2012 is as follows:

(		 
	2013	 2012
Cash received from operations	\$ 108,989	\$ 113,947
Cash payments for operations	(172,152)	(163,146)
Net cash used by operating activities	(63,163)	(49,199)
Net cash provided by noncapital financing activities	96,354	71,600
Net cash provided by operating and noncapital financing activities	33,191	22,401
Net cash used by capital and related financing activities	(14,410)	(11,688)
Net cash provided (used) by investing activities	1,712	 1,699
Net increase (decrease) in cash	20,493	12,412
Cash, beginning of year	86,941	74,529
Cash, end of year	\$ 107,434	\$ 86,941

UC Merced's cash, primarily held in demand deposit accounts, is minimized by sweeping available cash balances into investment accounts managed by the Office of the President on a daily basis.

Cash provided by operating and noncapital financing activities were \$33.2 million and \$22.4 million in 2013 and 2012, respectively. In accordance with GASB requirements, certain cash flows relied upon for fundamental operational support of the core instruction mission are reported as noncapital financing activities, including state educational appropriations, private gifts and grants, and investment income.

Net cash of \$14.4 million and \$11.7 million was used in 2013 and 2012, respectively, for capital and related financing activities, primarily for purchases of capital assets and principal and interest payments, partially offset by sources that include state and federal capital appropriations, gifts for capital purposes, and contributions from the University to partially fund capital purchases.

# **UC Merced Foundation**

Under University policies approved by The Regents, each individual campus may establish a separate foundation to provide valuable assistance in fundraising, public outreach and other support for the missions of the campus and the University. Although an independent board governs the UC Merced Foundation (the Foundation), its assets are dedicated for the benefit of UC Merced.

During the years ended June 30, 2013 and 2012, gifts of \$1.7 million and \$2.0 million, respectively were transferred to UC Merced from the UC Merced Foundation. In 2013 and 2012, the Foundation's net position was \$8.1 million and \$7.6 million respectively.

#### The Foundation's Financial Position

The Foundation's statement of net position presents their financial position at the end of the year. It displays all of the assets, liabilities and net position. The difference between assets and liabilities are net position, representing a measure of their current financial condition.

The major components of the assets, liabilities and net position of the Foundation at 2013 and 2012 are as follows:

(in thousands of dollars)		
	2013	2012
ASSETS		
Investments	\$ 6,897	\$ 5,772
Pledges receivable, net	1,054	1,608
Other assets	149	193
Total assets	8,100	7,573
LIABILITIES		
Accounts payable and other liabilities	37	11
Total liabilities	37	11
NET POSITION		
Restricted:		
Nonexpendable	5,801	5,164
Expendable	1,877	2,022
Unrestricted	385	376
Total net position	\$ 8,063	\$ 7,562

Investments increased in 2013 due to strong performance in the equity markets and a new \$0.5 million endowment received during the year for scholarships. The Foundation Board of Trustees is responsible for its specific investment policy, although the Foundation relies on the Investment Committee of The Regents. All of the Foundation's investments are managed by the University's Chief Investment Officer.

Pledge receivables decreased by \$554 thousand due primarily to collections of existing pledges offset by a new \$110 thousand pledge received in 2013.

#### The Foundation's Results of Operations

The Foundation's statement of revenues, expenses and changes in net position is a presentation of their operating results for the year. It indicates whether their financial condition has improved or deteriorated during the year.

	2013	2012
Operating revenues		
Private gifts and other revenues	\$ 983	\$ 1,205
Total operating revenues	983	1,205
Operating expenses		
Grants to campuses and other expenses	1,797	2,173
Total operating expenses	1,797	2,173
Operating income (loss)	(814)	(968)
NONOPERATING REVENUES (EXPENSES)		
Investment income	77	87
Net appreciation (depreciation) in fair value of investments	615	(136)
Income (loss) before other changes in net position	(122)	(1,017)
OTHER CHANGES IN NET POSITION		
Permanent endowments	623	15
Increase (decrease) in net position	501	(1,002)
NET POSITION		
Beginning of year	7,562	8,564
End of year	\$ 8,063	\$ 7,562

A summarized comparison of the operating results for 2013 and 2012 is as follows:

(in thousands of dollars)

Operating revenues generally consist of current-use gifts, including pledges and income from other fundraising activities, although they do not include additions to permanent endowments and endowment income. Operating revenues fluctuate based upon fundraising campaigns conducted by the Foundation during the year.

Operating expenses generally consist of grants to UC Merced, comprised of current-use gifts and endowment income and other expenses, including gift fees. Grants to campus typically follow the pattern indicated by private gift revenue; however, the campus' programmatic needs are also taken into consideration, subject to abiding by the restricted purposes of gifts to the endowment and the amounts available for grants in any particular year.

Grants to campus can only be made when the cash is received and, in addition, also include endowment investment income, classified as nonoperating income. Therefore, operating losses can occur when grants distributed to the campus in any particular year exceed private gift revenue.

# **Financial Statements Transmittal Letter**

The accompanying Financial Statements reflect the financial position and the results of operations of the University of California, Merced for the fiscal year ended June 30, 2013 and 2012.

The UC Merced Financial Statements are not individually audited, but rather are audited as part of the Consolidated Annual Financial Report of the University of California by the firm of PricewaterhouseCoopers, whose report is transmitted to The Regents.

The accompanying Financial Statements and Management's Discussion and Analysis, detail only local campus activity. This separate UC Merced Annual Financial Report, while not separately audited, is prepared from the official University of California records and accounts, which are maintained in accordance with the standards prescribed by the Governmental Accounting Standards Board (GASB).

In compliance with GASB Statement No. 39, Determining Whether Certain Organizations Are Component Units, the financial activity of the legally separate, taxexempt UC Merced Foundation can be found discretely recorded in the campus' financial statements under a separate column titled "UC Merced Foundation."

Respectfully submitted,

Michael R Riley, CPA Interim Controller – Business and Financial Services

#### University of California, Merced

#### STATEMENTS OF NET POSITION

At June 30, 2013 and 2012 (in thousands of dollars)

	Can	npus		Foun	dation		
	2013	-	2012	2013		2012	
Assets							
Cash and cash equivalents	\$ 107,434	\$	86,941	\$ 5	\$	5	
Accounts receivable, net	16,600		14,493				
Pledges receivable, net	255		304	394		598	
Inventories	706		612				
Other current assets				 144		188	
Current assets	 124,995		102,350	 543		791	
Investments	23,111		21,130	6,897		5,772	
Investments held by trustees	68,233		92,306				
Pledges receivable, net	112		423	660		1,010	
Capital assets, net	506,274		441,175				
Other noncurrent assets	5,458		5,459				
Noncurrent assets	 603,188		560,493	7,557	-	6,782	
Total assets	 728,183		662,843	 8,100		7,573	
Liabilities							
Accounts payable	16,992		13,099	12		11	
Accrued salaries	5,297		675				
Employee benefits	1,157		1,585				
Unearned revenue	1,016		1,232	25			
Commercial paper	8,763		8,411				
Current portion of long-term debt	9,625		9,219				
Funds held for others	645		428				
Other current liabilities	6,297		5,335				
Current liabilities	 49,792		39,984	 37		11	
Long-term debt	474,174		482,907				
Other noncurrent liabilities	3,563		2,777				
Total Noncurrent Liabilities	 477,737		485,684	-		-	
Total Liabilities	 527,529		525,668	 37		11	
Net position							
Invested in capital assets net of related debt	84,954		35,496				
Restricted:							
Nonexpendable:							
Endowments and gifts	15,630		15,141	5,801		5,164	
Expendable:	•						
Endowments and gifts	14,957		18,027	1,877		2,022	
Other	1,087		271				
Unrestricted	84,026		68,240	385		376	
Total net position	\$ 200,654	\$	137,175	\$ 8,063	\$	7,562	

See Accompanying Notes to Financial Statements

#### University of California, Merced

# **STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION** As of for the year then ended June 30, 2013 and 2012 *(in thousands of dollars)*

	Ca	Campus		tion	
	2013	2012	2013	2012	
OPERATING REVENUES					
Student tuition and fees, net	\$ 52,907	\$ 47,673			
Grants and contracts, net					
Federal	14,700	15,245			
State	1,389	18,501			
Private	2,769	1,281			
Auxiliary enterprises, net	17,538	17,012			
Campus foundation private gifts			\$ 870 \$	5 1,106	
Other operating revenues, net	5,553	4,954	113	99	
Total operating revenues	94,856	104,666	983	1,205	
OPERATING EXPENSES					
Salaries and wages	86,218	76,274			
UCRP benefits	7,333	4,691			
Retiree health benefits	1,782	2,124			
Other employee benefits	23,090	19,768			
Supplies and materials	17,583	17,747			
Depreciation and amortization	21,294	20,865			
Scholarships and fellowships	12,438	9,498			
Utilities	3,575	4,377			
Campus foundation grants	,	,	1.698	2.018	
Other operating expenses	28.154	24.975	99	155	
Total operating expenses	201,467	180,319	1,797	2,173	
Total operating loss	(106,611	) (75,653)	(814)	(968)	
State educational appropriations	70 572	E4 E40			
State financing appropriations	19,575	54,549 16 254			
State infancing appropriations	10,330	10,304			
Federal mancing appropriations	1,007	1,071			
Private sitte met	14,805	12,939			
Private girls, net	1,858	2,304			
Investment income.	4 470	1 400			
Short Term investment Poor and other, net	1,170	1,422			
Endowment, net	622	744		07	
Campus foundations			11	87	
Net appreciation (depreciation) in fair value of investments	(10.004	(17 000)	615	(136)	
Interest expense	(16,224	) (17,200)			
Loss on disposal of capital assets	(139	) (1,650)			
Other honoperating (expenses) revenues, net	(772	) (23)		(10)	
Net nonoperating revenues	98,810	/1,3/0	692	(49)	
Income (loss) before other changes in het position	(7,801	) (4,283)	(122)	(1,017)	
OTHER CHANGES IN NET POSITION					
Capital gifts and grants, net	6,470	17,450			
State capital appropriations	1,576	2,087			
Permanent endowments			623	15	
Contributions from the University for the building program	50,656	21,914			
Other transfers	12,578	840			
Increase (decrease) in net position	63,479	38,008	501	(1,002)	
NET POSITION					
Beginning of year	137.175	99.167	7.562	8.564	
End of Year	\$ 200.654	\$ 137.175	\$ 8.063	5 7.562	
	÷ 200,004	÷ .51,115	÷ 0,000 (	, 1,00Z	

See Accompanying Notes to Financial Statements

# University of California, Merced **STATEMENTS OF CASH FLOWS**

As of for the year then ended June 30, 2013 and 2012 (in thousands of dollars)

		Campus			Found	ation		
		2013	2012		2013	2012		
CASH FLOWS FROM OPERATING ACTIVITIES								
Student tuition and fees	\$	52,978	\$ 47,723					
Grants and contracts		22,530	34,564					
Auxiliary enterprises		17,500	17,164	•		<b>^</b>		
Campus foundation private gifts		(0, 0, 0, 0)	(24.22.1)	\$	1,449	\$ 1,890		
Payments to employees		(81,921)	(81,004)					
Payments to suppliers and utilities		(45,320)	(46,166)					
Payments to UCRP		(7,703)	(4,506)					
Payments for retiree health benefits		(1,782)	(2,278)					
Payments for other employee benefits		(22,988)	(19,694)					
Payments for scholarships and fellowships		(12,438)	(9,498)		(4.000)	(0.040)		
Payments to campuses and beneficiaries					(1,698)	(2,018)		
Other receipts (payments)		5,553	3,654		15	(47)		
l ransfers		10,428	10,842		(00.4)	(475)		
Net cash used by operating activities		(63,163)	(49,199)		(234)	(175)		
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES								
State educational appropriations		79,573	54,549					
Federal pell grants		14,840	12,917					
Gifts received for other than capital purposes:								
Private gifts for endowment purposes					623	15		
Other private gifts		2,218	2,303					
Student direct lending receipts		25,995	23,127					
Student direct lending payments		(25,995)	(23,127)					
Other receipts (payments)		(934)	1,831					
Transfers		657	-					
Net cash provided by noncapital financing activities		96,354	71,600		623	15		
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES								
State capital appropriations		5,900	16,165					
State financing appropriations		16,386	16,400					
Federal financing appropriations		1,587	1,659					
Capital gifts and grants		1,495	1,588					
Proceeds from debt issuance		27,162	2,730					
Purchases of capital assets		(116,328)	(48,028)					
Scheduled principal paid on debt & capital leases		(361)	(612)					
Interest paid on debt and capital leases		(16,089)	(17,525)					
Transfers		65,838	15,935					
Net cash used by capital and related financing activities		(14,410)	(11,688)		-	-		
Cash Flows from Investing Activities								
Proceeds from sale & maturities of investments					1.795	2.165		
Purchase of investments					(2.262)	(2.092)		
Investment income net of investment expenses		1 712	1 699		78	87		
Net cash provided (used) by investing activities		1,712	1,699		(389)	160		
Net increase (decrease) in cash and cash equivalents		20,493	12,412		-	-		
Cash and cash equivalents, beginning of year		86,941	74,529		5	5		
Orech and each aminutants and of war	<u>_</u>	407 40 4	¢ 00.044	<b>^</b>		¢ -		
Cash and cash equivalents, end of year	\$	107,434	ə 86,941	\$	5	<b>»</b> 5		

See Accompanying Notes to Financial Statements

# UC Merced Notes to Financial Statements (unaudited)

Years ended June 30, 2013, and 2012

#### Organization

The University of California ("the University") was founded in 1868 as a public, state-supported institution. The California State Constitution provides that the University shall be a public trust administered by the corporation, "The Regents of the University of California," which is vested with full powers of organization and government, subject only to such legislative control necessary to ensure the security of its funds and compliance with certain statutory and administrative requirements. The majority of the 26-member independent governing board (The Regents) is appointed by the governor and approved by the state Senate. Various University programs and capital outlay projects are funded through appropriations from the state's annual Budget Act. The University's Financial Statements are discretely presented in the state's general purpose financial statements as a component unit.

#### **Financial Reporting Entity**

The University of California, Merced (UC Merced) campus is the tenth and newest of the University of California's campuses, established in 2005. UC Merced was the first American research university to be built in the 21st century. The financial statements included in this annual report present the activities of the Merced campus. The University of California System is subject to an annual audit of the consolidated statements, of which UC Merced is a part. The financial statements for the Merced campus have not been individually audited.

The UC Merced Foundation (the Foundation) is a 501(c)3 organization established for the purpose of encouraging voluntary private gifts, trusts, and bequests for the benefit of UC Merced. The financial activities of the separately incorporated Foundation are not reflected in the campus' records until such time as gifts are transferred from the Foundation to the campus.

In accordance with the statements of the Governmental Accounting Standards Board (GASB), Foundation activity is disclosed on UC Merced's financial statements in a separate column.

#### **Significant Accounting Policies**

The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America, using the economic resources measurement focus and the accrual basis of accounting. The University follows accounting principles issued by the GASB.

The significant accounting policies followed by UC Merced are as follows:

Cash and cash equivalents. UC Merced considers all balances in demand deposit accounts to be cash.

*Investments.* Investments are carried at fair value. Investments consist of investments in the UC Regents General Endowment Pool ("GEP"). The basis of determining the fair value of pooled funds or mutual funds is determined as the number of units held in the pool multiplied by the price per unit share.

Accounts receivable, net. Accounts receivable, net of allowance for uncollectible amounts, includes reimbursements due from state and federal sponsors of externally-funded research and other receivables. Other receivables include local government and private grants and contracts, educational activities and amounts due from students, employees and faculty for services.

*Pledges receivable, net.* Unconditional pledges, net of allowance for uncollectible amounts, of private gifts to UC Merced or to the UC Merced Foundation in the future are recorded as pledges receivable and revenue in the year promised at the present value of expected cash flows. Conditional pledges, including pledges of endowments to be received in future periods and intentions to pledge, are recognized as receivables and revenues when the specified conditions are met. Receivables and contribution revenue

associated with externally-held investment trusts are not reflected in the accompanying financial statements. UC Merced recognizes contribution revenue when all eligibility requirements have been met.

*Notes receivable, net.* Loans to students, net of allowance for uncollectible amounts are provided from federal student loan programs and from other University sources.

*Inventories.* Inventories, consisting primarily of supplies and merchandise for resale, are valued at cost, typically determined using the weighted average method, which is not in excess of net realizable value.

*Capital asset, net.* Land, infrastructure, buildings and improvements, equipment, libraries and collections, and special collections are recorded at cost at the date of acquisition, or estimated fair value at the date of donation in the case of gifts. Estimates of fair value involve assumptions and estimation methods that are uncertain and, therefore, the estimates could differ from actual results. Capital leases are recorded at the present value of future minimum lease payments. Significant additions, replacements, major repairs, and renovations to infrastructure and buildings are generally capitalized if the cost exceeds \$35,000 and if they have a useful life of more than one year. Minor renovations are charged to operations. Equipment with cost in excess of \$5,000 and a useful life of more than one year is capitalized. All costs of land, library collections and special collections are capitalized.

Depreciation is calculated using the straight-line method over the estimated economic life of the asset. Equipment under capital leases is amortized over the estimated useful life of the equipment. Leasehold improvements are amortized using the straight-line method over the shorter of the life of the applicable lease, or the economic life of the asset.

Estimated economic lives are generally as follows:

	Years
Infrastructure	25
Buildings and improvements	15 - 33
Equipment	2 - 20
Computer software	3 - 7
Intangible assets	2 - indefinite
Library books and collections	15

Capital assets acquired through federal grants and contracts where the federal government retains a reversionary interest are also capitalized and depreciated.

Inexhaustible capital assets such as land or special collections that are protected, preserved and held for public exhibition, education or research, including art, museum, scientific and rare book collections are not depreciated.

Interest on borrowings to finance facilities is capitalized during construction, net of any investment income earned during the temporary investment of project-related borrowings.

*Unearned revenue*. Unearned revenue primarily includes amounts received from grant and contract sponsors that have not been earned under the terms of the agreement, and other revenue billed in advance of the event, such as student tuition and fees, and fees for housing and dining services .

*Funds held for others*. Funds held for others result from UC Merced acting as an agent or fiduciary on behalf of organizations that are not significant or financially accountable to UC Merced.

*Federal refundable loans*. Certain loans to students are administered by UC Merced with funding primarily supported by the federal government. UC Merced's statement of net position includes both the notes receivable and the related federal refundable loan liability representing federal capital contributions owed upon termination of the program.

*Self-insurance programs.* The University is self-insured or insured through a wholly-owned captive insurance company for medical malpractice, worker's compensation, employee health care and general liability claims. These risks are subject to various claims and aggregate limits, with excess liability coverage provided by an independent insurer. Liabilities are recorded on a systemwide basis when it is probable a loss has occurred and the amount of the loss can be reasonably estimated. These losses include an estimate for claims that have been incurred, but not reported. The estimated liabilities are based upon an independent actuarial determination of the present value of the anticipated future payments. Each campus funds the self-insurance liability through predetermined rates applied to payroll and other expenses. These amounts are reflected as operating expenses in UC Merced's statement of revenue, expenses, and changes in net position. UC Merced's financial statements do not reflect any liabilities for self-insurance claims, as these estimated liabilities are recorded on a systemwide basis.

*Net position.* Net position is required to be classified for accounting and reporting purposes into the following categories:

*Invested in capital assets, net of related debt.* This category includes all of UC Merced's capital assets, net of accumulated depreciation, reduced by outstanding debt attributable to the acquisition, construction or improvement of those assets.

*Restricted.* UC Merced and the Foundation classify the net position resulting from transactions with purpose restrictions as restricted net position until the specific resources are used for the required purpose, or for as long as the provider requires the resources to remain intact.

*Nonexpendable*. The net position subject to externally imposed restrictions that must be retained in perpetuity by UC Merced or the Foundation, is classified as nonexpendable net position. This includes UC Merced and the Foundation permanent endowment funds.

*Expendable*. The net position whose use by UC Merced or the Foundation is subject to externallyimposed restrictions that can be fulfilled by actions of UC Merced or the Foundation pursuant to those restrictions or that expire by the passage of time are classified as expendable net position.

*Unrestricted*. The net position that is neither reserved, restricted nor invested in capital assets, net of related debt, are classified as unrestricted net position. UC Merced's unrestricted net position may be designated for specific purposes by management or The Regents. The Foundation's unrestricted net position may be designated for specific purposes by their Board of Trustees. Substantially all of UC Merced's unrestricted net position is allocated for academic and research initiatives or programs, for capital programs or for other purposes.

Expenses are charged to either restricted or unrestricted net position based upon a variety of factors, including consideration of prior and future revenue sources, the type of expenses incurred, UC Merced's budgetary policies surrounding the various revenue sources or whether the expense is a recurring cost.

**Revenues and expenses.** Operating revenues of UC Merced include receipts from student tuition and fees, grants and contracts for specific operating activities, and sales and services from educational activities and auxiliary enterprises. Operating expenses incurred in conducting the programs and services of UC Merced are presented in the statement of revenues, expenses and changes in net position as operating activities.

Certain significant revenues relied upon and budgeted for fundamental operational support of the core instructional mission of UC Merced are mandated by the GASB to be recorded as nonoperating revenues, including state educational appropriations, certain federal grants for student financial aid, private gifts, and investment income, since the GASB does not consider them to be related to the principal operating activities of UC Merced.

The Foundation was established to financially support UC Merced. Private gifts to the Foundation are recognized as operating revenues since, in contrast to the University, such contributions are fundamental to the core mission of the Foundation. Foundation grants to UC Merced are recognized as operating expenses

by the Foundation. Private gift or capital gift revenues associated with the Foundation grants to UC Merced are recorded by UC Merced as gifts when the Foundation transfers the gift to UC Merced.

Nonoperating revenues and expenses include state educational appropriations, state financing appropriations, federal pell grants, private gifts for other than capital purposes, investment income, net unrealized appreciation or depreciation in the fair value of investments, interest expense, and gain or loss on the disposal of capital assets.

State capital appropriations, capital gifts and grants, and gifts for endowment purposes are classified as other changes in net position.

*Student tuition and fees*. Substantially all of the student tuition and fees provide for current operations of UC Merced. A small portion of student fees is required for debt service associated with the recreation center.

UC Merced recognizes scholarship allowances as the difference between the stated charge for tuition and fees, housing and dining charges, recreational center fees, and other fees, and the amount that is paid by the student and third parties on behalf of the student. Payments of financial aid made directly to students are classified as scholarship and fellowship expenses.

Scholarship allowances are netted in the statement of revenues, expenses and changes in net position for the years ended June 30, 2013 and 2012 as follows:

(in thousands of dollars)

	2013	2012
Student tuition and fees	\$ 30,407	\$ 26,589
Auxiliary enterprises	6,063	5,693
Other operating revenues	82	73
Scholarship allowances	\$ 36,552	\$ 32,355

*State appropriations*. The state of California provides appropriations to the University on an annual basis. State educational appropriations are recognized as nonoperating revenue; however, the related expenses for educational operations or other specific operating purposes are reported as operating expenses. State financing appropriations provide for principal and interest payments associated with lease-purchase agreements with the State Public Works Board and are also reported as nonoperating revenue. State appropriations for capital projects are recorded as revenue under other changes in net position when the related expenditures are incurred. A special state appropriation for tobacco related disease research is reported as grant operating revenue.

*Grant and Contract revenue, net*. UC Merced receives grant and contract revenue from governmental and private sources. The campus recognizes revenue associated with the direct costs of sponsored programs as the related expenditures are incurred. Recovery of facilities and administrative costs of federally sponsored programs is at an estimated cost reimbursement rate negotiated with UC Merced's federal cognizant agency, the U.S. Department of Health and Human Services. For the year ended June 30, 2013 the facilities and administrative cost recovery totaled \$3,367 which consisted of \$200 from state sponsored programs, \$2,800 from federally sponsored programs and \$367 from other sponsors. For the fiscal year ended June 30, 2012, the facilities and administrative cost recovery totaled \$3,434, which consisted of \$250 from state sponsored programs.

*University of California Retirement Plan (UCRP) benefits.* The University's cost for campus UCRP benefits expense is based upon the annual required contribution to UCRP, as actuarially determined. Campus contributions toward UCRP benefits, at rates determined by the University, are effectively made to a cost-sharing single-employer defined benefit pension plan administered by the University. As a result, UC Merced's required contributions, if any, are recognized as an expense in the statement of revenues, expenses and changes in net position.

**Retiree health benefits.** The University's cost for campus retiree health benefits expense is based upon the annual required contribution to the retiree health plan, as actuarially determined. Campus contributions toward retiree health benefits, at rates determined by the University, are recognized as an expense in the statement of revenues, expenses and changes in net position.

*Compensated absences*. UC Merced accrues annual leave, including employer-related costs for employees at rates based upon length of service, job classification and compensatory time based upon job classification and hours worked.

*Endowment spending*. Under provisions of California law, the Uniform Prudent Management of Institutional Funds Act allows for investment income, as well as a portion of realized and unrealized gains, to be expended for the operational requirements of University programs.

*Tax exemption*. The University, which includes UC Merced, is recognized as a tax-exempt organization under the provisions of Section 501(c)(3) of the Internal Revenue Code and is exempt from federal and state income taxes on related income.

*Use of estimates.* The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenditures during the reporting period. Although management believes the estimates and assumptions are reasonable, they are based upon information available at the time the estimates and judgment is made and actual amounts could differ from those estimates.

*New accounting pronouncements*. In March 2012, the GASB issued Statement 65, *Items Previously Reported as Assets and Liabilities*, effective for the University's fiscal year beginning July 1, 2013. This Statement reclassifies, as deferred outflows of resources or deferred inflows of resources, certain items that were previously reported as assets and liabilities and recognizes, as outflows of resources or inflows of resources, certain items that were previously reported as assets and liabilities and recognizes. The University is evaluating the effect that Statement No. 65 will have on its financial statements.

In March 2012, the GASB issued Statement No. 66, *Technical Corrections – 2012 – An Amendment of GASB Statements No. 10 and No. 62*, effective for the University's fiscal year beginning July 1, 2013. This Statement resolves conflicting guidance that resulted from the issuance of two pronouncements, Statements No. 54, Fund Balance Reporting and Governmental Fund Type Definitions, and No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements.* The University is evaluating the effect that Statement No. 66 will have on its financial statements.

In June 2012, the GASB issued Statement No. 68, *Accounting and Financial Reporting for Pensions*, effective for the University's fiscal year beginning July 1, 2014. This Statement revises existing standards for measuring and reporting pension liabilities for pension plans provided by the University to its employees. This Statement requires recognition of a liability equal to the net pension liability, which is measured as the total pension liability, less the amount of the pension plan's fiduciary net position. The total pension liability is determined based upon discounting projected benefit payments based on the benefit terms and legal agreements existing at the pension plan's fiscal year end. Projected benefit payments are required to be discounted using a single rate that reflects the expected rate of return on investments, to the extent that plan assets are available to pay benefits, and a tax-exempt, high-quality municipal bond rate when plan assets are not available. This Statement requires that most changes in the net pension liability be included in pension expense in the period of the change. As of June 30, 2013, the University reported an obligation to UCRP of \$3.4 billion, representing unfunded contributions to UCRP based upon the University's funding policy. Under Statement No. 68, The University's obligation to UCRP is expected to increase. The University is evaluating the effect that Statement No. 68 will have on its financial statements.

In January 2013, the GASB issued Statement No. 69, *Government Combinations and Disposals of Government Operations*, effective for the University's fiscal year beginning July 1, 2014. This Statement establishes standards for accounting and financial reporting of government combinations and disposals of government operations. Government combinations include mergers, acquisitions and transfers of operations of government or nongovernment entities to a continuing government. The Statement includes guidance for measuring the assets and liabilities that are acquired in a combination, either with or without consideration. The provisions of this Statement are applicable on a prospective basis to combinations that occur after the effective date. The University is evaluating the effect that Statement No. 69 will have on its financial statements.

In April 2013, the GASB issued Statement No. 70, *Accounting and Financial Reporting for Nonexchange Financial Guarantees*, effective for the University's fiscal year beginning July 1, 2013. This Statement establishes standards for recording a liability when a government extends a nonexchange financial guarantee for the obligations of another government, a not-for-profit organization, a private entity or an individual without receiving equal or nearly equal value in exchange. As part of the nonexchange financial guarantee, the government commits to indemnify the holder of the obligation if the entity or individual that issued the obligation does not fulfill its payment requirements. This standard requires the government that extends a nonexchange financial guarantee to record a liability when qualitative factors and historical data indicate that it is more likely than not that the government will be required to make a payment on the guarantee. The University is evaluating the effect that Statement No. 70 will have on its financial statements.

In November 2013, the GASB issued Statement No. 71, *Pension Transition for Contributions Made Subsequent to the Measurement Date, an amendment of GASB Statement No.* 68, effective for the University's fiscal year beginning July 1, 2014. This Statement addresses an issue regarding application of the transition provisions of Statement No. 68, *Accounting and Financial Reporting for Pensions*. The issue relates to amounts associated with contributions, if any, made by a state or local government employer or nonemployer contributing entity to a defined benefit pension plan after the measurement date of the government's beginning net pension liability. The University is evaluating the effect that Statement No. 71 will have on its financial statements.

*Comparative information.* 2012 financial information is included as comparative values to the 2013 presentation.

#### 1. Cash and Cash Equivalents

Cash and cash equivalents consist of balances in bank demand deposits and funds held with the University. UC Merced invests surplus cash balances in the University of California's Short Term Investment Pool (STIP) as managed by the Chief Investment Officer of the University. Substantially all of UC Merced's cash is deposited into the STIP. Deposits into STIP are considered demand deposits. Unrealized gains and losses associated with the fluctuation in the fair value of the investment included in STIP are not recorded by UC Merced but are absorbed by the University as manager of the pool.

Cash and cash equivalents at June 30, 2013, and 2012, consist of the following:

#### (in thousands of dollars)

	UC M	ed	UC Merced F			Foundation	
	2013 2012			20	13		2012
Checking accounts	\$ 326	\$	153	\$	5	\$	5
University of California Managed Short-Term							
Investment Pool (STIP)	107,108		86,788		-		-
Total cash and cash equivalents	\$ 107,434	\$	86,941	\$	5	\$	5

The checking accounts at June 30, 2013 and 2012 were insured by federal depository insurance. UC Merced and UC Merced Foundation minimizes cash balances held in checking accounts by sweeping available balances into investment accounts on a regular basis. To mitigate the risk of custodial credit risk, UC Merced's cash and investments have been placed with high quality counter parties.

The University of California's STIP invests primarily in U.S. Treasury securities, prime-grade commercial paper, and short-term corporate notes with cost approximating market value. UC Merced earns income based on its average investment in the pool and such income is reported as investment income in the statement of revenue, expenses, and changes in net position.

#### 2. Investments

The Regents, as the governing Board, is responsible for the oversight of the University's investments and establishes investment policy, which is carried out by the Chief Investment Officer. These investments are associated with the Short Term Investment Pool (STIP) and General Endowment Pool (GEP) managed by the Chief Investment Officer, or is separately invested. UC Merced's investments balance consists solely of its investment in the GEP.

GEP is an investment pool in which a large number of individual endowments participate in order to benefit from diversification and economies of scale. GEP is a balanced portfolio and the primary investment vehicle for endowed gift funds. Where donor agreements place constraints on allowable investments, assets associated with endowments are invested in accordance with the terms of the agreements.

Investments authorized by The Regents for GEP include equity securities, fixed-income securities and certain other asset classes. The equity portion of the investment portfolios include both domestic and foreign common and preferred stocks which may be included in actively or passively managed strategies, along with a modest exposure to private equities. The University's investment portfolios may include foreign currency denominated equity securities. The fixed-income portion of the investment portfolios may include both domestic and foreign securities, along with certain securitized investments, including mortgage-backed and asset-backed securities. Fixed-income investment guidelines permit the use of futures and options on fixed-income instruments in the ongoing management of the portfolios. Real estate investments are authorized for the GEP. Absolute return strategies, which may incorporate short sales, plus derivative positions to implement or hedge an investment position, are also authorized for GEP.

More detail about the University of California's investments can be found in the 2012–2013 annual report of the University.

#### 3. Investments Held by Trustees

The University has entered into agreements with trustees to maintain trusts for the University's selfinsurance programs, long-term debt requirements, capital projects and certain other requirements. In addition, the state of California retains on deposit certain proceeds from the sale of lease-revenue bonds to be used for capital projects. The combined fair value of all of the investments and deposits held by trustees was \$1.5 billion and \$1.6 billion at June 30, 2013 and 2012, respectively. UC Merced's portion, as determined by the University, was \$68,233 and \$92,306 at June 30, 2013 and 2012, respectively related to capital projects.

#### 4. Accounts Receivable

Accounts receivable and the allowances for uncollectible amounts at June 30, 2013 and 2012 are as follows:

(in thousands of dollars)

			UC	Merced				
		tate and Federal vernment		Other	UC Merced Foundation			
At June 30, 2013								
Accounts receivable	\$	14,001	\$	2,678	\$ 16,679	\$	-	
Allowance for uncollectible amounts				(79)	(79)			
Accounts receivable, net	\$	14,001	\$	2,599	\$ 16,600	\$	-	
At June 30, 2012								
Accounts receivable	\$	12,871	\$	1,730	\$ 14,601	\$	-	
Allowance for uncollectible amounts				(108)	(108)			
Accounts receivable, net	\$	12,871	\$	1,622	\$ 14,493	\$	-	

UC Merced's other accounts receivable are primarily related to private grants and contracts, tuition and fees, and auxiliary enterprises.

#### 5. Pledges Receivable

The composition of pledges receivable at June 30, 2013, and 2012 is summarized as follows:

(in thousands of dollars)

		UC M	erc	ed	UC	C Merced	Fou	oundation	
		2013		2012		2013		2012	
Total pledges receivable outstanding	\$	690	\$	765	\$	1,270	\$	1,805	
Less: Unamortized discount to present value	(8)		(15)		(66)		(73)		
Allowance for uncollectible pledges	(315) (23)			(23)	(150)			(124)	
Total pledges receivable, net		367		727		1,054		1,608	
Less: Current portion of pledges receivable		(255)		(304)		(394)		(598)	
Noncurrent portion of pledges receivable	\$	112	\$	423	\$	660	\$	1,010	

Payments of pledges receivable for the fiscal years subsequent to June 30, 2013 and thereafter are as follows:

\_\_\_\_\_

#### (in thousands of dollars)

	UC N	Merced	UC Merced Foundation
Year Ending June 30			
2014		325	420
2015		150	175
2016		50	165
2017		50	255
2018		50	111
2019-2023		65	144
Total payments on pledges receivable	\$	690	\$ 1,270

### 6. Capital Assets

The campus' capital asset activity for the years ended June 30, 2013 and 2012 is as follows:

(in thousands of dollars)												
		2011	Ac	lditions	Di	sposals	2012	Ad	lditions	Dis	posals	2013
Original Cost												
Land	\$	12,068			\$	(39)	\$ 12,029					\$ 12,029
Infrastructure		31,052	\$	1,750			32,802	\$	175			32,977
Buildings and improvements		373,750		43,936		(2,036)	415,650		11,307			426,957
Equipment, software and intangibles		37,833		3,821		(279)	41,375		3,046	\$	(742)	43,679
Libraries and collections		10,492		1,522			12,014		1,597			13,611
Special collections		132					132		-			132
Construction in progress		52,382		(4,647)			47,735		70,406			118,141
Capital assets, at original cost	\$5	517,709	\$	46,382	\$	(2,354)	\$ 561,737	\$	86,531	\$	(742)	\$ 647,526

		2011	De	preciation and ortization	Di	enocale	2012	Der	oreciation and ortization	Die	snosals		2013
Accumulated depreciation and amortization		2011	2111	ortization		505415	2012	7111	01112411011	Dis	posais		2015
Infrastructure	\$	7,070	\$	1,366			\$ 8,436	\$	1,376			\$	9,812
Buildings and improvements		70,918		14,754	\$	(528)	85,144		15,192				100,336
Equipment, software and intangibles		20,320		4,046		(177)	24,189		3,925	\$	(604)		27,510
Libraries and collections		2,094		699			2,793		801				3,594
Accumulated depreciation and amortization	\$1	00,402	\$	20,865	\$	(705)	\$ 120,562	\$	21,294	\$	(604)	<b>\$</b> 1	141,252
Capital assets, net	\$4	17,307					\$ 441,175					\$ :	506,274

#### 7. Long-term Debt

The Regents of the University of California may finance the construction, renovation, and acquisition of certain facilities and equipment for UC Merced and other UC campuses through the issuance of debt obligations. Long-term financing includes revenue bonds, mortgages, capital lease obligations, and other borrowings that have been issued on behalf of UC Merced in the name of The Regents. UC Merced's outstanding debt at June 30, 2013 and 2012 is as follows:

(in thousands	of dollars)
---------------	-------------

	Interest	Maturity		
	Rate Range	Years	2013	2012
Interim Financing:				
Commercial paper	0.1 - 0.3%	2014	\$ 8,763	\$ 8,411
Long-term Financing:				
University of California General Revenue Bonds	2.8 - 7.6%	2014 - 2043	174,715	174,973
Capital lease obligations	4.03%	2013 - 2017	262,780	270,348
Note payables to UCOP	1.6 - 2.6%	2014 - 2039	46,304	46,805
Total outstanding debt			492,562	500,537
Less: Commercial paper			(8,763)	(8,411)
Current portion of outstanding debt			(9,625)	(9,219)
Noncurrent portion of outstanding debt			\$474,174	\$482,907

More detail about the University of California's debt can be found in the 2012–2013 annual report of the University.

#### 8. Endowments and Foundation Gifts

Endowments and gifts are held and administered either by the University or by UC Merced's Foundation. The value of endowments and gifts held and administered by the University at June 30, 2013 and 2012 is as follows:

	UC M	lerc	ed	UC	C Merced	Foundation	
	 2013		2012		2013		2012
Restricted							
Endowments and gifts	\$ 15,630	\$	15,141	\$	5,801	\$	5,164
Nonexpendable	15,630		15,141		5,801		5,164
Endowments Funds functioning as endowments	8,779 3,251		6,435 3,003		1,113		614
Gifts	2,927		8,589		764		1,408
Expendable	14,957		18,027		1,877		2,022
Unrestricted	788		789		385		376
University endowments and gifts	\$ 31,375	\$	33,957	\$	8,063	\$	7,562

(in thousands of dollars)

The endowments held by the University are administered on a Systemwide basis. The University's endowment income distribution policies are designed to preserve the value of the endowment in real terms (after inflation) and to generate a predictable stream of spendable income. Endowment investments are managed to achieve the maximum long-term total return. As a result of this emphasis on total return, the proportion of the annual income distribution provided by dividend and interest income and by capital gains

may vary significantly from year to year. The University's policy is to retain the realized and unrealized appreciation with the endowment after the annual income distribution has been made to UC Merced.

The portion of investment returns earned on endowments held by the University and distributed at the end of each year to support current operations for the following year is based upon a rate that is approved by The Regents. The annual income distribution transferred to UC Merced from endowments held by the University was \$1,257 and \$1,290 for the years ended June 30, 2013 and 2012, respectively.

#### 9. Operating Expenses by Function

Operating expenses, by functional classification, for fiscal years ended June 30, 2013 and 2012, are as follows:

(in thousands of dollars)		2013	2012
Instruction	\$	39,804	\$ 33,786
Research		17,332	15,862
Public service		4,177	3,942
Academic support		16,643	14,686
Student services		17,582	14,220
Institutional support		39,654	34,435
Operation and maintenance of plant		14,480	14,718
Student financial aid		12,403	9,498
Auxiliary enterprises		14,332	13,617
Depreciation and amortization		21,294	20,865
Other		3,766	4,690
Total	\$ 2	201,467	\$ 180,319

#### **10. Retirement Plans**

Substantially all full-time employees of UC Merced participate in the University of California Retirement System ("UCRS") that is administered by the University. The UCRS consists of The University of California Retirement Plan ("UCRP"), a single-employer defined benefit plan, and the University of California Retirement Savings Program ("UCRSP") that includes four defined contribution plans with several investment portfolios generally funded with employee non-elective and elective contributions. The Regents has the authority to establish and amend the benefit plans.

The UCRP provides lifetime retirement income, disability protection and survivor benefits to eligible employees. Benefits are based on the average highest three years' compensation, age and years of service, and are subject to limited cost-of-living increases.

Contributions to the UCRP may be made by UC Merced and the employees. The rates for contributions as a percentage of payroll are determined annually pursuant to The Regents' funding policy and based upon recommendations of the consulting actuary. The Regents determine the portion of the total contribution to be made by UC Merced and by the employees. Employee contributions by represented employees are subject to collective bargaining agreements.

Contributions for fiscal years ended June 30, 2013 and 2012 are as follows:

(in thousands of dollars)	2013	2012
UC Merced	\$ 6,896	\$ 4,308
Employees	3,100	1,888
Total	\$ 9,996	\$ 6,196

The actuarial value of UCRP assets and the actuarial accrued liability associated with the University's campuses and Medical Centers using the entry age normal cost method as of July 1, 2012, the date of the latest actuarial valuation, were \$35.7 billion and \$45.8 billion, respectively, resulting in a funded ratio of 78.1 percent. The net position held in trust for pension benefits on the UCRP Statement of Plan's Fiduciary Net position were \$45.3 billion and \$41.8 billion at June 30, 2013 and 2012, respectively.

For the years ended June 30, 2013 and 2012, the University's campuses and Medical Centers contributed a combined \$0.9 billion and \$1.5 billion, respectively. The University's annual UCRP benefits expense for its campuses and Medical Centers was \$2.1 billion and \$1.9 billion for the years ended June 30, 2013 and 2012, respectively. As a result of contributions that were less than the UCRP benefits expense, the University's obligation for UCRP benefits attributable to its campuses and Medical Centers increased by \$1.2 billion and \$361.8 million for the years ended June 30, 2013 and 2012, respectively.

The UCRS plans (DC Plan, Supplemental DC Plan, 403(b) Plan and 457(b) Plan) provide savings incentives and additional retirement security for all eligible employees. The DC Plan accepts both pre-tax and after-tax employee contributions. The Supplemental DC Plan accepts employer contributions on behalf of certain qualifying employees. The 403(b) and 457(b) plans accept pre-tax employee contributions and the Medical Centers may also make contributions on behalf of certain members of management. Benefits from the plans are based on participants' mandatory and voluntary contributions, plus earnings, and are immediately vested.

Information related to plan assets and liabilities as they relate to individual campuses and Medical Centers is not readily available. Additional information on the retirement plans can be obtained from the 2012–2013 annual report of the University of California Retirement System.

#### **11. Commitments and Contingencies**

#### **Contractual Commitments**

Amounts committed but unexpended for construction projects totaled \$50,037 and \$97,733 at June 30, 2013 and 2012, respectively.

UC Merced leases buildings and equipment under agreements recorded as operating leases. The terms of operating leases extend through December 2017. Operating lease expenses for the years ended June 30, 2013 and 2012 were \$1,200 and \$1,261, respectively.

Future minimum payments on operating leases with initial or remaining non-cancelable terms in excess of one year are as follows:

(in thousands of dollars)

	Minimum Ann	ual Lease Payments
Year Ending June 30		
2014	\$	1,342
2015		500
2016		14
2017		14
2018		10
2019-2023		3
Total	\$	1,883

#### Contingencies

Substantial amounts are received and expended by UC Merced under federal and states programs and are subject to audit by cognizant governmental agencies. This funding relates to research, student aid, and other programs. UC Merced management believes that any liabilities arising from such audits will not have a material effect on UC Merced's financial position.

UC Merced is contingently liable in connection with certain other claims and contracts, including those currently in litigation, arising in the normal course of its activities. Although there are inherent uncertainties in any litigation, UC Merced management and general counsel are of the opinion that the outcome of such matters will not have a material effect on UC Merced's financial position.



PRODUCED BY: University of California, Merced Business and Financial Services 5200 N. Lake Road | Merced, CA 95343 | 209-228-4070

# UCMERCED

# FULL-TIME EQUIVALENT (FTE) ANNUALIZED ENROLLMENT

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Undergraduate	825	1,191	1,823	2,595	3,253	4,253	5,065	5,645
Graduate	38	78	127	190	235	244	259	313
Total Student FTE	863	1,269	1,950	2,785	3,488	4,497	5,324	5,958

Note: FTE (Full-Time Equivalent) are calculated as follows:

- fall and spring credit hours taken by undergraduates/15
- fall and spring credit hours taken by graduate students (prior to advancement to candidacy)/12
- doctoral students advanced to candidacy for six semesters or fewer generate 1 FTE, regardless of credit hours taken
- doctoral students advanced to candidacy after six semesters do not generate FTE, regardless of credit hours taken
- summer credit hours taken by undergraduates/30
- summer credit hours taken by graduates/24
- Annualized FTE calculation: (fall + spring FTE/2) + summer FTE

Data Source: IPA Enrollment Table

Prepared by Institutional Research & Decision Support

# UNIVERSITY OF CALIFORNIA, MERCED

# 2013 LONG RANGE ENROLLMENT PLAN (LREP) NARRATIVE

## **INTRODUCTION**

The request for an updated Long Range Enrollment Plan ("LREP") comes at a critical time in UC Merced's development. As part of our journey toward recognition as a highly respected research university, a strategy for sustaining enrollment growth in a challenging state budget climate, especially for capital projects, is fundamental to the campus's success.

There are two distinct paths forward for UC Merced that are described in greater detail in this plan. One path allows the campus to grow to 10,000 students by 2020 while the other has enrollment stopped at 7,200 because of the lack of space to support growth in enrollment, faculty and staff.

In less than a decade, UC Merced has become the embodiment of the mission of the University of California to provide access to eligible California resident students. With 99 percent of its undergraduates from California--more than a third from the San Joaquin Valley--and as one of the two UC campuses (the other being UC Riverside) with the most ethnically diverse undergraduate student body, UC Merced continues to be a testament to the state and the University of California's intention to support the citizens of California and this underserved region.

UC Merced's educational and economic impact continues to grow as the faculty's research contributes to knowledge and innovations that improve the livelihood of communities in the region as well as the rest of the state. In the campus's short history, a remarkably successful research portfolio has been established. The campus has committed to investing strategically in a focused set of research areas with the greatest potential of gaining attention and prominence nationally. Additional investment in UC Merced ensures the impact of the campus on the Valley and the state, as first envisioned for the 10<sup>th</sup> campus, will be fulfilled while we continue to serve a growing population of academically talented undergraduate and graduate students from low-income, first-generation and ethnically diverse backgrounds.

The campus also has set as a major priority to increase our graduate students to 10 percent by 2020 and 12 percent by 2023. To do so, we will need to develop a financial model that includes a range of funding sources and takes into account the balance between the growth of undergraduate and graduate students. These overarching goals will be achieved utilizing a carefully vetted integrated planning process that takes into account strategic enrollment, fiscal and resource issues as well as campus physical development. As part of UC Merced's planning process, the campus is undertaking a new approach to overall space needs required to serve 10,000 students, along with faculty and staff. The campus is exploring various means to deliver and finance the development of critically needed facilities in order to continue to develop its graduate programs and research capabilities and to ensure undergraduate success. However, without additional capital development, UC Merced will not have sufficient space to achieve these goals.

## **UC MERCED HISTORY**

When UC Merced, the nation's first doctoral research university of the 21<sup>st</sup> century, officially opened in fall 2005, the campus enrolled 825 full-time equivalent (FTE) undergraduates (84 percent freshmen and 16 percent transfers) and 38 FTE graduate students supported by 45 ladder-rank faculty, 23 lecturers and 409 staff members.

Three schools (Engineering, Natural Sciences, and Social Sciences, Humanities and Arts) were in place. Eight majors were offered at the undergraduate level in addition to five independent-studies graduate programs. Graduate students could select an emphasis in Environmental Systems, Atomic and Molecular Engineering, Quantitative and Systems Biology, Social and Cognitive Sciences or World Cultures. Currently, UC Merced offers 21 majors, 22 minors, five Ph.D./masters' programs and seven graduate-level independent studies programs that are in various stages of becoming stand-alone programs.

Initial on-campus housing accommodated 586 students. The only buildings operational at campus opening in 2005 were the Valley Terraces Housing and Dining, the Kolligian Library and the Central Plant. The Classroom and Office Building and the Science and Engineering Building opened the following year. Additional research space was provided at Castle Commerce Center in Atwater and much-needed office space was leased in the Mondo Building in downtown Merced.

The opening of new student residential housing buildings in 2007, 2008 and 2010 allowed UC Merced to accommodate more than 1,500 students on campus. The campus now includes the Classroom and Office Building (2006), Science and Engineering Building (2006), the Joseph Edward Gallo Recreation and Wellness Center (2006), Facilities Building (2007), Academic Office Annex (2008), Early Childhood Education Center (2009), Social Sciences and Management Building (2010) and the Student Activities and Athletic Center (2012). Four additional projects are now in construction: two academic buildings, one housing building and one infrastructure project. With completion of the current housing project, UC Merced will have more than 2,100 students living on campus in Fall 2013. A fifth project, the Classroom and Academic Office Building, is in the construction documents phase and will soon receive construction funding.

Since opening, UC Merced has grown by an average of 744 FTE students per year and ended the 2012-13 academic year with an annualized FTE of 5,953. The campus consistently exceeded the growth targets established in the 2008 LREP and enrollment growth expectations established in the Memorandum of Understanding between UCOP and UC Merced in 2010.

Charts 1 and 2 display the growth of UC Merced's annualized (fall/spring/summer) FTE enrollment since the campus opened in Fall 2005. The charts compare annualized FTE enrollment over the past five years with the target annual budgeted enrollments reflected in the 2008 LREP.

Annualized Enrollment (FTE)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Undergraduate	825	1,191	1,823	2,595	3,253	4,253	5,065	5,619
Graduate	38	78	127	190	235	244	259	334
Total Annualized Enrollment (FTE)	863	1,269	1,950	2,785	3,488	4,497	5,324	5,953
FTE Growth	863	406	681	835	703	1,009	827	629

CHART 1. UC MERCED ENROLLMENT HISTORY, COMBINED RESIDENT AND NON-RESIDENT FULL TIME EQUIVALENT (FTE)

CHART 2. UC MERCED ENROLLMENT HISTORY, RESIDENT (FEE-PAYING) FULL TIME EQUIVALENT (FTE)

Annualized Enrollment (FTE)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Undergraduate	816	1,201	1,807	2,575	3,242	4,252	5,037	5,562
Graduate	34	57	79	120	152	163	168	202
Total Annualized Enrollment (FTE)	850	1,258	1,887	2,695	3,394	4,415	5,205	5,764
FTE Growth	850	408	629	808	699	1,021	790	559
Budgeted Enrollment	1000	1800	2000	1970	2,645	4,020	4,695	5,370
Total Student FTE versus Budgeted								
Enrollments	-150	-542	-123	+725	+749	+395	+510	+394
2008 LREP State-Supported Targets				2,736	3,418	4,085	4,802	5,374
Total Student FTE versus 2008 LREP								
Targets				-41	-24	+330	+403	+390

Source: University of California, Merced: Division of Planning and Budget. Institutional Planning and Analysis. IPA Enrollment Table. <u>http://ipa.ucmerced.edu/docs/campus%20enrollment/FTE%20annualized.pdf</u>. Minor differences between total FTE enrollments in this table as compared to the sum of the resident and non-resident total FTE in Table II (see appendix) are due to rounding.

As the chart below demonstrates, over the past five years, UC Merced enrollment has significantly outpaced the levels expected in the 2010 MOU and the 2008 LREP.



As Chart 4 indicates, UC Merced serves a large percentage of first-generation and lowincome (Pell Grant recipient) undergraduate students. In Fall 2005, 47 percent of undergraduate students were first-generation, and this number rose to almost 6 percent by Fall 2012. Similarly, 38 percent of the undergraduates in Fall 2005 were Pell recipients (students who qualify on the basis of low family income criteria to receive federal needbased grants); by 2011 (latest data available) 58 percent received Pell Grants.



In addition to UC Merced's educational mission, it is expected that the campus will also serve as an economic engine to the region. A recent (2013) study by the Business Forecasting Center at the University of the Pacific indicated that the San Joaquin Valley's economic recovery continues to lag behind the Bay Area, but should start to pick up in 2014. After a decade of unemployment in double digits, the Center predicts that the San Joaquin Valley will have unemployment lower than 10 percent by 2017 (current state unemployment rate is 9 percent). The Center credits an expanding staff at UC Merced as one of the "growth drivers" in the San Joaquin Valley.

## **ENROLLMENT MIX**

The current UC Merced student body is comprised primarily of undergraduate students (94 percent), the majority of whom entered as first-time freshmen.

In response to our space constraints, Chancellor Leland had set as a target a net new growth of 300 new students for each of the next three years to allow for the construction of the Classroom and Academic Office Building and for the 2020 Project plans (see below for a description of the 2020 Project) to mature. Current analysis indicates that the campus may enroll as many as an additional 300 plus students in fall 2013 because of an increased yield of first year students.

# **Undergraduate Admissions Selectivity and the Guarantee Pool**

The campus continues to increase its visibility and attractiveness to prospective students as evidenced by a 16.6 percent increase in freshman applications from fall 2012 to fall 2013. Compared to other UC campuses, this percentage increase in applications was second only to Santa Cruz. Chart 5 shows the increase in applications and enrollment rates over the past eight years.



UC Merced is on a trajectory of increasing selectivity. The Office of Admissions began to employ a comprehensive review process in 2012. Admit rates continue to fall from 74.8 percent in 2012 to 65.6 percent in 2013 and yield rates have been climbing for the past several years.

## **Commitment to the California Master Plan**

In the 1960 California Master Plan for Education, the University of California promised a place in the university system for all eligible resident students, defined as the top 12.5 percent of graduates from California high schools. For more than 50 years, the University of California has kept this promise to the people of California. For the past several years the Merced campus has been the only campus to participate in the guarantee (referral) pool.

As other campuses in the system have been increasing their enrollments of non-resident and international students, the size of the guarantee (referral) pool has grown. In fall 2013, the guarantee pool contained 10,300 "eligible" students, up from 9,000 in 2012. These students were not admitted to any of the UC campuses to which they had applied. As we have done in the past, each of them was contacted and offered an opportunity to be considered by the Merced campus.



UC Merced will continue to take as many qualified students as are referred to us as possible, but we cannot continue to be the only campus to participate in the guarantee pool. There are several compelling reasons for this. First and foremost, given our substantial space constraints, the campus cannot provide the classrooms, laboratories and other student-support spaces to accommodate these additional students. The campus is already overenrolled according to the current UC Merced -UCOP MOU.

Second, increasing demand from direct applicants will require the campus to become more selective. Given the relative youth of the campus and the steep growth curve, each new entering class is replacing a smaller class previously admitted, driving down the number of new freshmen seats for at least four more years. As such, UC Merced will have to join the other campuses in the system in turning away significant numbers of eligible students.

Third, the campus has significant differential levels of enrollment by major and at least one major (Biological Sciences) is headed towards impaction. As described below, the campus

is embarking on a strategic academic focusing effort that will shape how it goes forward and will undoubtedly influence the size, quality, and majors of the entering undergraduate cohorts beyond fall 2013.

UC Merced is willing to intentionally cap our out-of-state and international enrollment opportunities so we can continue to admit as many qualified California applicants as are referred to us but only in so far as our space allows. At the same time, we look forward to participating in a system-wide effort to modify the current guarantee pool process so that we, along with other campuses, participate in fulfilling this important goal of the University.

# **Non-Resident Enrollment**

While our primary commitment is to California residents under the Master Plan, UC Merced plans to continue to diversify its enrollment in the coming years. The three stages of that diversification are statewide, (which is essentially completed), regional, (supported by efforts like the Western Undergraduate Exchange) and, finally, international (through the campus's Global Grant program).

The campus joined the Western Undergraduate Exchange (WUE) program of the Western Interstate Commission of Higher Education (WICHE) beginning in fall 2013. This program is a vehicle to generate increasing geographical diversity in our undergraduate enrollment. In addition, the program will help introduce UC Merced to college counselors across the other 14 western states to increase our name recognition and create greater interest in the campus. Each year the campus sets the number and academic requirements for student participation in this program. The current framework limits participation in the plan to 100 non-resident students in each entering class. While the WUE participants receive a tuition discount, we expect that by participating in the program we will, over time, see an increase in enrollment from other students from these states who will pay full non-resident tuition.

The campus intends to continue its Global Grant program, offering students from around the world a \$5,000 discount from the full tuition, including non-resident fees. While our number of international students is still small, we believe that as the reputation of UC Merced expands around the world, this program will assist us in attracting a small number of qualified international students.

# Other Efforts to Optimize Enrollment and Use of Space (Spring and Summer)

This fall, to accommodate both the increase in admissible direct applicants and in the eligible Guarantee Pool, UC Merced joined UC Berkeley in the practice of admitting students directly to the spring term. This year, 159 of our applicants were admitted to the spring 2014 semester.

UC Merced also continues to intentionally and actively expand Summer Session offerings. Summer 2013 saw the implementation of a second six-week session to accompany the existing six and eight-week sessions. The Chart below (Chart 7) shows the growth of



instruction offered in the Summer Sessions since the campus opened. Summer 2013 will enroll more than 2,000 students or just less than one third of the FWS headcount.

# GRADUATE EDUCATION

Given our goal of 10 percent academic graduate student enrollment by 2020, and 12 percent by 2023, UC Merced's overarching plan is to build upon successes to date in developing and establishing robust, quality graduate programs. This section provides an overview of the current state of graduate programs at UC Merced, and one example scenario for how we can achieve our 10 percent goal by 2020. This scenario is a default one, based on projected undergraduate growth, target PhD-to-faculty ratios, proportional growth from our current state, and new and upcoming programs. As noted earlier in this document, the campus is about to undergo a strategic focusing initiative that will inform the academic direction of growth. Thus the default scenario herein is just that.

From the broadest perspective, the 10 percent and 12 percent goals can be achieved if the graduate population grows 15 percent year-over-year till 2020, and then 2023. The population grew by about 20 percent and 15 percent the past two years, indicating that our goals are ambitious, but in line with recent growth.
#### **Enrollment Mix**

Currently, there are about 286 enrolled doctoral students and 43 master's students in academic programs (UC Merced does not currently offer professional degree programs). In 2012-13, the distribution of graduate students across disciplines is 49.6 percent (27.6 percent international) in the School of Natural Sciences, 22.5 percent (66.2 percent international) in the School of Engineering, and 27.9 percent (16.3percent international) in the School of Social Sciences, Humanities, and Arts.

UC Merced is still working through its initial wave of growth in graduate programs. Current CCGA and WASC approved programs include (in chronological order):

- Environmental Systems;
- Cognitive and Information Sciences;
- Quantitative and Systems Biology;
- Psychological Sciences; and
- Chemistry and Chemical Biology.

Three programs currently under various stages of review include:

- Interdisciplinary Humanities;
- Political Science; and
- Applied Mathematics.

Other graduate programs expected to undergo review over the next two years include:

- Electrical Engineering and Computer Science;
- Mechanical Engineering;
- Physics;
- Public Health;
- Biological Engineering and Small-Scale Technologies; and
- Molecular Cell Biology.

In the longer term, academic graduate degree programs have been discussed in the areas of Economics, Sociology, and Management.

#### **Factors Impinging on Graduate Growth**

At this stage in UC Merced's development, the most important factor in graduate student enrollment is the increase in ladder-rank faculty engaged in research and scholarship involving graduate students. For the first time this year, the campus requested proposals for future faculty hires from graduate groups, instead of the bylaw units (UC Merced's academic units). This new process was designed, in part, to emphasize growth in graduateengaged faculty. A second component of graduate student growth is stipend and tuition support. The Graduate Division has been working with the campus to develop a stable, transparent model of graduate research and teaching support designed to facilitate graduate student growth and success.

Target rates of growth for graduate programs in our three Schools, for both Ph.D. and master's students, will be determined during the upcoming strategic focusing effort (see "Planning Process" above). Growth rates will be coordinated with estimates in growth of ladder-rank faculty, research and classroom space, and both internal and external graduate support funds.

While the population of graduate students has grown steadily since UC Merced was opened, it is currently only about 6 percent of the student population. Numerous factors have contributed to this low percentage, but most of them are related to the age and size of the campus. Our graduate programs are small, and have high proportions of non-tenured ladder-rank faculty in the system (see Chart 10). A critical mass of faculty, and balance of faculty at different stages of their careers, is essential to support robust graduate programs with desired PhD-to-faculty ratios and numbers of master's students.



Source: University of California, Merced: Division of Planning and Budget. Institutional Planning & Analysis.



Up to this point in its development, the campus has focused primarily on growing and establishing its undergraduate programs and population. The campus is now turning more of its attention to growth in graduate programs, motivated by the need to establish UC Merced as a UC-quality research university. The latter is explicit in our current efforts to achieve Carnegie Research-High status in 2015, which is just one of numerous steps toward establishing the campus as a recognized research university. While our strategic academic focusing efforts are likely to alter this assumption, it is unlikely that our more refined projections will significantly alter the overall numerical projections for total numbers of graduate students.

Growth in graduate programs will need to be supported by increased percentages of ladder-rank faculty, particularly tenured faculty. These are the faculty who drive the campus' research efforts, and are typically measured by number of ladder rank faculty, research expenditures, postdoctoral participation, and other research staff.

#### **Graduate Growth Scenario**

In response to the LREP exercise, Senate and Administrative Leadership worked together on an example graduate growth scenario, and the resulting projections are shown in the 2013 LREP template. Growth in Ph.D. students is anchored to the LREP-estimated growth in ladder-rank faculty. Growth in ladder-rank faculty per graduate program is based on a default assumption of growing programs equally in proportion to their current approximate numbers of ladder-rank faculty, with some small adjustments based on program age and size, and the need for all graduate programs to achieve a critical mass of faculty members.

Growth in Ph.D. students was based on estimated numbers of Ph.D. students per faculty member in each program, which ranged from 1.5 for small and/or relatively new programs,

to 3.5 for programs with larger current proportions, and/or in disciplines with historically larger numbers of students per faculty member. The mean number of Ph.D. students per graduate group faculty member currently is about 1.8, and the projections have this mean number grow to about 3.0.

Growth in master's programs is based on current master's enrollments, plus adjustments based on program plans and the general assumption that master's program growth will accelerate in the coming years. This assumption is supported by the current enrollment scenario, which shows that significant master's growth is needed to hit the 10 percent and 12 percent targets. Master's programs are assumed to be mostly academic, although it is likely that some may develop into professional and/or self-supporting programs.

This growth scenario, as reflected in the 2013 LREP template, shows one plausible path to our graduate enrollment targets. Senate leadership polled graduate programs about their current needs and challenges, as well as future goals for growth. The reported growth scenario is consistent with Senate goals, except the reported scenario is somewhat more conservative with respect to growth in PhD students. Senate and administrative leadership will continue to discuss various scenarios as the strategic focusing initiative gets underway, and as cost analyses are added to the dialog.

With regards to current needs and challenges in reaching our goals for graduate growth, the Senate poll found that some areas, particularly in the schools of Natural Sciences and Engineering, are not yet receiving enough qualified applicants who fit with the graduate programs as they currently stand. It is also difficult for some programs to compete for the best applicants because of limits and uncertainties regarding student support, such as inability to make multi-year support offers. And regardless of stipend support, current space availability for research and graduate students was judged to be a limiting factor for growth.

The needs and challenges identified by the Senate will be important inputs to the strategic focusing initiative. Current efforts to address them include a stable graduate support model that will allow graduate programs to rely on steady, predictable funding, and plans to hire marketing consultants to help identify, find, and attract qualified students into our graduate applicant pool.

#### THE CRITICAL INTERPLAY BETWEEN ENROLLMENT AND SPACE

UC Merced's greatest challenge for enrollment growth, both graduate and undergraduate, is sufficient and timely capital development. The campus is faced with a growing gap between the strong student demand for admission and the campus's limited capacity to provide the capital and infrastructure needed to support that demand.

Development of the facilities necessary to accommodate 10,000 students (and the faculty and staff needed to support them) is critical to the success of the Merced campus, its economic viability and to the ability of the University of California to provide access to all eligible resident students.

In March 2009, the UC Board of Regents approved the 2009 LRDP, which set forth a land use plan and principles for the development of a 25,000-student campus by the year 2030. It includes the existing Phase 1 campus developed on the original 104-acre site and envisions the full build out of the campus in three additional phases. The next phase of development is identified in the LRDP as the Phase 2.0 campus (aka the "2020 Project"), which provides for the facilities needed to support an enrollment level of 10,000 FTE students. The 2020 Project includes: academic, administrative, research, and recreational buildings; student residences, student-services buildings; utilities and infrastructure; outdoor recreation areas; and associated roads, parking, and landscaping.

When the Regents adopted the 2009 LRDP during the 2008-09 academic year, the Merced campus served 2,785 FTE students and received 10,891 applications for freshman admission in the 2009-10 academic year. As noted above, student demand to attend the Merced campus continues to grow. In the 2012-13 academic year, the campus is serving 5,953 FTE students, an increase of 114 percent since adoption of the LRDP. In addition, the campus received 17,191 applications for admission for fall 2013 (a 58 percent increase over five years).

To accommodate significant increases in native demand and the UC guarantee (referral) pool, the Merced campus has continued its enrollment growth consistent with the goal of reaching 10,000 students by 2020. At the same time, funding for the campus facilities that are required to serve those students has not kept pace. As investment in academic and research facilities has slowed, UC Merced's capital development program has commensurately slowed. As such, our campus now faces critical space shortages.

In order to mitigate our space shortages, the campus has taken several actions. As described above, we have intentionally grown our summer course offerings and enrollments to better utilize our campus space. Some important administrative and support functions have moved off campus into office space in three different locations in the Merced area. These actions have increased costs for transportation, information technology, and security, and have diverted scarce resources toward off-campus operations including rent. Despite these actions to move staff off campus, availability of specialized

classroom and laboratory capacity remains constrained. For example, campus teaching laboratories and large academic classrooms are over-used and lack availability for highdemand and prerequisite courses, affecting the selection of courses, as well as students' ability to graduate in a timely manner.

The facilities shortage also impacts students in terms of support services and other aspects of student college life. The Merced campus has begun to develop and deploy hybrid distance learning courses, and will continue to develop strategies appropriate for the campus. The campus also lacks many of the student-support and student-life facilities that are commonly found at other UC campuses and in addition to playing a crucial role in attracting and retaining students also contribute to the well-rounded student-life experience. Collectively, the facilities shortage significantly impacts operational efficiency of the campus's academic and administrative operations, and of the overall operating cost structure.

UC Merced is space deficient in CPEC categories for instruction and research space. The need for additional class laboratory space is especially critical. As noted above and in the attached templates, the lack of available classroom space is forcing the campus to slow growth over the next three years while the 2020 Project is finalized to develop, finance and construct new buildings (instruction, research laboratory, office, housing, dining and student-oriented including recreation space) to meet the needs of students, faculty and staff beyond 2015-16. Some of these needs, particularly for student recreation and meeting space, have already been deferred for several years.

As shown in the chart below (Chart 12), without new buildings to meet our space requirements, UC Merced will have no additional capacity to increase enrollment after the 2015-16 academic year. This projection includes the Classroom and Academic Office Building, which has received funding in the recent legislative session.



#### **CHART 11: CAPACITY GAP**

Source: University of California, Merced: Division of Planning and Budget. Institutional Planning & Analysis, Capital Planning.

In order to develop the 2020 Project expeditiously, UC Merced and the Office of the President are working together to move development plans forward. Because of the system-wide implications of UC Merced's space constraints, the chancellor, the UCOP executive vice president of Business Operations and the UCOP chief financial officer have forged a partnership to provide executive-level management of the project. In March 2013, the team presented an item for discussion to the Regents' Grounds and Buildings Committee, which described the principles for the cost-efficient development of the 2020 Project.

The revised LRDP envisions development of the 2020 Project on 219 acres (versus 355 acres in the original plan). This will minimize the need to develop additional basic infrastructure to accommodate growth. In addition, the 2020 Project will utilize mixed-use development and joint-purpose facilities to ensure the campus can maximize the use of its facilities. Finally, given the need to develop multiple facilities concurrently (i.e., academic and research facilities, housing, dining, parking and other student services), the campus intends to pursue a master-planned development.

In May 2013, the Regent's Grounds and Buildings Committee approved the amendment to UC Merced's 2009 LRDP. The amendment creates a planning framework that identifies a Central Campus District and adds a new "Campus Mixed-Use" designation that would provide greater land flexibility to design and deliver a master-planned development.

As part of the amended LRDP, UC Merced anticipates the next steps:

- Release a Request for Qualifications (RFQ) to identify a "short list" of potential development partners capable of delivering a project of the size and scope of the 2020 Project. The campus anticipates that an RFQ will be released in summer of 2013 and that qualifying firms will be identified in the fall of 2013.
- Confer with the Regents on the qualifying firms, proposed funding approaches and project delivery methods
- Request proposals from qualified firms.
- Review and analyze financing options for the project that include debt capacity and accounting impacts.
- Negotiate the business terms with the selected development partner.
- Request Regents' consideration of any necessary modifications to the campus' Physical Design Framework.
- Request Regents' consideration of project design and proposed business terms. The campus anticipates that the Regents will be asked to consider and approve the 2020 Project in late 2014 or early 2015.
- Commence project construction in early 2015 with delivery of first phase by 2017.

Starting in 2016-17, the ability to grow enrollment consistent with our 2020 Project will depend upon the ability of the campus to deliver the physical facilities necessary to accommodate additional growth. Therefore, all enrollment growth beyond 7,200 students will remain tentative until completion of the first phase of buildings in the 2020 Project.

#### OVER ENROLLMENTS

Because of UC Merced's significant space challenges, the chancellor has expressed a desire to limit enrollment of California residents as closely as possible to budgeted figures. For

the 2012-13 academic year, UC Merced is projected to be over-enrolled by approximately 500 unfunded students.

It is important that Merced's plans for enrollment growth follow a careful and considered approach, especially in terms of workload funding per student FTE. Given its small size, the campus is not yet able to realize the economies of scale required to absorb growth and instructional needs without additional support. Since the campus opened, state supplemental funding has been required for faculty costs, as well as instructional technology, library materials, and expanded general support needed to fully operate the campus. Providing this additional support -- in the absence of state support -- was the express purpose of the 2010 MOU with the Office of the President and has served the campus well, providing for a strong ladder-rank faculty recruitment plan, funding additional courses and continuing to develop the infrastructure necessary to accommodate a fast growing campus.

The 2010 MOU expires at the conclusion of FY 2013-14. To keep the Merced campus on its intended trajectory continued enrollment growth funding is essential. The campus welcomes an opportunity to discuss the continuation of our funding partnership as soon as possible. We hope this partnership will incorporate support for the continued achievement of our collective operational goals and the development of the capital resources necessary to continue campus development.

#### PLANNING PROCESS

The Merced campus established a broad and collaborative process to develop this Long-Range Enrollment Plan, involving a coordinating working group that included individuals from the Office of the Provost, the Graduate Division, the Division of Student Affairs, the Office of Planning and Budget and the faculty. This team developed the model and initial draft responses to the questions posed by the Office of the President. Multiple iterations of the drafts of the narrative and templates were circulated to the campus Enrollment Management Council, Divisional Senate and Cabinet for review and comments.

The Enrollment Management Council has been tasked by the provost with implementing an institutionally-integrated approach to managing UC Merced's enrollment. Four subcommittees (Graduate Student Success, Undergraduate Student Success, Instructional Space and Enrollment Management Models) report to the Enrollment Management Council and have clear areas of responsibility and provide feedback regarding these areas to the Council.

Complementing the initiatives underway in the Office of Planning and Budget, the provost has been charged by the chancellor to engage the faculty in a comprehensive academic strategic-focusing effort. Faculty leaders and the administration will develop a process for identifying the programs for which excellence can be dramatically accelerated with strategic investments of faculty lines, space and support. The campus is well aware of the contending forces at play in the political environment and seeks to make most effective use of the limited resources that will be available with reduced enrollment growth over the next several years. Even at the point that the 2020 Project is fully realized, campus enrollment will be able to grow to only 10,000 total students. Once the faculty and administration have reached agreement on the process, the campus will view requests for growth and funding of academic programs through this lens. This strategic-focusing effort will shape academic programs, faculty hiring, and the kind of capital development appropriate through 2020.

#### **DISCIPLINE MIX AND IMPACT ON ENROLLMENT**

Future growth in undergraduate programs will be fundamentally shaped by the results of the strategic-focusing effort. The growth of graduate programs, faculty hiring, and shifts in disciplinary mix also will be shaped by the new comprehensive-planning process the campus is about to launch.

One of the metrics of the MOU with the Office of the President was to increase undergraduate majors and degrees granted in Social Sciences, Humanities and Arts (SSHA) majors relative to Engineering and Natural Science majors. Of students with declared majors, 49 percent of these students are enrolled in SSHA majors.



#### RETENTION RATES, GRADUATION RATES, TIME TO DEGREE IMPACTS ON ENROLLMENT

As the chart below illustrates, UC Merced's one-year retention rates from 2005 to present have been fairly consistent. The one-year retention rate for our first cohort (82.3 percent) is approximately equal to the retention rate for the most recent cohort (82.9 percent), and the average retention rate of 82.7 percent for all seven cohorts is between these two numbers. While the retention rate has varied somewhat over the years, with retention rates rising in 2009, the general trend has been fairly flat or perhaps slightly increasing. with the sort of normal variation that would be expected of a rapidly changing start up campus. In addition, UC Merced's one-year retention rates compare well to the average for public institutions in the Carnegie, Research High classification (Chart 14). Multiple factors influence retention rates and the campus has undertaken a series of initiatives to increase retention and graduation rates. Research shows that low-income and first-generation students are more likely to struggle academically and have lower overall retention rates. It is expected that as UC Merced's Enrollment Management Council committee on student success continues to identify factors that impact UC Merced student retention and graduation rates, and as our many other retention efforts mature, the campus will be able to address some of the barriers to success and help more students reach their educational goals. For instance, factors that generally delay graduation include students taking lowerlevel writing and math courses to reinforce their preparation for college level work, the need to take additional classes when they change majors or declare double majors and the inability to enroll in impacted courses.

UC Merced has been analyzing the 4-year graduation rates using a predictive model developed by Alexander Astin at UCLA. Student input factors were high school GPA, SAT scores, gender and ethnicity. An initial analysis of UC Merced's four-year graduating classes shows that students who start in SSHA majors routinely graduate in four years at higher than predicated rates. Conversely, students who start in engineering, natural sciences or are undeclared their first year at UC Merced graduate at lower-than- predicted rates.

The Enrollment Management Council has taken student success at both the graduate and undergraduate levels as a significant focus of its work going forward. To the extent that incoming students tend to enroll in SSHA majors in greater numbers, it is reasonable to assume that four-year graduation rates will increase. The integrated planning model used for enrollment projections assumes the four-Year graduation rates will be approximately 40 percent by 2020.



UC Merced first-time, full-time four-year graduation rates have ranged from 27 percent to 34 percent over the last four years. These levels are below UC system-wide averages and represent a clear area in need of improvement. The campus has numerous initiatives underway in the schools and Student Affairs to improve time to degree.



UC Merced enrolls an ethnically diverse undergraduate student body. Compared to the other UC campuses, UC Merced has a higher percentage of Hispanic and African-American students.



The percentage of male and female undergraduate students has been approximately 50-50 for the past several years.



#### NON-RESIDENT GROWTH

In the past, UC Merced has made limited attempts to recruit non-resident students from across the country and around the world. As an emerging research university, there is a logical progression to expand the campus's market presence from California to the western region, nationwide and then beyond.

As mentioned above, UC Merced has joined the Western Undergraduate Exchange (WUE) program, which is offered through the Western Interstate Commission on Higher Education. (WICHE). Initially, this will be a way to drive awareness of UC Merced and its programs broadly across the 14 western states. This program also enables the campus to focus enrollments of highly-able students into less impacted majors.

Data is being gathered on high schools in other states through a variety of sources, including the College Board, which is informing our recruitment planning for non-resident undergraduates. We are focusing on those schools with populations of students that are likely to attend a smaller UC campus located in a rural area. The campus is investigating ways to increase international student recruitment at the undergraduate level and as a first step plans to target recruitment efforts at US schools and community colleges that enroll large numbers of international students, rather than recruiting directly overseas. We believe this strategy will be more effective and less expensive while the campus is still relatively small.

#### INTERDISCIPLINARY PROGRAMS

Given that all of UC Merced's graduate programs are relatively new, many of the programs created thus far are explicitly multi/interdisciplinary:

- Environmental Systems
- Cognitive and Information Sciences
- Quantitative and Systems Biology
- Interdisciplinary Humanities
- Biological Engineering and Small-Scale Technologies

It is natural for newly formed and forming graduate programs, at a small but growing campus, to develop connections with multiple disciplines. Most large funding agencies have increased their investments in multi/interdisciplinary research, and collaborations are intrinsically facilitated when faculty members from disparate areas have more opportunities to work and talk together. Therefore, we expect the trend towards multi/interdisciplinary programs will continue at UC Merced.

#### EDUCATION ENROLLMENTS

UC Merced entered into an agreement recently with Fresno Pacific University, which now offers courses in Merced, to offer credential programs for UC Merced students who are interested in teaching careers. In addition, education-related research projects can be found in various graduate programs in the School of Social Sciences, Humanities and Arts. The development of graduate programs in education may be discussed as part of the strategic focusing effort (see "Planning Process" above).

#### SELF-SUPPORTING PROGRAMS

UC Merced has no self-supporting programs (SSPs), nor plans at this time to develop them. However, the Graduate Division has been monitoring the growth of SSPs on other campuses, and gathering information about the opportunities and challenges they pose.

#### PROFESSIONAL DEGREE SUPPLEMENTAL TUITION

Professional degree programs in engineering and management have been discussed although they are not planned in the near term. The programs are envisioned to target returning students who desire additional engineering or management training after being out in the workforce for several years.

#### **GRADUATE DIVERSITY**

UC Merced currently enrolls a higher proportion of Hispanic graduate students compared to other UC campuses, as well as a higher proportion of international graduate students. With respect to gender, 60 percent are male compared with 54 percent at other UC campuses. The campus actively participates in graduate diversity efforts such as the UC LEADS and CAMP programs, and recruits from sources of diverse graduate applicants, including many of the UC summer research programs. Also, UC Merced offers graduate fellowships that highlight diversity, like the Miguel Valez and Eugene Cota-Robles fellowships. Our enrollment plan may further enhance graduate diversity, to the extent that growth is targeted in disciplines with higher-than-average proportions of students from under-represented minorities.



#### HEALTH SCIENCES

Health-related research can be found in all three schools at UC Merced. Much of this work falls under the umbrella of our Health Sciences Research Institute (HSRI) established in 2012, which has an overarching goal to improve the health of people in the San Joaquin Valley, the state, and beyond. Three specific developments in health sciences are the UC Merced San Joaquin Valley Program in Medical Education (PRIME), public health, and molecular cell biology programs.

PRIME is a medical educational program designed to prepare physicians to work in the San Joaquin Valley and is a joint collaboration between UC Merced, UC Davis and UC San Francisco Fresno. There are 11 students enrolled in the PRIME program.

Public health is one of our most popular minors at the undergraduate level. An undergraduate major and a graduate program in public health are being developed in SSHA. In our School of Natural Sciences, a graduate program in molecular cell biology is being developed. Both programs will be core components of HSRI.

#### ONLINE EDUCATION

UC Merced has only a single hybrid course (Math 5) which combines online learning with face-to-face instruction. In spring 2013, the provost appointed an advisory committee (Task Force for Online Education) to address online and distance learning. This group is charged with developing the policies and administrative processes for how UC Merced will move forward with online education.

The task force, under the leadership of Vice Chancellor Samuel Traina, is using three broad questions to frame its deliberations:

- 1. Independent of who authors the online courses, what role might online or hybrid courses play in the degree programs of our undergraduate students?
- 2. What will be the role of UC Merced faculty in preparing and presenting these online courses?
- 3. What are the important intellectual property considerations for online development, implementation and dissemination, and how should UC Merced deal with those considerations?

#### **CLOSING SUMMARY**

UC Merced's 2013 Long Range Enrollment Plan presents two paths the campus faces: the path that allows the campus to grow to 10,000 students by 2020 or the path that stops growth at about 7,200 students until the capital inventory expands to support greater enrollment, faculty, and staff growth.

The attached templates show campus enrollment growth through 2020, but the years 2016-2020 are shaded in blue because UC Merced's ability to reach these targets are in jeopardy unless the 2020 Project is realized.

University of California - Long Range Enrollment Plan UC Merced																
FTE Enrollments	Projections															
	13-14		14-15		15-16		16-17		17-18		18-19		19-20		20-21	
	FWS	Summer	FWS	Summer	FWS	Summer	FWS	Summer	FWS	Summer	FWS	Summer	FWS	Summer	FWS	Summer
General Campus (GC)																
Undergraduate (UG) Enrollment																
Undergraduate Resident	5686	482	5619	554	5836	627	6247	699	6685	771	7304	843	8014	916	8601	988
Undergraduate Nonresident	40	5	40	6	41	6	44	7	48	8	52	9	57	9	61	10
Total Undergraduates	5726	487	5659	560	5877	633	6291	706	6733	779	7356	852	8071	. 925	8662	998
Postbaccalaureate Resident <sup>(1)</sup>	0	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0
Postbaccalaureate Nonresident <sup>(1)</sup>	0	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0
Total Postbaccs	0	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0
UG planned FWS Enrollments above targeted <sup>(2)</sup>																
Graduate Enrollment																
Graduate Academic - Master's	53	0	67	1	80	1	93	1	106	5 1	120	1	132	. 1	145	1
Graduate Academic - Doctoral	196	0	248	0	296	0	344	0	389	0	441	1	489	1	534	1
Est. Doc. 2A enrollment <sup>(3)</sup>	126	0	160	0	192	0	222	0	252	0	286	0	316	0	345	0
Subtotal Graduate Academic	375	0	475	1	568	1	659	1	747	1 1	847	2	937	2	1024	2
Graduate Professional (PDST) <sup>(4)</sup>	0	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0
Graduate Professional (non-PDST)	0	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0
Subtotal Graduate Professional	0	0	0	0	0	0	0	0	0	0 0	0	0	C	0	0	0
Total State-Supported GC Graduate Enrollments	375	0	475	1	568	1	659	1	747	1	847	2	937	2	1024	2
Graduate Self Supporting (SSP) Headcount																
Self-Supporting																

(1) Assume all postbaccalaureates are Education credential students.

(2) Includes enrollment of California residents under a scenario where state or targeted funds are not provided for those students. Captures the number of Fall, Winter, Spring students you plan to enroll above targeted levels. For example, if the funding assumption for enrollment growth is 1%/year, but your campus plans to grow at a rate above that even if state funding is not provided.

(3) Advanced to candidacy more than 3 years.

(4) Includes programs such as: MBA, JD, MPP, and MPIA.

Iniversity of California - Long Range Enrollment Plan UC Merced																
FTE Enrollments	Projections															
	13-14		14-15		15-16		16-17		17-18		18-19		19-20		20-21	
	FWS	Summer	FWS	Summer	FWS	Summer	FWS	Summer	FWS	Summer	FWS	Summer	FWS	Summer	FWS	Summer
Seneral Campus (GC)																
Undergraduate (UG) Enrollment																
New Enrollment Full-Year Headcount (Resident)																
Freshmen	1737	0	1212	0	1534	0	1847	0	2036	0	2114	0	2237	0	2341	0
CCC Transfers	143	0	161	0	171	0	179	0	193	0	203	0	220	0	235	0
Other <sup>(1)</sup>	7	10	13	10	13	11	14	11	15	12	15	12	16	13	16	13
Total New CA Resident UG Enrollment	1887	10	1386	10	1718	11	2040	11	2244	12	2332	12	2473	13	2592	13
New Enrollment Full-Year Headcount (Nonresident)																
Freshmen	21	0	12	0	13	0	15	0	17	0	19	0	22	0	23	0
CCC Transfers	1	0	1	0	1	0	1	0	1	0	2	0	2	0	2	0
Other <sup>(1)</sup>	1	5	5	6	5	6	5	7	6	8	6	9	6	9	7	10
Total New Nonresident UG Enrollment	23	5	18	6	19	6	21	7	24	8	27	9	30	9	32	10
Total New UG Enrollment	1910	15	1404	16	1737	17	2061	18	2268	20	2359	21	2503	22	2624	23

(1) Other includes Limited, Special, Second Baccalaureate, Credential (Post-Baccalaureate), and non-CCC transfers such as students transferring from CSU, other institutions, and students transferring from one UC to another.

Note: Blue shaded cells are projections dependent on the success of the 2020 Project

Date: September 26, 2013

To: UC Merced Faculty

From: Joint Administration-Senate Strategic Academic Focusing Working Group

**Subject:** Request for faculty feedback on strategic academic focusing

Our campus has reached a critical new phase of its development: We are no longer constrained by the basic needs involved in establishing a brand new research university; we are now presented with the opportunities and challenges of advancing and developing our university towards excellent academic programs that are recognized nationally and internationally.

In 2009, the campus created a <u>Strategic Academic Vision</u>. Refinement is now needed to take into account changes that have occurred since that time. Strategic Academic Focusing must consider where future investments in academic programs and support infrastructure are best made.

The Chancellor and campus have set a goal to grow to 10,000 students, of which 1,000 are to be graduate students by the 2020-2021 academic year. This is commonly referred to as the <u>2020 Project</u>. In the spirit of shared governance, the Provost/EVC and the Academic Senate Chair established the Joint Administration-Senate Strategic Academic Focusing Group (with members from the faculty and the administration) whose charge is to facilitate a campus dialogue aimed at a more focused strategic academic vision.

As a first step in the process, we want to hear from faculty and campus units. Thus, we are requesting feedback from academic units, graduate groups, organized research units, and individual faculty or groups that may contribute to establishing a more focused strategic academic vision. Your ideas or responses are not restricted to the aforementioned 2009 document.

We ask that responders address the following five questions:

- 1. What refinements to the 2009 Strategic Academic Vision are needed-both in terms of more narrowly focusing or removing current research themes or adding new ones? Consider collaborative, multidisciplinary research themes that can help to forge UC Merced's identity.
- 2. What are the important research problems or questions in your field(s) and, relative to your response to question one, what research themes does your disciplinary or interdisciplinary field contribute to?

- 3. Within the context of the 2020 Project, what sort of resources are realistically needed for you to address these important research themes, problems, or questions?
- 4. What national programs align most closely with yours today and what are the programs (if any) to which you aspire to be like by 2020? If you aspire to establish a unique program, what differentiates it?
- 5. How does your program help to meet important campus metrics of campus enrollments (undergraduate and graduate students), research productivity, student retention rates, reliance on non-ladder rank faculty, etc.?

Responses will be reviewed using the following guiding principles. We encourage writers to consider them as well.

**A. Rational fairness and equity**: Having a balanced approach based on reality and context, as we consider what to build and support, in contrast to what we will not foster. Context is current status of programs and faculty, student base, and cost; it also includes future prospects in student needs, funding, and fit with general mission (to come out of this planning process). Fairness and equity avoids favoritism based on personal interest, seeks balanced choices, but all within the contexts mention above.

**B. Transparency**: During the planning process, information and methods of decision-making are not held back from interested parties (e.g., faculty, students, and community). Things are not done by individuals or committees without providing the rest of the faculty with an opportunity for feedback or response. This does not mean that decisions cannot be made that may reflect only the minority opinion/preference. However, the process used in this planning mission are made known to the rest of the faculty.

**C. Fidelity**: If changes to the campus mission, design, composition are to be made, they should be made in light of prior contracts (implied or explicit). These contracts may have been made to units, people, programs, etc.

**D.** Balanced approach between undergraduate and graduate education, with a recognition of the original mission of the university.

**E. Recognition that UCM cannot be all to everyone**, and that is must identify itself uniquely with its own philosophies and niche, in order to be competitive and successful in the near future. We can be a UC campus with its long standing quality approaches to education and research in general, but we need to be more.

In parallel to this process, the campus has underway a project to develop additional space for faculty, research, teaching and students. We acknowledge that our campus is facing restrictive limits on space resources as present. However, we ask that proposers take a reasonable and realistic approach to identifying space and other resources needed to make the initiative successful.

The due date for initial responses is Friday, November 8. Upon receiving these responses, the Working Group will review and consolidate the submissions and present the consolidated effort to the campus for input.

We will communicate with you shortly concerning the exact format for submitting responses. The Working Group will be hosting several Town Hall events where you will be able to ask questions and voice your concerns. In addition, you may also email your questions to <u>sa2020@ucmerced.edu</u>

October 29, 2013

#### Dear Colleagues,

We are now less than three weeks from the "Phase I" deadline for submittal of the Strategic Academic Focusing Initiatives. All 'self-assembled academic groups' are strongly encouraged to submit your ideas for the future academic growth of UC Merced. As a reminder, the full "Academic Focusing Initiative" process will take place through Spring 2014, with an anticipated conclusion in March and April. But *preliminary* input must be received from you by November 15 in order to properly guide the first step in the 2020 Project process: producing a "Request for Qualifications" document, which will be made public to a world-wide development community. In that RFQ, we must give broad (but not specific) guidance on what *kinds* of academic space will be required for our existing programs and future growth, and *how much* academic space of each 'type' we will need.

To encourage an open and transparent process wherein all faculty members can see the progress of this academic focusing exercise, we will be utilizing the 'open proposal' portal developed for us by UCSF. You can quickly familiarize yourself with the site. This open portal can be found at:

#### http://open-proposals.ucsf.edu/ucmerced/saf2020

Some basic ground rules of the portal are:

- 1. Everyone will have to 'register' on the website, using their UCMERCED email. You can pick your own password. The first time you try to submit a "proposal" or comment on an existing proposal, you will be asked to create a user ID. Subsequently, you simply need to log on with that ID to submit and comment.
- 2. For ease of tracking and modification, each initiative will have one principal author, responsible for submitting the initiative and making subsequent modifications.
- 3. All submittals are viewable by all who have registered on the website.
- 4. All comments and suggestions for improvement are viewable by all who have registered on the website.

This is truly a grassroots endeavor to develop the most creative and forward-thinking academic plans for the expansion of this unique campus. If we use this exercise simply to continue doing business as usual, or to try to become like some other university as quickly as possible, we will have truly squandered an opportunity that literally exists nowhere else in the nation at the moment: the opportunity to shape the academic direction of the 'new' research university for the 21<sup>st</sup> Century.

#### Sincerely,

The Strategic Academic Focusing Working Group Ignacio Lopez-Calvo and Tom Peterson, Co-Chairs Jeff Gilger Arnold Kim Jane Lawrence Valerie Leppert

Michael Modest Jennifer Manilay Michael Spivey Sam Traina

#### FAQs – Strategic Academic Focusing Working Group

#### THE PROCESS

- 1. Template?
- 2. Existing Strategic Plan?
- 3. Reprioritization of existing programs?
- 4. Isn't this just a blue sky exercise?

#### WHO CAN SUBMIT

- 5. Why self-assembled groups?
- 6. What kinds of self-assembled groups?

#### THE EMPHASIS

- 7. New faculty vs. existing faculty?
- 8. Used to decide relative growth rates?
- 9. Looking at programs we already have?

#### DISCIPLINARY vs. INTERDISCIPLINARY

- 10. How to take into account interdisciplinarity?
- 11. How to balance mission driven/problem solving work and disciplinary/interdisciplinary?

#### METRICS

12. Do we need to provide data for evaluation?

#### WHO EVALUATES

13. Who gets these results?

#### WHAT IS EVALUATED

- 14. Criteria for evaluating white papers?
- 15. Factors for evaluation?
- 16. Can we add more factors?

#### MISCELLANEOUS

- 17. What are the near term buildings expected?
- 18. Expand campus across canal?

#### 1. Is there a template or format for submitting ideas for Strategic Academic Focusing?

One primary concern about using a detailed, prescriptive template is inadvertently stifling creative and innovative ideas for advancing the university's academic mission. Therefore, we will use a web-based form found at:

#### http://open-proposals.ucsf.edu/ucmerced/saf2020

#### *The required sections on this form for the submittals are:*

- 1. Title of Initiative
- 2. Names of Principle Authors
- 3. Executive Summary (150 word max)
- 4. Initiative Description (1-4 pages max; we recommend pasting in text from a Word document)
- 5. Impact metrics worksheet including enrollment and FTE actuals and estimates

Separate worksheets/narratives may be submitted for undergraduate and graduate programs, such as in the case of programs that are not vertically aligned, or to differentiate faculty FTE available for graduate vs. undergraduate instruction. The faculty FTE listed by year in the worksheet should be the total number, not new request.

#### Some basic ground rules of the portal are:

- Everyone will have to 'register' on the website (<u>http://open-proposals.ucsf.edu/ucmerced/saf2020</u>) using their UCMERCED email as your user name. You can pick your own password.
- 2. For ease of tracking and modification, each initiative will have one principal author, responsible for submitting the initiative and making subsequent modifications.
- 3. All submittals are open and viewable by all.
- 4. All comments and suggestions for improvement are viewable by all.

To encourage an open and transparent process wherein all faculty members can see the progress of this academic focusing exercise, we will be utilizing the 'Open Proposal' process and web site developed for us by UCSF. The web site can be found at:

http://open-proposals.ucsf.edu/ucmerced/saf2020

## 2. Don't we already have a Strategic Plan? Why can't we just use that plan to guide our growth trajectory?

We could indeed follow the current (2009) Strategic Plan. How relevant is that plan to current and future program objectives? Does that plan adequately describe the vision for your program? If not, would modest modification of the plan make it more relevant for your program? Does it require major revision? Or, should we, in effect, 'start over'?

# 3. The campus has already established a number of strong graduate programs but the distribution of resources (including faculty time) hinders the optimal growth of these programs and may limit the richness of opportunities for our students. Can the campus reprioritize the distribution of its resources to create more optimal programs for our students?

As you define the programmatic needs in your areas you should list all of the resources needed (space, faculty lines for graduate program instruction and research initiatives, staff support) to optimize your current or future graduate program.

#### 4. Isn't this just a 'blue sky' exercise with little accountability for future progress?

It could be, if rational metrics to assess program progress and quality are not defined and monitored. There is no 'uniform' standard against which every single program can be evaluated. But every individual program can define, for the discipline, appropriate metrics. Each submitting group is asked to identify those metrics as well as reasonable targets for evaluating progress. Since strategic academic focusing is meant to define where we should be in 2020 *as well as* the trajectory to follow in getting there, it will be possible to track progress of each initiative and make appropriate modifications to the plan if necessary.

#### 5. Why is there an emphasis on self-assembled faculty groups?

The campus already has a number of strong programs, but the Working Group does not want to limit the creativity of the faculty by limiting input from only existing groups. Rather we wish to allow the best ideas of all faculty to receive full consideration.

### 6. What kinds of Self-Assembled Groups can form, and what types of faculty associations will be recognized?

Faculty are strongly encouraged to assemble any type of group, with any type of association, in which a critical mass of contributors are willing to cooperate for

constructing their proposal. This could be an interdisciplinary collection of faculty across all three schools whose focus is on common research goals. It could be an undergraduate program that envisions national recognition. It could be a graduate program that plans to expand rapidly. It could be a group of faculty who see the need for a particular campus resource. We intend for no one to be excluded from submitting a proposal, and individual faculty are permitted to be involved with multiple proposals. Whatever idea or concept around which the Self-Assembled Group is formed, the more competitive proposals will be the ones that compellingly address all of the questions posed by this Strategic Academic Focusing initiative, e.g., research excellence with metrics for comparison, resource issues, undergraduate enrollment, graduate enrollment, etc.

## 7. Why are we talking about recruiting new faculty when we cannot adequately support the faculty we have?

Strategic academic focusing is as much about supporting existing programs and faculty as it is about adding new faculty to expand those programs or begin new programs. To the extent possible, each initiative should carefully articulate resource requirements in all dimensions, including resources needed for the program(s) as they exist today, as well as anticipated future resource needs.

## 8. To what extent should we look at what we already have? Will there be tradeoffs between different graduate programs and between graduate and undergraduate programs?

The campus definitely needs to take stock of its existing programs and weigh them in the balance of increasing emphasis in particular areas. To date, there has been little or no enrollment management between programs. Rather, the undergraduates have voted with their feet and the campus has grown its programs accordingly. As we strive to grow the total graduate student population to approximately 1000 students, we will need to strike balances between programs and between graduate and undergraduate enrollment. While doing so we must remember that quality is as important as size. We do not want to simply grow the graduate student population without also ensuring that it is comprised of UC-quality graduate students.

#### 9. Will this process decide the relative growth rates of respective research groups?

While all groups will continue to grow, the rate of growth will not be equal. This process will identify those programs that will grow at a faster rate based on their

potential impact to the broader campus goals of research excellence, distinctiveness and prominence.

## 10. How will the Working Group take into account interdisciplinarity in the proposals?

Interdisciplinary research and teaching has been, and continues to be, a defining point of this institution. When resources are limited, it is often the case that interdisciplinary enterprises are the one place where a critical mass of research and teaching excellence can be developed quickly – without necessarily pitting one discipline against another in the competition for resources. Please note that the working group does not have a predefined notion of what counts and does not count as interdisciplinary. We will allow faculty to define interdisciplinary.

## 11. How do we strike a balance between mission-driven or problem solving oriented work and basic work? Will there be a bias towards inter- / multidisciplinary programs at the expense of disciplinary efforts?

While the concept of interdisciplinary work was embedded into the DNA of UC Merced at its inception, strong interdisciplinary efforts can only exist with the support of strong, fundamental disciplinary programs. Problem solving or mission-driven work is not successful without basic academic efforts. Furthermore, academic excellence for the sake of creating new knowledge has always been a hallmark of UC and it will remain a hallmark of UC Merced. The campus values excellence in academic programs, regardless of their nature. We will look at how all programs contribute to the growth and excellence of the campus.

## 12. Do we need to provide data related to the number of graduate students, the number of grants, or other signs of productivity that will be associated with our program?

If graduate education is an important aspect of your program please indicate the size of this activity.

Faculty should indicate what the signs of success are in their areas of study. If this is typically indicated by the number and quality of graduate students, the size of the extramural grants program or the extent of research expenditures, then it would be helpful to estimate these numbers. However if other metrics of success and excellence are used in your field please indicate these and provide some estimate of their magnitude and quality.

#### 13. Who will receive the results of this effort besides the Working Group?

The purpose of this exercise is two-fold. First, it is to provide some guidance to the 2020 Capital construction project so that the next set of buildings fully meet the space and facilities needs of the campus's academic programs. Second, this exercise will help to focus some of the campus's investments with the goal of shortening the time required for the development of some signature programs that will bring external recognition to UC Merced. This in turn should increase the ability of the campus to attract external dollars for continued investment and increase our ability to continue to attract and recruit outstanding students and faculty.

## 14. What criteria will be considered in evaluating faculty white papers? What will be the role of the Working Group and other campus groups or individuals (the Senate, the Deans, the Chancellor) in the decision making process?

The criteria for excellence varies with discipline and research area. For example, traditional metrics of success in the physical sciences are quite different than those commonly adopted by the humanities. We ask faculty groups to list their own indicators of success and excellence as is appropriate for their fields. In doing so faculty may want to consider the metrics that lead to highly ranked academic programs in their disciplines.

This will be an open and transparent process. All white papers will be available on a website for evaluation and comment by the entire campus community. In this first round the Working Group will look at these white papers to provide information to the 2020 capital construction process. Namely, it will try to provide potential developers with a sense of what facilities will be needed to support existing and future academic programs. Going forward, the Working Group will look at the feasibility of the proposed growth plans for each academic area with an effort to assess the potential for academic excellence.

In the second round of this process, it is expected that a group of external reviewers will be assembled to assist the campus in its deliberations. Ultimately the final decisions will be made by the Chancellor after considering the input of the external reviewers, the Working Group and the broader campus community.

## 15. What factors will be used to evaluate and prioritize the Strategic Academic Focusing Initiatives?

Once again, there is no 'uniform' standard against which every single program can be evaluated. Every individual program can define, for the discipline, appropriate metrics. But metrics for academic success are not **that** different from discipline to discipline. At the core of every metric must be the role any program plays in the education of students, whether that education takes place in the classroom, in the research environment or anywhere else. We are a research university, not a research institute or an undergraduate college. Those programs contributing most significantly to the mission of a research university will be given highest priority.

## 16. I don't think you have adequately considered all the important factors in this process. What can I do about that?

Like the initiatives, the Strategic Academic Focusing *process* itself is an iterative process. We have the opportunity, through a totally transparent initiative development, to collaboratively build a plan that may actually WORK because both the initiatives *and* the process will be owned by the faculty. If important questions have been poorly articulated or not articulated at all, they can be added to the process and used to further refine each initiative.

#### 17. What are the buildings that we expect in the near-term?

There are three academic buildings either in construction or about to start. These are the Student Services Building, Science and Engineering II and Classroom and Office Building II (to start this winter). There are no other buildings in line for construction. The purpose of this initial strategic focusing effort is to develop a strategic academic plan that will inform the 2020 capital construction project on the space and facilities needs of the current and future academic programs between now and 2020.

#### 18. Will campus be expanding across the canal?

Expanding the campus beyond the canal will cost hundreds of millions of dollars, probably better spent in the interim on expanding the intellectual capital of UC Merced toward fulfilling the 2020 Project on the campus footprint that we currently have. The anticipated population on campus for the 2020 Project is specifically aimed at living within the means of our current infrastructure and power usage.

#### The 2020 Project

UC Merced's greatest challenge for enrollment growth, both graduate and undergraduate, is sufficient and timely capital development. The campus is faced with a growing gap between the strong student demand for admission and the campus's limited capacity to provide the capital and infrastructure needed to support that demand. Development of the facilities necessary to accommodate 10,000 students is critical to the success of the Merced campus, its economic viability and the ability of the University of California to provide access to all eligible resident students.

To accommodate significant increases in native demand and the UC guarantee (referral) pool, the Merced campus has continued its enrollment growth consistent with the goal of reaching 10,000 students by 2020. At the same time, state funding for the campus facilities that are required to serve those students has not kept pace. As investment in academic and research facilities has slowed, UC Merced's capital-development program has commensurately slowed. As such, the campus now faces critical space shortages.

Considering the need to explore all options and alternatives to accomplish the physical development required to serve 10,000 students, Merced invited an Advisory Services Panel from the Urban Land Institute (ULI) to help identify the cost and programmatically effective means to build out the 2020 Project. The ULI report includes a set of guiding principles and recommendations to address the physical space shortfall and provide for growth, in particular by considering denser developments to optimize the existing infrastructure spine, moving additional administrative space off campus and consolidating off-campus space in a single location, and using public-private partnership approaches to deliver campus facilities.

In May 2013, the Regents approved an Amendment to the UC Merced 2009 Long Range Development Plan (LRDP) to create a planning framework that identifies a Central Campus District and adds a new "Campus Mixed Use" (CMU) designation that would provide greater land use flexibility to design and deliver a master-planned development. The CMU designation includes 219 acres, which includes the

current 104-acre site and adjacent areas immediately to the east of campus. The campus anticipates developing its Phase 2 facilities (2020 Project) within the boundaries of the CMU, a reduction of 136 acres as compared with the campus' original 2009 LRDP.

The 2020 Project includes the facilities needed to support an enrollment level of 10,000 students, including academic, administrative, research, recreational buildings, student residences, student services buildings, utilities, infrastructure,



outdoor recreation areas, and associated roadways, parking, and landscaping.

In August 2013, UC Merced hired Jones Lang LaSalle, AECOM and SCB Architects (Consultant) to provide development consulting services for the 2020 Project. Among other deliverables, the Consultant will work with the campus to analyze and provide recommendations of project delivery methodologies, developer solicitation options, preliminary cost estimation, and financing options. In addition, the campus has developed concepts for the development of the 2020 Project finance plan and reviewed these concepts with the Office of the President.

UC Merced plans to develop a finance plan for the 2020 Project based on the following principles:

- Develop a cost-efficient project by maximizing utilization of existing infrastructure and optimizing the utilization of facilities through mixed-use
- Analyze life-cycle cost and risk
- Develop an appropriate risk profile for the campus
- Manage short and long-term risk through procurement methodology
- Work with the Consultant to determine the plan of finance and procurement methodology based on its life-cycle and risk analysis
- Maximize leverage from incremental net revenue through project debt and century bonds to minimize the need to debt finance state-eligible facilities
- Request that the University pledge general funds available for capital projects sufficient to finance the portion of the project that cannot be financed through a pledge of net revenue

The campus plans to undertake the following steps in order to deliver the first phase of the 2020 Project by 2017:

- Release a Request for Qualifications (RFQ) to identify a "short list" of potential development partners capable of delivering a project of the size and scope of the 2020 Project.
- Confer with the Regents on the qualifying firms and proposed funding approaches and project delivery methods.
- Request proposals from qualified firms.
- Review and analyze financing options for the Project that include debt capacity and accounting impacts.
- Negotiate the business terms with the selected development partner.
- Request Regents' consideration of any necessary modifications to the campus' Physical Design Framework.
- Request Regents' consideration of project design and proposed business terms. The campus anticipates that the Regents will be asked to consider and approve the 2020 Project in early 2015.
- Commence project construction in 2015 with delivery of first phase by 2017.

#### AY 2011-2012 Report of the Committee for the Review of PLO Assessment Reports

#### **EXECUTIVE SUMMARY**

January 18, 2013 Prepared by Laura E. Martin, Committee Convener

This executive summary summarizes the work and findings of the *Committee for the Review of PLO Assessment Reports* for the 2011-2012 academic year. Established in spring 2011 as a standing subcommittee of the Senate Administration Council on Assessment and Planning (SACAP), the Committee is charged with 1) providing formative feedback to individual academic programs on their PLO assessment efforts, and 2) identifying common assessment or student learning-related strengths, weaknesses or issues as potential foci for further study or action. This summary and related report addresses item 2. The full report is appended.

#### Program Reporting Rates

Over the AY2011-12 academic year and into the summer of 2012, the Committee reviewed

- 1) 22 PLO Reports summarizing undergraduate assessment activities from AY 2010-2011, including reports from 14 undergraduate majors, seven stand alone minors, and Core 1.
- 2) 88% of all undergraduate programs expected to submit a PLO report did, with 100% of expected programs in SSHA and SNS reporting.

See Appendix A of the full report for additional details.

#### Student Learning Outcomes: Findings and Emerging Trends

A diverse set of PLOs were assessed during 2011-2012. Appendices E and F of the full report provide report abstracts and a list of the PLOs assessed, respectively. Of reports explicitly considering evidence of student learning, 76% (16)<sup>1</sup> of programs expressed some level of satisfaction with student learning findings; 19% (4) of programs found that students did not meet faculty benchmarks for performance. The remaining program did not gather sufficient evidence to warrant a conclusion.

The committee's review of academic assessment reports, revealed that

3) Nearly 33% (8) of programs, representing both SSHA and SNS degrees, submitted reports in 2011-12 in which student writing/composition skills were identified as an area requiring attention. Explicit concerns included argument development, scientific writing, use of the literature, the ability to express mathematics or other forms of quantitative problem solving in writing, as well as basic grammar and sentence structure.

These findings build on those of previous years, including the conclusions that

- Student written communication skills confounded the assessment of student knowledge and intellectual skills.
- Students struggle with quantitative skills within the major (particularly sciences), including the ability to use the language of mathematics.

A number of programs identified increased writing instruction and practice within the degree program as action items stemming from assessment findings reported in 2011-12. One program identified dialogue with the Merritt Writing Program as an additional next step.

<sup>&</sup>lt;sup>1</sup> 21 of 22 submitted reports included student learning findings.

4) However, as concerns about the quality of student writing emerge annually, the committee feels the campus might benefit from a broader discussion of student writing, including related goals, student needs, and resources, that draws on the body of research addressing the development of writing/composition abilities.

Such a conversation would also begin to address WASC's emerging focus on a set of "core competencies" that includes written (and oral) communication, information literacy, critical thinking, and quantitative reasoning. A focus on written communication is likely to enhance student proficiency in these other areas, particularly as students are commonly asked to formally express their intellectual skills (thinking) through writing.

#### Assessment Practices: Degree of Development

The committee came to the following conclusions and recommendations regarding the degree of development of assessment practices across academic programs, particularly as they support a programmatic approach to investigating student learning. Detailed findings are provided in the *Results* section of the full report.

- 5) A number of programs were commended for one of the following practices the degree of faculty involvement in programmatic assessment activities, the use of both direct and indirect forms of evidence, and thorough or rigorous assessment. Approximately one third of programs, however, still rely exclusively on one or the other forms of evidence. Depending upon enrollment and the kind of feedback desired, programs may want to consider the using the <u>SATAL program</u>. For most undergraduate programs, program-specific questions have been added to the <u>Graduating Senior Survey</u><sup>2</sup> enabling annual, automatic collection of program specific data.
- 6) The percentage of programs reporting a *Developed* or better level of practice declined this reporting period relative to the year before for all rubric criteria. A number of factors are reflected in this finding, including variation in the assessability of PLOs examined each year, turnover in FAOs, the addition of programs that are new to assessment, and changes to the membership of the PLO report review committee. However, the vast majority of programs (91%) had sufficient confidence in learning findings to propose follow-on curricular or pedagogical actions.
- 7) For a majority of programs, continued development is needed to achieve a transparent, programmatic approach to assessment as described by the *Developed* standard of the rubric. Development efforts should be focused primarily on the practices associated with three rubric criteria *Valid Evidence*, and *Reliable Results* and *Conclusions and Recommendations*.
- 8) A majority of programs would benefit from increased sample sizes for direct and indirect forms of evidence. This can be most efficiently accomplished through planning that increases the frequency with which evidence is collected. For example, programs could combine assessment with grading through the use of programmatic rubrics on predetermined assignments administered in regularly offered, required courses in the degree program.
- 9) To better understand the degree to which the program's curriculum has cumulatively affected student abilities, programs would benefit from gathering evidence of student proficiency with respect to PLOs as students near degree completion (ex. senior level). For those programs collecting evidence from upper division courses, a first step would be to begin analyzing learning results by student standing (ex. junior, senior, etc.). Evolving assessment practices in this direction will help to address recent revisions to WASC accreditation expectations. It will also help programs better understand how well prepared their graduates are to enter the work force or matriculate in graduate or professional programs.
- 10) All programs will benefit from ongoing, timely assessment support to facilitate *Developed* assessment practices, particularly as a) two programs with practices concluded to be *Initial or Initial/Emerging* in

<sup>&</sup>lt;sup>2</sup> Institutional Planning and Analysis leads a Task Force to revise the Graduating Senior Survey to meet these types of campus needs. The Task Force includes representatives from each School.

2011-12 had previously demonstrated more highly developed practices, and b) at least six programs specifically noted the need for adequate administrative support to coordinate data collection and support data analysis and/or recognized existing assessment support as essential to the success of their assessment activities.

#### Notable Assessment Practices

The Committee highlights the following programs for their particularly commendable approaches to program assessment.

- 11) The History and Physics programs for their use of a significant, senior-level, culminating research and writing exercise the senior thesis— to assess the intellectual skills of their students as they complete their degree. Each program's assessment practices were also distinguished in the following ways: History by their CRTE-supported research into student preparation for successful completion of the senior thesis, which generated useful insights into the student experience generated through interviews of students, graduate teaching assistants and faculty; Physics for its thoughtful, productive adaptation of the literature-based *The Research Skill Development Framework A conceptual model to make explicit the incremental and cyclic development of student research skills.*
- 12) The Philosophy program for a robust assessment strategy that, through effective use of complementary lines of direct and indirect evidence, revealed important differences in student and faculty performance expectations (and underlying knowledge) of a key program outcome.

#### Percentage of Programs Reporting Actions in Response to Assessment Findings

Actions in support of improved *student learning*:

- 13) 91% (20) of programs had sufficient confidence in learning findings to propose follow-on curricular or pedagogical actions.
- 14) 9% (2) of programs were satisfied with student performance.

#### Actions in support of improved assessment practices:

- 15) 86% (19) of programs identified improvements to assessment practices.
- 16) 5% (1) of programs concluded no changes were needed.
- 17) 9% (2) of program reports did not draw conclusions about the efficacy of their assessment practices.

#### Implications of Program Findings for Budget and Planning

A review of program responses to Section VI of the PLO Report Guidelines - *Implications of Proposed Changes* (Budget/Planning) revealed that

- 18) Nearly 33% (7) of programs requested no additional resources beyond faculty time or existing administrative support to implement actions stemming from assessment findings.
- 19) 55% (12) of programs identified at least one specific resource to implement actions stemming from assessment findings. Of these programs, three identified specific dollar amounts or the need for direct financial assistance for specific tasks. The remainder identified needs to be addressed via longer term planning, including steps associated with instructional resourcing, enrollment management or administrative support.

A review of dean cover letters<sup>3</sup> associated with report submission indicated general support for proposed faculty actions, with one dean prioritizing actions that did not require additional resources. A detailed summary of program requests is provided in Table 2 of the full report.

<sup>&</sup>lt;sup>3</sup> Cover letters were associated with two of three school report submissions to SACAP.
#### AY 2011-2012 Report of the Committee for the Review of PLO Assessment Reports

# Full Report

# January 18, 2013 Prepared by Laura E. Martin, Committee Convener

# I. INTRODUCTION

This report summarizes the work and findings of the Committee for the Review of PLO Assessment Reports for the 2011-2012 academic year. Established in spring 2011 as a standing subcommittee of the Senate Administration Council on Assessment and Planning (SACAP), the Committee is charged with 1) providing formative feedback to individual academic programs on their PLO assessment efforts, and 2) identifying common assessment or student learning-related strengths, weaknesses or issues as potential foci for further study or action. This report addresses item 2.

Over the AY2011-12 academic year and into the summer of 2012, the Committee reviewed 22 PLO Reports summarizing assessment activities from AY 2010-2011, including reports from 14 undergraduate majors, seven stand alone minors, and Core 1, representing 88% of all programs expected to submit a PLO report (Appendix A). Three graduate-level PLO reports, representing 75% of the reports anticipated in AY2011-12, were also submitted. Findings from the graduate level reports are not summarized in this report.

The Committee's review process is organized around the *Rubric for the Report on PLO Assessment* (Appendices B and C; see also the Methods section below), which articulates the practices that underpin an intentional, transparent, and programmatic approach to fostering student intellectual development within a degree granting program. Programs should be working to reach the practices described by the *Developed* standard of the rubric.

The following sections detail the Committee's findings and recommendations, results, and methods.

# II. FINDINGS & RECOMMENDATIONS

# Program Reporting Rate

Over the AY2011-12 academic year and into the summer of 2012, the Committee reviewed

- 22 PLO Reports summarizing undergraduate assessment activities from AY 2010-2011, including reports from 14 undergraduate majors, seven stand alone minors, and Core 1.
- 88% of all undergraduate programs expected to submit a PLO report did, with 100% of expected programs in SSHA and SNS reporting.

Appendix A of the full report provides additional details.

# Student Learning Outcomes: Findings and Emerging Trends

A diverse set of PLOs were assessed during 2011-2012. Appendices E and F of the full report provide report abstracts and a list of the PLOs assessed respectively. Of reports explicitly considering evidence of student learning, 76% (16)<sup>4</sup> of programs expressed some level of satisfaction with student learning findings; 19% (4) of programs found that students did not meet faculty benchmarks for performance. The remaining program did not gather sufficient evidence to warrant a conclusion.

<sup>&</sup>lt;sup>4</sup> 21 of 22 submitted reports included student learning findings.

The committee's review of academic assessment reports, revealed that

 Nearly 33% (8) programs, representing both SSHA and SNS degrees, submitted reports in 2011-12 in which student writing/composition skills were identified as an area requiring attention. Explicit concerns included argument development, scientific writing, use of the literature, the ability to express mathematics or other forms of quantitative problem solving in writing, as well as basic grammar and sentence structure.

These findings build on those of previous years, including the conclusions that

- Student written communication skills confounded the assessment of student knowledge and intellectual skills.
- Students struggle with quantitative skills within the major (particularly sciences), including the ability to use the language of mathematics.

A number of programs identified increased writing instruction and practice within the degree program as action items stemming from assessment findings reported in 2011-12. One program identified dialogue with the Merritt Writing Program as an additional action item.

However, as concerns about the quality of student writing emerge annually, the committee feels the campus might benefit from a broader discussion of student writing, including related goals, student needs, and resources, that draws on the body of research addressing the development of writing/composition abilities.

Such a conversation would also begin to address WASC's emerging focus on a set of "core competencies" that includes written (and oral) communication, information literacy, critical thinking, and quantitative reasoning. A focus on written communication is likely to enhance student proficiency in these other areas, particularly as students are commonly asked to express their intellectual skills (thinking) through writing.

# Assessment Practices: Degree of Development

The committee came to the following conclusions and recommendations regarding the degree of development of assessment practices across academic programs, particularly as they support a programmatic approach to investigating student learning. Detailed findings are provided in the *Results* section of the full report.

- 2) A number of programs were commended for one of the following practices the degree of faculty involvement in programmatic assessment activities, the use of both direct and indirect forms of evidence, and thorough or rigorous assessment. Approximately one third of programs, however, still rely exclusively on one or the other forms of evidence. Depending upon enrollment and the kind of feedback desired, programs may want to consider the using the <u>SATAL program</u>. For most undergraduate programs, program-specific questions have been added to the <u>Graduating Senior Survey</u><sup>5</sup> enabling annual, automatic collection of program specific data.
- 3) The percentage of programs reporting a *Developed* or better level of practice declined this reporting period relative to the year before for all rubric criteria. A number of factors are reflected in this finding, including variation in the assessability of PLOs examined each year, turnover in FAOs, the addition of programs that are new to assessment, and changes to the membership of the PLO report

<sup>&</sup>lt;sup>5</sup> Institutional Planning and Analysis leads a Task Force to revise the Graduating Senior Survey to meet these types of campus needs. The Task Force includes representatives from each School.

review committee. However, the vast majority of programs (91%) had sufficient confidence in learning findings to propose follow-on curricular or pedagogical actions.

- 4) For a majority of programs, continued development is needed to achieve a transparent, programmatic approach to assessment as described by the *Developed* standard of the rubric.
   Development efforts should be focused primarily on the practices associated with three rubric criteria *Valid Evidence*, and *Reliable Results* and *Conclusions and Recommendations*.
- 5) A majority of programs would benefit from increased sample sizes for direct and indirect forms of evidence. This can be most efficiently accomplished through planning that increases the frequency with which evidence is collected. For example, programs could combine assessment with grading through the use of programmatic rubrics on predetermined assignments administered in regularly offered, required courses in the degree program.
- 6) To better understand the degree to which the program's curriculum has cumulatively affected student abilities, programs would benefit from gathering evidence of student proficiency with respect to PLOs as students near degree completion (ex. senior level). For those programs collecting evidence from upper division courses, a first step would be to begin analyzing learning results by student standing (ex. junior, senior, etc.). Evolving assessment practices in this direction will help to address recent revisions to WASC accreditation expectations. It will also help programs better understand how well prepared their graduates are to enter the work force or matriculate in graduate or professional programs.
- 7) All programs will benefit from ongoing, timely assessment support to facilitate *Developed* assessment practices, particularly as a) two programs with practices concluded to be *Initial* or *Initial/Emerging* in 2011-12 had previously demonstrated more highly developed practices, and b) at least six programs specifically noted the need for adequate administrative support to coordinate data collection and support data analysis and/or recognized existing assessment support as essential to the success of their assessment activities.

#### Notable Assessment Practices

The Committee highlights the following programs for their particularly commendable approaches to program assessment.

- 8) The History and Physics programs for their use of a significant, senior-level, culminating research and writing exercise the senior thesis— to assess the intellectual skills of its students as they complete their degree. Each program's assessment practices were also distinguished in the following ways: History by their CRTE-supported research into student preparation for successful completion of the senior thesis, which generated useful insights into the student experience generated through interviews of students, graduate teaching assistants and faculty; Physics for its thoughtful, productive adaptation of the literature-based *The Research Skill Development Framework A conceptual model to make explicit the incremental and cyclic development of student research skills.*
- 9) The Philosophy program for a robust assessment strategy that, through effective use of complementary lines of direct and indirect evidence, revealed important differences in student and faculty performance expectations (and underlying knowledge) of a key program outcome.

#### Percentage of Programs Reporting Actions in Response to Assessment Findings

Actions in support of improved student learning:

- 91% (20) of programs had sufficient confidence in learning findings to propose follow-on curricular or pedagogical actions.
- 9% (2) of programs were satisfied with student performance.

Actions in support of improved assessment practices:

- 86% (19) of programs identified improvements to assessment practices.
- 5% (1) of programs concluded no changes were needed.
- 9% (2) of program reports did not draw conclusions about the efficacy of their assessment practices.

# Implications of Program Findings for Budget and Planning

A review of program responses to Section VI of the PLO Report Guidelines - *Implications of Proposed Changes* (Budget/Planning) revealed that

- Nearly 33% (7) of programs requested no additional resources beyond faculty time or existing administrative support to implement actions stemming from assessment findings.
- 55% (12) of programs identified at least one specific resource to implement actions stemming from assessment findings. Of these programs, three identified specific dollar amounts or the need for direct financial assistance for specific tasks. The remainder identified needs to be addressed via longer term planning, including steps associated with instructional resourcing, enrollment management or administrative support.

A review of dean cover letters<sup>6</sup> associated with report submission indicated general support for proposed faculty actions, with one dean prioritizing actions that did not require additional resources.

A detailed summary of program requests is provided in Table 2 of the full report.

#### III. <u>Results</u>

# Assessment Strengths & Related Infrastructure Advancements

PLO Reports communicated a wide diversity of assessment-related strengths (~22 distinct strengthens were noted by reviewers), with a number of programs being commended specifically for

- The use of both direct and indirect lines of evidence (36% of programs)
- The degree of faculty involvement in the annual assessment process (32% of programs)
- Through or rigorous assessment (14%)

The use of complementary lines of direct and indirect evidence addresses a recommendation of the previous PLO report review committee and recognizes a gain in this practice over the prior year. Of programs completing reports in 2011-12, 64% used at least one line each of direct and indirect evidence, up from 59% in 2009-2010. However, three programs that employed only a single line of evidence in 2011-12 had previously used both forms together. These programs reported missing the additional line of evidence, and cited logistical challenges for its absence. Thus, the number of programs employing multiple, complementary lines of direct and indirect evidence continues to increase each year, with some inconsistency in realized intentions among years. The review committee continues to encourage this practice, with six programs receiving feedback suggesting this course of action in 2011-12.

One ongoing challenge is to ensure adequate and timely administrative support for collecting evidence, including indirect lines. During the 2011-12 academic year, substantial progress was made for most undergraduate programs in simplifying and regularizing the collection of program-specific indirect evidence. Under the leadership of IPA's Gina Johnson and the Undergraduate Survey Task Force, program specific questions were added to the graduating senior and alumni surveys, ensuring ongoing collection of student

<sup>&</sup>lt;sup>6</sup> Cover letters were associated with two of three school report submissions to SACAP.

and alumni learning perceptions without any additional faculty work. The Students Assessing Teaching and Learning Program (<u>SATAL</u>) also continues to enable more in-depth and customizable assessment support to academic programs. 25% of programs took advantage of this free service in support of program assessment in the 2011-12 reports.

#### Forms of Evidence

For most programs, direct evidence of student learning took the form of course-embedded assignments (often course work) that was then evaluated by a subset of faculty guided by a rubric. Diverse forms of student work were reviewed in this way including research papers, senior theses, oral presentations, student behaviors, exam questions, homework assignments, and diagnostic examinations. One program employed a national disciplinary exam. Approximately 50% of reporting programs considered student standing (i.e. junior, senior, etc.) as a factor in evaluating student learning findings, including those programs that specifically examined the performance of seniors through capstone assignments like theses. The vast majority of these programs were in SSHA.

Indirect lines of evidence included focus groups or exit interviews conducted by the <u>SATAL program</u>, program-developed and administered student surveys or questionnaires, faculty interviews of students, PLO-related questions on course evaluations, select results from the <u>University of California Undergraduate</u> <u>Experience Survey</u>, program specific questions on the Graduating Senior Survey, and an examination of program curriculum alignment. The SATAL program, a customizable service, was used by approximately 25% of the programs that gathered indirect evidence.

## Quality of Assessment Practices: AY2010-2011(as reported in 2011-12)

Figure 1 summarizes the degree of assessment-related development for programs in SSHA, SNS, SoE, and College One in relation to each of the rubric's five criteria for AY 2010-2011 (as reported in reports submitted in AY 2011-12).











Figure 1. Committee-based assessments of the level of development of the PLO Assessment Reports submitted during AY2011-12. Each figure depicts the percentage of reports at each level of development - Initial (I), Emerging (E), Developed (D), Highly Developed (HD) or intermediate to two levels, ex. E/D - for each criterion on the UC Merced *Rubric for the Report on PLO Assessment* (n=22).

In the aggregate, these results indicate that

- A majority of reports were rated as *Emerging/Developed* or better (i.e. as approaching, meeting or exceeding a *Developed* practice) for all rubric criteria. Of the four programs with *Initial* or *Initial/Emerging* practices, two had demonstrated more refined assessment practices in prior years. The remaining two programs were engaged in their first round of program assessment. Both are also stand alone minors, which are more challenging to assess.
- 2) Three criteria Valid Evidence, Reliable Results, and Conclusions and Recommendations are most in need of development, with more than 50% of programs assessed as less than Developed in these areas. The Valid Evidence and Reliable Results criteria were identified as most in need of development last year as well, suggesting that programs would benefit from continued support for identifying productive lines of evidence and cultivating shared, program-level expectations for student learning.
- 3) The vast majority of programs have identified recommendations for improving student learning and/or assessment practices, with over 90% of programs scored as *Emerging/Developed* or higher for the *Conclusions and Recommendations* criterion this reporting term. Specifically, 91% (20) of programs identified curricular or pedagogical actions that could be taken in response to learning results; the remaining 9% (2) of programs were satisfied with student performance. 86% (19) identified improvements to assessment practices, with one program noting no changes were needed. Two (9%) did not address the topic.

Figure 2 contextualizes these results in relation to the preceding two years of findings, depicting the percentage of reports judged to have met or exceeded a *Developed* practice for all five criteria. Collectively, these findings suggest that

4) Gains demonstrated in reports submitted in AY 2010-11 were not sustained in the reports submitted in 2011-12; the percentage of programs reporting a *Developed* or better level of practice declined this reporting period relative to the year before for all criteria. A number of factors are reflected in this finding, including variation in the assessability of PLOs examined each year, turnover in FAOs, the addition of programs that are new to assessment, and changes to the membership of the PLO report review committee.

That said, the percentage of reports assessed as *Emerging/Developed* or better *increased* between 2010-11 and 2011-12 for the *Reliable Results* and *Conclusions and Recommendations* criteria (11 and 14% points respectively) and held steady for *Results Summary*<sup>7</sup>. Thus, for at least two of the five criteria, reported practices did improve, with a subset of programs advancing toward *Developed* practices.



**Figure 2.** The percentage of academic programs judged by the review committee to have assessment practices considered *Developed* or better by year for each criterion on the UC Merced *Rubric for the Report on PLO Assessment.* 

Figure 3 describes the degree of agreement between the committee's assessment of program assessment practices and the program's self-assessment of its practices. Using 70% agreement as an acceptable benchmark, these results indicate a good to strong degree of agreement between the two group's assessments for three rubric criteria (*Valid Evidence, Reliable Results,* and *Conclusions and Recommendations*), with levels of agreement for *Assessable PLOs* and *Results Summary* approaching the benchmark.

<sup>&</sup>lt;sup>7</sup> Data not provided to simplify the report. It is available upon request.



- ≥ 1 Level lower than reviewer score
- Equal to or within one half of a level of reviewer score
- ≥ 1 Level higher than reviewer score

**Figure 3**: The degree of agreement between the committee's assessment of program development and each program's selfassessment with respect to the five criteria of the *Rubric for the Report on PLO Assessment* for reports submitted in AY2011-12. For each criterion, the percentage of program self-assessments were a) at least one level of development lower than the committee's assessment, b) the same as or with-in one-half level of committee's assessment, and c) at least one level of development higher than the committee's are reported (n=19 for all criteria, except Reliable Results with an n=17).

For the first three criteria, the degree of agreement between committee and program assessments

- 1) Lends support to the conclusions regarding the current level of assessment-related development among reporting academic programs.
- 2) Indicates that the rubric is supporting the development of a shared, foundational, understanding of the expectations of assessment practices and reporting across academic programs.

The lower levels of agreement observed for both the *Assessable PLO* and *Results Summary* criteria, point to the need to clarify expectations for both faculty and reviewers.

#### Specific Practices to Strengthen

Table 1 provides the most common suggestions made to programs and their relationship to the three criteria specifically identified for attention - *Valid Evidence, Reliable Results,* and *Conclusions and Recommendations*. Six of the seven suggestions below were also made in the prior year (1-4, 6-7), suggesting a core set of practices for focused development. Suggestions 1, 4, 5, 6 and 7 describe practices essential to establishing a collaborative, programmatic approach to improving student learning through assessment.

**Table 1:** The most common suggestions for improving assessment practices and the rubric criterion eachsupports.

	·	Number of	Rubric Criteria Addressed by Committ Suggestion		
	Committee Suggestion	programs receiving suggestion	Valid Evidence	Reliable Results	Conclusions & Recommendations
1)	<ul> <li>Adopt practices to ensure assessment addresses student learning from a programmatic perspective.</li> <li>Suggestions included <ul> <li>Ensuring assessment results are representative of all students in the major, not an unique subset, ex. students in an elective (3)</li> <li>Assessing learning that represents cumulative impact of program curriculum, rather than the impact of a single course over a single semester, ex. through capstone course or assignment (4)</li> <li>Develop or refine criteria and standards for student learning that are shared by the faculty and that further clarify what PLO means in practice at the time of graduation (5)</li> <li>Increase or clarify faculty involvement in program assessment (4)</li> </ul> </li> </ul>	16	X	x	X
2)	Identify (3) or pursue the methodological (8) or curricular (1) improvements identified in report in order to "close the loop" thereby ensuring assessment activities are not a waste of effort and time.	12			x
3)	Consider strategies to increase sample size for direct and/or indirect lines of evidence. For example, consider archiving student work for future sampling and review or take advantage of the SATAL program as a tool for gathering student feedback, particularly for small programs.	11	x	x	x
4)	Gather at least one additional, complementary line of evidence to increase insight into student learning	6	x	x	
5)	Determine or report inter-rater reliability in order to, as necessary, take steps to improve agreement among faculty and confidence in conclusions and/or to promote agreement across reviewers through time.	6		x	

		Number of	Rubric Criteria Addressed by Committee Suggestion			
	Committee Suggestion	programs receiving suggestion	Valid Evidence	Reliable Results	Conclusions & Recommendations	
6)	Clarify degree of faculty satisfaction with assessment results by formulating explicit goals for aggregate student performance against which to evaluate observed performance.	4			x	
7)	Refine or clarify alignment of evidence with PLO	3	х			

# Implications of Program Findings for Budget and Planning

Table 2 summarizes program responses to Section VI of the PLO Report Guidelines - *Implications of Proposed Changes (Budget/Planning)*. Nearly 33% (7) of programs requested no additional resources beyond faculty time or existing administrative support to implement actions stemming from assessment findings. 55% (12) of programs identified at least one specific resource to implement actions stemming from assessment findings. Of these programs, three identified specific dollar amounts or the need for direct financial assistance for specific tasks. The remainder identified needs to be addressed via longer term planning, including steps associated with instructional resourcing, enrollment management or administrative support. A review of dean cover letters<sup>8</sup> associated with report submission indicated general support for proposed faculty actions, with one dean prioritizing actions that did not require additional resources.

**Table 2:** Program responses to Section VI of the PLO Report Guidelines – *Implications of Proposed Changes* (*Budget/Planning*) – organized by type of response and school. (n=22; programs may have identified more than one need).

			Unit			
		Number of				College
Progra	m Response Organized by Type	programs (%)	SoE	SNS	SSHA	One
Resource Needs	5					
Adequate     collection	e administrative support to coordinate data and support data analysis.	2 (10%)		х		
Cap enro to ensure intensive	Ilment in select set of upper division courses the small class sizes necessary for writing learning experiences with faculty feedback.	1 (5%)			x	
Sufficient     enable co	TA support in lower division courses to ontinuation of writing intensive curriculum.	1 (5%)			x	
<ul> <li>Faculty in junior year</li> </ul>	nstructional capacity to implement new ar seminar in 2013-14	1 (5%)		х		
Strong in	troductory writing courses	1 (5%)		х		
<ul> <li>Maintain instruction this need</li> </ul>	low faculty student ratio necessary for on, with anticipated faculty hire supporting	1 (5%)			x	

<sup>&</sup>lt;sup>8</sup> Cover letters were associated with two of three school report submissions to SACAP.

		Unit			
	Number of				College
Program Response Organized by Type	programs (%)	SoE	SNS	SSHA	One
<ul> <li>\$2,145 to support a two day, summer read of student work products for 6 MWP faculty (unit 18 lecturers)</li> </ul>	1 (5%)				х
<ul> <li>\$2,145 to support a two day, summer read of student work products for 6 MWP faculty (unit 18 lecturers)</li> </ul>	1 (5%)				х
<ul> <li>Funding to support exhibition printing</li> </ul>	1 (5%)			х	
Highlight Value of Existing Resources					
<ul> <li>School assessment coordinator for implementing proposed improvements to assessment practices.</li> </ul>	3 (10%)			х	
<ul> <li>IPA's survey support for indirect evidence collection (ex. graduating senior survey data)</li> </ul>	3 (15%)			х	
<ul> <li>CRTE's SATAL program for collection of useful indirect evidence.</li> </ul>	1 (5%)		х		
No Requests					
<ul> <li>No significant budget impacts anticipated for proposed changes</li> </ul>	4 (20%)		х	х	
<ul> <li>Nothing beyond commitment of faculty time</li> </ul>	3 (15%)		х	х	
No Requests Reported					
Section left blank in report	2 (10%)	х			
Section omitted from report	2 (10%)		х		

# Emerging Trends in Student Learning

A diverse set of PLOs were assessed during 2011-2012 (See Appendix E). Report abstracts are provided in Appendix F.

Of reports explicitly considering evidence of student learning, 76% (16)<sup>9</sup> of programs expressed some level of satisfaction with student learning findings; 19% (4) of programs found that students did not meet faculty benchmarks for performance. The remaining program did not gather sufficient evidence to warrant a conclusion.

With respect to student learning, nearly 33% (8) programs submitted reports in 2011-12 identifying student writing as an area for attention. Specifically, programs noted that students

- Need improvement in writing ability, not only technical aspects of scientific writing but also basic grammar and sentence structure (2)
- Have difficulty explaining mathematical processes in writing.
- Difficulties with composition (such as the need for clarity, organization, and explanation) tended to compromise students' success in elaborating the problem and providing solutions to quantitative problems.
- Have difficulty generating clear, cogent arguments, including a tendency to depend upon lengthy quotations to make the case.

<sup>&</sup>lt;sup>9</sup> 21 of 22 submitted reports included student learning findings.

Students in one program reported that a discipline specific writing course would benefit their development of the skills necessary to craft a senior thesis.

A number of these programs highlighted their intention to increase writing instruction and practice within the degree program. On the basis of empirical evidence generated through the assessment process, one concluded that student communication proficiency (written and oral) would benefit from "continued use of explicit, consistent, and archived rubrics for written and oral arguments" coupled with "instructor and peer feedback by using a detailed rubric to help students identify areas of strengths and weaknesses."

These findings build on those of previous years, including the conclusions that

- Student written communication skills confounded the assessment of student knowledge and intellectual skills.
- Students struggle with quantitative skills within the major (particularly sciences), including the ability to use the language of mathematics.

The first bullet was echoed in the 2011-12 reports with one program concluding that it is "near[ly] impossibl[e] to separate[e] writing proficiency as a skill from content mastery. We believe that it will best serve us in the future to incorporate writing skills into the rubrics we use to evaluate the other learning outcomes."

# Emerging Trends in Assessment

With respect to assessment, the committee noted that fewer programs reported assessment practices consistent with a *Developed* practice relative to the previous year. However, the vast majority of programs (91%) had sufficient confidence in learning findings to propose follow-on curricular or pedagogical actions.

Consistent with previous years, areas for further development include

- Developing a programmatic approach to assessment that involves
  - developing a programmatic rubric that identifies the criteria and standards of performance associated with the intended PLO, rather than the particulars of a given assignment/assessment
  - identifying/developing and assessing an assignment that asks students to demonstrate the abilities (criteria and standards) outlined in the programmatic rubric and that, in doing so, reflects the cumulative impact of the program's curriculum rather than that of a single course,
  - ensuring the involvement of multiple faculty (and/or graduate student instructors) in the review of student work in order to promote shared understanding of program expectations as realized through the application of the rubric to student work
  - o developing and implementing concrete plans to respond to assessment results.
- Identifying and implementing strategies to increase sample sizes with the goal of increasing confidence in findings and in the relevance of proposed actions
- Developing indirect evidence of student learning that complements direct evidence.

Collectively the results summarized in this report also suggest that

- All programs will benefit from ongoing, timely assessment support to facilitate *Developed* assessment practices, particularly as
  - Two programs with practices concluded to be *Initial* or *Initial/Emerging* in 2011-12 had previously demonstrated more highly developed practices.
  - At least six programs specifically noted the need for adequate administrative support to coordinate data collection and support data analysis and/or recognized existing assessment support as essential to the success of their assessment activities.

# IV. Methods

The committee included eight individuals, consisting of faculty and staff from each School, the Division of Student Affairs, and Office of Assessment (Appendix D). Each PLO Report was reviewed by a primary and secondary reviewer guided by a template (Appendix C) constructed around the *Rubric for the Report on PLO Assessment* (Appendix B). Following an in-person norming session focused on an example report, reviews were conducted asynchronously with primary reviewers forwarding completed reviews to secondary reviewers. After reading the PLO Report, secondary reviewers then considered the primary reviewer's summary comments and, as necessary, noted any supplemental or discrepant points. Primary and secondary review responsibilities were split evenly among committee members. Workload was distributed in this way to reduce the workload associated with reading and evaluating a large number of reports.

Through this process, reviewers

- 1) Rated the program's level of development for each of the rubric's five criteria;
- 2) Identified one to two strengths of each program's assessment practices; and
- 3) Identified two or three assessment practices to be strengthened, based on the rubric criteria identified in step 1 to be most in need of development.

For the few cases in which the two reviewers' rubric-based ratings disagreed by one level of development (ex. emerging versus developed), a third rater resolved the difference. For half-step differences in rater scores (ex. intermediate/developed versus developed), the shared level of development was calculated (ex. developed). No reviewers disagreed by more than one level of development.

To identify frequently observed assessment or student learning-related strengths, weaknesses or potential issues, reviewers' narrative comments were coded and the frequency of each code was calculated. Using these results, the committee identified common assessment or student learning-related themes or issues to be addressed during an in-person meeting.

Finally, to gain some sense of how useful the rubric is for communicating assessment-related expectations and to gauge each program's impression of the quality of its assessment work, the committee's rubric scores were compared to the rubric-based self-evaluations each program reported in its PLO Report.

# Appendix A: 2011 PLO Report Submission Record as of Fall 2012.

School	Program Name	Program Type	2011 PLO Report Submitted?
SoE	Bioengineering	Major	No
	Computer Science & Engineering	Major	No
	Environmental Engineering	Major	Yes
	Materials Science & Engineering	Major	No
	Mechanical Engineering	Major	Yes
		Percent Reporting <sup>10</sup>	40%

		Percent Reporting	100%
	Natural Sciences Education Minor	Minor	Yes
	Physics	Major	Yes
	Sustainability Minor	Minor	Yes
	Environmental Sciences and		
	Earth Systems Science	Major	Yes
	Chemistry	Major	Yes
	Biology	Major	Yes
SNS	Applied Mathematics	Major	Yes

SSHA	Anthropology	Major	Yes
	Cognitive Science	Major	Yes
	Economics	Major	Not required as in Program Review
	History	Major	Yes
	Literatures & Cultures	Major	Yes
	Management	Major	Submitted assessment plan as agreed
	Political Science	Major	Yes
	Psychology	Major	Yes
	Public Health	Minor	Yes
	Sociology	Major	Yes
	American Studies	Minor	Submitted assessment plan as agreed
	Arts	Minor	Yes
	Philosophy	Minor	Yes
	Spanish	Minor	Yes
	Service Science	Minor	Submitted assessment plan as agreed
	Writing Program	Minor	Yes
		Percent Reporting	100%

College One	Core 1	GE	Yes
		Percent Reporting	100%

<sup>&</sup>lt;sup>10</sup> Of those programs expected to submit a report.

**Appendix B:** UC Merced's *Rubric for the Report on PLO Assessment*.

# RUBRIC FOR REPORT ON PLO ASSESSMENT

	Criterion	Initial	Emerging	Developed	Highly Developed
Assessment Methods	Assessable Program Learning Outcome (PLO)	PLO does not identify what students can do to demonstrate learning (vague, immeasurable verb statements like "students understand major theories"). No rubric developed.	PLO indicates how students can demonstrate learning. Action verb may be general and the PLO may not be observable or measurable. Assessment criteria <sup>1</sup> have not been identified or are incomplete. Rubric in early stages of development.	PLO describes how students can demonstrate learning, identifying observable and measurable results. Criteria are articulated in the form of a rubric, criteria and standards <sup>1</sup> may need further development to be more meaningful and consistently applied.	PLO specifically describes how students can demonstrate learning. Rubric clearly articulates explicit criteria and standards <sup>1</sup> for assessing the PLO, identifies the most important aspects of student learning, and includes descriptions of student performance at varying levels.
	Valid Evidence	It is not clear that potentially valid evidence is collected for the PLO <u>and/or</u> individual faculty use personalized rather than programmatic criteria and standards <sup>1</sup> to assess student work or performance.	Faculty have reached general agreement on the types of evidence to be collected for the PLO but may not include both direct and indirect forms. Evidence needs to be further focused or aligned with PLO or emerging criteria to produce truly meaningful and useful results.	Faculty collect relevant & sufficient evidence for each outcome, including both indirect and direct evidence. Assessment instruments (ex. rubric) assess the level of student attainment. Evidence is aligned with the PLO and assessment criteria to enable meaningful results and conclusions.	Assessment criteria have been pilot- tested and refined over time, usually shared with students. Direct and indirect evidence are designed to mutually inform conclusions. Feedback has led to refinements in the assessment process.
	Reliable Results	Reviewers of student work are not calibrated to apply assessment criteria in a uniform way; there are no checks for inter-rater reliability	Reviewers are calibrated to apply assessment criteria in a uniform way <u>or</u> faculty routinely check for inter- rater reliability.	Reviewers are calibrated to apply assessment criteria in a uniform way <u>and</u> faculty routinely check for inter- rater reliability.	Reviewers are calibrated, and faculty routinely find assessment data to have high inter-rater reliability.
	Results Summary	Results (data table or other means) are not included in report.	Results (data table or other means) are included but unclear or missing key data.	Results clearly delineated for each line of evidence in tabular or other summary formats. May reference benchmarks or other expectations.	Results clearly delineate each line of evidence, indicating various levels of achievement. Includes benchmarks.
RESULTS & CONCLUSIONS	Conclusions & Recommendations	Report identifies implications but no recommendations for improvement in student learning or assessment practices and no explanation of how these claims are derived. No reasoning offered in support of claims.	Report identifies some conclusions, implications, and recommendations for improvements regarding student learning or assessment, but the claims are vague or questionably related to results. Support for claims is occasionally insufficient. Questions of validity or reliability are not discussed. Results may be discussed by limited number of faculty, recommendations may be difficult to implement due to lack of convincing results and/or limited faculty involvement or support.	Report clearly articulates conclusions, implications and recommendations for improvement regarding both student learning and assessment and which could be drawn from results. Includes some consideration of the reliability and validity of results. May offer vague support for some claims. Results have been discussed by many faculty and recommendations likely to be implemented due to faculty involvement and support and quality of assessment work.	Report articulates a well-reasoned critique of conclusions, implications, and recommendations that could be drawn from the results for both student learning and assessment. Includes a well-reasoned discussion of validity and reliability of results. Faculty discuss results, plan needed changes, secure necessary resources, and implement changes. Efforts to collaborate with others, such as librarians or student affairs professionals, to improve results.

<sup>&</sup>lt;sup>1</sup> Criteria are the specific skills or abilities to be measured. Standards describe the levels of performance for a given criterion (ex. proficient to exemplary). Authored by Laura E. Martin and Anne Zanzucchi, Center for Research on Teaching Excellence, University of California, Merced, based on rubrics by C. Jenefsky & JFKU Program Review Council (2008) and WASC (2007).

## **RUBRIC FOR REPORT ON PLO ASSESSMENT**

Center for Research on Teaching Excellence

## This rubric has five major criteria:

- (1) Assessable Program Learning Outcomes: Program learning outcome should be reasonable and appropriate for the degree level. If national disciplinary standards are available, the PLO may reflect those priorities. To be assessable, it should involve specific, active verbs with supporting details describing how students will demonstrate their learning. For instance, avoid verbs of general cognition such as "know" or "understand" and instead use verbs like "demonstrate by" or "solve" that show how learning is applied. Through discussion of examples of student work and perhaps course-specific rubrics used by faculty, faculty groups have agreed on explicit criteria<sup>2</sup> and elaborated a program-level rubric. For more information, see <a href="http://crte.ucmerced.edu/program-learning-outcomes-resources">http://crte.ucmerced.edu/program-learning-outcomes-resources</a>>.
- (2) **Valid Evidence**: To be valid, evidence must be discussed among faculty and aligned with both the expectation(s) described by the PLO and the criteria<sup>2</sup> faculty use to evaluate student learning. Valid evidence is also linked to sample size or sampling approach, so as to be representative of a norm. For more information, see the appended selection on sample sizing from Linda Suskie's *Assessing Student Learning: A Common Sense Guide* (2004).
- (3) **Reliable Results**: Reliable results stem from agreement among faculty about the standards<sup>2</sup> used to evaluate student work, usually as articulated in a faculty-developed, program-wide rubric. Agreement about how to apply these standards in the evaluation of student work (i.e. calibration) is rooted in discussion and practice. Some questions to consider are: How do faculty promote calibration? How do faculty check for calibration? I.e. when faculty apply a rubric to student work, how consistently do they reach the same conclusions (i.e. exhibit inter-rater reliability)? If results are inconsistent, how can inter-rater reliability be improved?
- (4) **Summarizing Results**: When drafting a results chart (data table or other means), it is important to consider multiple audiences. How would faculty within your department understand the results? If viewed by outside stake-holders like students, faculty from other programs, administrators, parents, etc., would they reach similar conclusions? Comparing the results to previous results in your program, expectations your program has set for student learning, or to results of similar programs within or outside of the UC (i.e. benchmarking) can provide context for interpreting the results.
- (5) **Conclusions and Recommendations**: An effective conclusion closes the loop by analyzing results and implementing change. The narrative should address some probable conclusions based on the results. For example, if students were not given a clear incentive to participate in a particular assessment, the results may not be completely reliable as students may not have been motivated to perform at their best. Specific actions and a timeline for implementation should also be provided since the goal is to gather data to improve both student learning and the ability to engage in effective assessment. Changes might include improving the assessment process or curriculum, examining curriculum content in support of skill development, changing pedagogical practices, stimulating faculty discussion, simply re-examining program learning outcomes, or identifying ways student support services (tutoring, advising, the library) might contribute to increased student success.

 $<sup>^{2}</sup>$  Criteria are the specific skills or abilities to be measured. Standards describe the levels of performance for a given criterion (ex. proficient to exemplary) and in doing so enable their measurement.

Authored by Laura E. Martin and Anne Zanzucchi, Center for Research on Teaching Excellence, University of California, Merced, based on rubrics by C. Jenefsky & JFKU Program Review Council (2008) and WASC (2007).

# **PLO Report Review: Instructions and Form**

# Background:

The goals of this PLO Assessment Report Review are to (1) provide feedback to programs on their assessment efforts, (2) identify and report back to each School's faculty any assessment or student learning issues common to the School's programs, and (3) identify programs whose results might serve as case studies in our EER Report. To support this work, we will also (4) rate each program's assessment efforts against the *Rubric for the Report on PLO Assessment*.

# Instructions:

# Primary Reviewers:

For each PLO Report you review please complete the primary reviewer sections of the Review Form, then forward the completed forms to the secondary reviewer.

# Secondary reviewers:

Please review the PLO Reports and the primary reviewer's responses to the Review Form. In the secondary reviewer sections of the form, please note any differences with the primary reviewer's conclusions, or any additional thoughts, you might have. Finally please submit completed Review Forms to Laura, <u>Imartin@ucmerced.edu</u>.

# **PLO Report Review Form**

- 1) Name of Program:\_\_\_\_\_
- 2) Please assess the program's level of development with respect to each of the five criteria in the *Rubric for the Report on PLO Assessment* (Appendix B). Provide your conclusions, along with any supporting comments, in the table below as I (Initial), E (Emerging), D (Developed) or HD (Highly Developed). A program can be assessed to fall between two levels of development, for example, I/E or E/D.

Reviewer	Assessable PLO	Valid Evidence	Reliable Results	Results Summary	Conclusions & Recommendat ions
Primary					
Secondary					

- 3) Please provide the program with constructive feedback regarding its assessment practices. (These comments will be excerpted and shared with the program on behalf of this committee, so please craft these with your colleagues in mind.)
  - a) In one sentence, describe a clear strength of the program's assessment efforts.

Primary Reviewer:

Secondary Reviewer:

b) Based on the criterion (or criteria) identified in question 2 as needing the most development, and the corresponding supplemental questions provided in Appendix A, please identify two or three assessment practices to be strengthened.

Primary Reviewer:

Secondary Reviewer:

4) Please note what you might imagine to be emerging, shared themes related to the assessment process and/or student learning results.

Primary Reviewer:

Secondary Reviewer:

- 5) Briefly evaluate the potential of the program's assessment work as a case study for our EER report. Relevant criteria include:
  - Quality of assessment work, including most importantly evidence of assessment-based actions to improve student learning.
  - Illustrative of a commonly observed approach to assessment.
  - Illustrative of trends or common conclusions emerging from PLO Reports.

Primary Reviewer:

Secondary Reviewer:

6) Any outstanding thoughts or questions?

Primary Reviewer:

Secondary Reviewer:

**APPENDIX A:** A set of questions is provided below to help guide the identification of assessment practices to be strengthened in response to Question 3 above. To support this process, the questions are organized by the criteria that appear on *Rubric for the Report on PLO Assessment*. *Please pay particular attention to italicized questions as they were specifically identified in the most recent WASC Commission Action Letter as important areas of development and so should have priority in feedback.* 

# Assessable PLOs:

- As written, is the PLO measurable? Does it involve specific, active verbs that such as "demonstrate by" or "solve" as opposed to verbs of general cognition like "know" or "understand"?
- Is the PLO likely to be understood by students? Of use to students?
- To help faculty (and students as relevant) develop a shared understanding of what student mastery of the PLO looks like in practice, has a rubric been developed that articulates criteria<sup>11</sup> and standards<sup>12</sup> of performance (for each criterion)?

# Valid Evidence:

- Is a rationale for the assessment strategy provided? Does the program explain why a particular piece of work, or a particular course, is an appropriate focus for examining student achievement with respect to the PLO?
- Related to the bullet above, does the assessment work have a program/PLO focus rather than course-level focus?
- Does the assessment method include at least one form of direct evidence (i.e. actual student work)?
- Is the assessment measure going to produce results that bear on the PLO? (I.e. Is it aligned with the PLO?)
- Will the sample size and sampling strategy produce results that represent the student norm?
- Are multiple, complementary forms of evidence used to more precisely identify areas in need of attention and to strengthen confidence in the conclusions? (For example, direct and indirect evidence?)

# **Reliable Results:**

- Did the program use a rubric with explicit standards and criteria to review student work and, thereby, promote agreement among reviewers about student proficiency?
- Did at least two faculty members review each piece of student work?
- Were faculty reviewers calibrated or normed with respect to explicit standards and criteria used to asses student work in order to promote agreement among reviewers about observed student proficiencies?
- Did the program determine how consistently faculty reached the same conclusion with respect to a piece of student work (i.e. determine inter-rater reliability)?

# Summarizing Results:

<sup>&</sup>lt;sup>11</sup> "The qualities we look for in student evidence." (Driscoll and Wood, 2007) The specific skills or abilities to be measured.

<sup>&</sup>lt;sup>12</sup> Standards describe the levels of performance for a given criterion (ex. proficient to exemplary).

- To gain a sense of the distribution of student performance relative to performance standards or levels of proficiency, does the program describe the percentage of students meeting specific levels of performance, for example, as described in a rubric?
- Does the program identify a goal for the percentage of students meeting minimum or higher levels of proficiency? Are the assessment results evaluated in relation to this goal?

# **Conclusions and Recommendations:**

- Are the program's conclusions supported by the results?
- Are issues related to the validity and reliability of the results considered in drawing conclusions and identifying actions to be taken on the basis of those conclusions?
- As warranted, does the program propose some actions to be taken in response to their conclusions? Are the actions well-aligned with the conclusions?
- In order to promote improvements in student learning have the results, conclusions and proposed actions been shared with the faculty and approved by the faculty?

Name	Title & Relevant Committee Memberships	School/ Unit Affiliation	
Mike Colvin	Interim, Dean and Professor	SNS	
Tom Harmon	Associate Dean	SoE	
Emily Langdon	Assessment Coordinator, Division of Student Affairs	Division of Student Affairs	
Laura Martin	WASC Coordinator, Assessment Coordinator, member	Office of Assessment	
	Senate-Administrative Council on Assessment	Office of Assessment	
Michael Spivey	Associate Dean	SSHA	
Corinne Townsend	Accreditation Analyst	SoE	
Morghan Velez Young	Manager of Student and Program Assessment	SSHA	
Masa Watanabe	Director of Student Success, School of Natural Sciences	SNS	

Appendix D: Roster of the Committee for Review of PLO Assessment Reports, 2011-12.

# **Appendix E:** PLOs assessed in reports submitted in AY 2011-12.

		Major/	
School	Program Name	Minor	PLO Assessed
SoE	Bioengineering	Major	N/A
	Computer Science & Engineering	Major	N/A
		Major	<ul> <li>ABET Outcomes:</li> <li>A. An ability to apply knowledge of mathematics, science, and engineering.</li> <li>B. The ability to design and conduct experiments, as well as to analyze and interpret data.</li> <li>E. An ability to identify, formulate, and solve engineering problems.</li> <li>K. Ability to use the techniques, skills, and modern engineering tools necessary for engineering</li> </ul>
	Materials Science & Engineering	Major	
	Mechanical Engineering	Major	ABET Outcomes: A. An ability to apply knowledge of mathematics, science, and engineering. B. The ability to design and conduct experiments, as well as to analyze and interpret data.

SNS	Applied Mathematics	Major	Recognize the relationships between different areas of mathematics and the connections between mathematics and other disciplines
	Biology	Major	The ability to use appropriate instrumentation and computational tools to collect, analyze and interpret data.
	Chemistry	Major	<i>Communication and teamwork skills.</i> Students are able to write organized and concise reports and present technical information using electronic media, posters and oralpresentations. They have developed the communication and teamwork skills that allow them to work effectively both as leaders and as team members in a group.
	Earth Systems Science	Major	Effective written and oral communication skills, especially the ability to transmit complex technical information.
	Environmental Sciences & Sustainability	Minor	N/A
	Physics	Major	<b>Research Proficiency.</b> Students will be able to formulate personal research questions that expand their knowledge of physics. Students will be able to apply sound scientific research methods to address these questions, either by researching the current literature or developing independent results.
	Natural Sciences Education Minor	Minor	Demonstrate basic teaching skills and familiarity with effective teaching methodologies and learning strategies in science and mathematics, including being able to a. Develop a lesson plan and deliver an effective lesson at the secondary school level, b. Design different types of assessments to evaluate students learning, c. Distinguish between students with different learning abilities and needs and adapt their teaching methodology to address this diversity,

	d. Incorporate innovative teaching methodologies and to use learning-enhancing technology in the
	classroom.

SSHA	Anthropology	Major	All PLOs, indirect assessment.
	Cognitive Science	Major	Skill at arguing for or against theoretical positions in Cognitive Science.
	Economics	Major	N/A
	History	Major	Use methods of narrative and analysis appropriately for communicating historical phenomena.
	Literatures & Cultures	Major	Articulate, cogently and with sensitivity to context, in both speech and writing, her/his interpretations and evaluations.
	Management	Major	N/A
	Political Science	Major	Utilize contemporary social science research methods to conduct rigorous research on political phenomena.
	Psychology	Major	Show that they understand and can apply the writing style used in psychological literature (APA style).
	Public Health	Minor	<i>Scientific Literacy</i> : Ability to access, understand and synthesize empirical studies from the scientific literature on public health and disparities.
	Sociology	Major	Think critically about the causes and consequences of social inequality.
	American Studies	Minor	N/A
	Arts	Minor	Demonstrate the ability to communicate the aesthetic, historical, cultural, social and contemporary aspects of the subject they are studying.
	Philosophy	Minor	Present well-defined claims of one's own, give clear philosophical arguments in defense of these claims, and respond to critical objections others might raise against these claims.
	Snanish	Minor	Understand parts of texts that are conceptually abstract and linguistically complex; and demonstrate awareness of the aesthetic properties of language and of its literary styles, which permits comprehension of a wider variety of texts, including literary texts.
	Service Science	Minor	N/A
	Writing Program	Minor	Apply professional ethical standards to the research process and its public representation.
L			
		GE	1) Demonstrate scholarly processes characteristic of creative/critical problem

		GE	1) Demonstrate scholarly processes characteristic of creative/critical problem
College			Solving. 2) Appreciate ethical considerations and decision-making in local and global
One	Core 1		Contexts. (GE outcomes, Decision Making and Ethics and Responsibility)

# Appendix F: PLO Reports Abstracts - 2011-12

# **School of Engineering**

#### Environmental Engineering Major

The January 2012 meeting addressed the ABET outcomes A, B, E, and K. All outcomes were assessed from the ENVE 100 course, which is a course that is required of all students enrolled in the ENVE program. To assess these PLOs, direct evidence was collected, and key assignments were chosen. A committee of four ENVE faculty members discussed assessment rubrics, and scored assignments according to the PLO rubrics. Results showed that PLOs are being addressed, with very few students performing at an unacceptable level. Recommendations from the meeting are improved evidence collection, rubric modification, and clear communication of assignment standards to students.

## Mechanical Engineering Major

The January 2012 meeting addressed the ABET outcomes A, B, and E. All outcomes were assessed from the ENGR 135 course, which is a course that is required of all students enrolled in the ME program. To assess these PLOs, direct evidence was collected, and key assignments were chosen. A committee of five faculty members discussed the assessment rubrics, and scored key assignments according to the PLO rubrics. Results showed that PLOs are being addressed, though it is currently difficult to estimate how many students are performing at an unacceptable level. Recommendations

from the meeting are improved evidence collection, rubric modification, and clear communication of assignment standards to students.

# **School of Natural Sciences**

#### Applied Mathematics Major

The applied mathematics faculty performed an assessment of the Applied Mathematics Science program. In particular, we studied the third program learning outcome: *Recognize the relationships between different areas of mathematics and the connections between mathematics and other disciplines*. The applied mathematics faculty used direct evidence for this assessment. Through this assessment the applied mathematics are placed in a broader context, and to provide adequate guidelines for these assignments. C consequently, the applied mathematics faculty have made concrete plans to institute these curricular changes.

# **Biological Sciences Major**

Several methods were used to assess PLO 3, including direct data (from two different BIO courses) and indirect data (such as from interviews with Biology faculty and students). The most extensive analysis of most of the data was carried out by graduate student Julie Phillips, who worked with the Center for Research and Teaching Excellence for many months investigating this Outcome. Ms. Phillips' report is attached after the analysis of the direct coursework data. In general, she has found that the curriculum provides good opportunities for data analysis and interpretation, but lacks opportunities for data collection. Perhaps most importantly, Ms. Phillips has found that the opportunity to engage in aspects of PLO3 are not uniform among the five emphasis tracks in Biology. In particular, the Human Biology emphasis track (the track with the highest number of students in the Biology major) has the least number of required courses that have aspects of PLO3 as a component of the course.

Two different courses were used to directly evaluate student competence in PLO3. First, a lab report from BIO 151L (Molecular Immunology) was assessed by faculty with at least 70% of students showing "Good" or "Excellent" abilities in all three areas assessed (Data collection, Data analysis, and Data Interpretation). This is close to the goal of 75%, and in two of the three areas (Data collection and Interpretation), the students did achieve 75%.

The second course with direct evaluation of PLO3 was BIO 181 (Introduction to Biomolecular Simulation), in which three exam questions were used in the assessment. In this case, while 67% of the students were consistently able to collect data and interpret it, a third of the class consistently was judged to be "poor" in each of the three exam questions. This is below our goal of 75%, but the number of students being judged "excellent" was as high as 41.7% in one question, which is a positive result. These two data sets in combination with the report from Ms. Phillips give an overall picture of the progress the Biology program has made toward achieving the goals of PLO3.

Overall, students who are in courses that are relevant to PLO3 appear to be doing well in achieving the goals of this PLO. However, more opportunities in the courses should probably be provided in the future in support of PLO3.

#### Chemical Sciences Major

At the end of the 2010-2011 academic year, the Chemical Sciences faculty initiated assessment of our third Program Learning Outcome for the major (communication and teamwork) based on the work of our upper-division majors during Fall 2010 and Spring 2011. Assessment of written communication was based on evaluation of student reports from the CHEM 114L upper-division laboratory course and CHEM 195 research courses, both requirements for all current upper-division majors. Evaluation of team work was based on observation of student work in CHEM 114L and CHEM 101L, our two required upper-division laboratory courses, and in undergraduate research. We conclude that our students need improvement in writing ability, not only technical aspects of scientific writing but also basic grammar and general writing style. We appear to be reasonably satisfied with our students' ability to work in teams despite our lack of well defined rubrics for evaluating this ability.

#### Earth Systems Science Major

In 2011-2012, the Earth Systems Science (ESS) Program evaluated Program Learning Outcome #4 (Effective written and oral communication skills, especially the ability to transmit complex technical information). Scores from four written assignments by 29 students enrolled in ESS 141 in Spring 2011 were assessed. Oral presentations by 7 students were assessed in ESS 103 (Geochemistry of Earth Systems) in Spring 2012. Overall for written communication, ESS majors performed as well or better than other enrolled students, and were on average, proficient in written communication. Category level scores and indirect assessments indicate that students struggled with basic grammar, and would benefit from additional instruction in analytical, non-fiction writing in pre-requisite courses. Results from assessment of oral communication skills showed that student performance improved with instructor and peer feedback by using a detailed rubric to help students identify areas of strengths and weaknesses. However, more emphasis should be placed on improving student communication of technical and scientific concepts. A larger sample size is needed for a robust assessment of oral communication. Results of both assessments suggest that feedback on early assignments and structured peer review may support greater proficiency. Recommendations include expansion of assessments of oral communication, dialog with the Writing Program regarding lower division curriculum, and continued use of explicit, consistent, and archived rubrics for written and oral assignments. Finally, strengthening students' written and oral communication skills should remain a key goal of the ESS program.

#### Earth Science and Sustainability Minor

The first attempt to assess the PLOs of the ESSU minor was conducted in Spring 2012. Because all the courses are separately assessed in their respective majors and minors, the goal of this assessment does not include assessment of individual courses. The specific goals of this year's assessment are:

- 1. To map the original PLOs of the minor on the required courses
- 2. Identify objective lines of evidence that can be used to assess the PLOs of the minor
- 3. Identify gaps and deficiencies in the articulation of the current PLOs

Natural Sciences Education Minor

The Natural Sciences Education (NSED) minor is primarily intended for students interested in teaching careers at the K-12 level. The NSED minor program prepares students majoring in sciences or mathematics for direct admission into teaching credentialing programs and consists of coursework, academic and professional counseling. The NSED minor includes pedagogy and teaching methods coursework both at the lower and upper division levels.

Drawing from the experience of the previous year's assessment the NSED staff have further developed assessment methods and evaluated both lower and upper division courses in the program. We have refined our assessment methods to include several instruments that have been specifically adapted for particular classes. Both direct and indirect evidences has been collected and analyzed. Direct evidence came from assessing the students' performance on assignments and tests directly related to PLOs. We have employed the services of the Students Assessing Teaching and Learning (SATAL) program to conduct interviews and surveys in the lower division NSED courses. SATAL reports comprise the indirect evidence that helps us evaluate whether PLOs are being met in the NSED classes. Additionally, all upper division courses have now been added to the assessment, which allowed a broader view of the program as a whole. The cumulative results of the assessment indicated that the program learning outcomes are, in fact, being met to a high degree. The coursework has been demonstrated to be well aligned with the PLOs and the multifaceted evaluation of student learning illustrated that the students acquire the necessary skills to fulfill the goal of the program. The assessment also revealed that the changes in the curriculum (e.g. embedding more information on the teaching credentialing process, offering additional upper-division fieldwork course NSED 174 for the junior and senior students) instituted as a result of previous years assessment were successfully implemented and approved by both students and instructors. Other recommendations from the past report (e.g. embedding more focused math pedagogy material into the coursework and connecting the program more closely to specific external teaching credentialing programs) remain valid but are more challenging to implement since they require significant increases in instructional and staff resources available to the program.

#### Physics Major

During fall 2012, the physics faculty assessed Research Proficiency (our fifth Program Learning Outcome) focusing on four criteria: 1) students' ability to form personal research questions, 2) utilizing sound scientific methods, 3) utilizing the literature, and 4) development independent results. The assessment was based on senior theses and aggregate results of questionnaires the faculty completed for each undergraduate major performing research in their group. We modified existing external rubrics. The majority of the senior theses met faculty expectations, which are being further refined after utilizing the rubric. We also found that student success in research heavily depends upon the length of their research experience, with the minimum requirement (PHYS 195 and 196) usually resulting in unsatisfactory work. Expectations need to be more clearly established among the faculty and communicated to the students. We will accomplish this through 1) refining the rubrics, thesis guidelines, and various syllabi, 2) distributing these materials to students earlier in their undergraduate career, and 3) taking advantage of additional assessment opportunities that are now available.

# **School of Social Sciences, Humanities and Arts**

#### Anthropology Major

Anthropology Program assessment of student learning for AY 2010-11 focused on indirect assessment of all Program Learning Outcomes via a graduating senior survey. Emphasis was placed on full program assessment since the Anthropology program opted for an October 1 review cycle and this shortened cycle did not allow for comprehensive planning with respect to assessment of one PLO in one or more courses. Full program assessment, on the other hand, had been fully vetted by the faculty and had been in place for a year although it had yet to be instituted. Faculty are satisfied with student learning as presented by the assessment results and no changes will be made to the Anthropology program at this time. After three years of assessment, however, it is becoming clear that at least minor changes to evaluation criteria and perhaps at least one PLO may be necessary within a few years, although such changes must await hiring of a tenure-track faculty member in biological anthropology.

#### Art Minor

For this round of assessment, we focused on PLO 7: Demonstrate the ability to communicate the aesthetic, historical, cultural, social and contemporary aspects of the subject [curatorial activities] they are studying. We collected direct and indirect evidence from three curatorial courses across two semesters. We used student work samples from a final project to develop a public exhibition, and we used two different surveys to collect different sorts of information from the students. Limitations to the protocols include the lack of faculty participation, as there is currently only one FTE in the Art minor. However, this is discussed and planned for in the next round of assessment. We found that student work samples scored at our benchmark goal and the students demonstrated ability in multiple forms for communicating the aesthetic, historical, cultural, social and contemporary aspects of curatorial activities. We discuss plans for adjusting curriculum and instruction in these three curatorial courses based on these findings. We also request printing support from SSHA for the fall 2012 student art exhibition.

#### Cognitive Science Major

The report focuses on PLO 4 of the COGS major: "Skill at arguing for or against theoretical positions in Cognitive Science." The PLO requires familiarity with a variety of theoretical positions in Cognitive Science and a well-honed expository ability to compare them in a technical sense, with the end goal of arriving at a logical conclusion that favors one or the other theory. For direct measures of this PLO, 14 final papers from COGS majors in COGS 110 (Philosophy of Cognitive Science) were analyzed for: a) the explicit posing of an argument, b) the clarity and cogency of the argumentation, and c) proper use of citations. For indirect measures of the PLO, students provided self-reports of their knowledge of theoretical positions and of their study practices. Results from the analyses show that the chief weakness among these students was the Clarity and Cogency of their writing. Based on students' own self-reports, it seems clear that additional faculty guidance (via office hours and the occasional study

group) is needed to improve student performance in this area and to allow them to achieve the high standard set by the COGS program.

#### History Major

The History unit set out to evaluate the Program Learning Outcome 4:

[Upon successful completion of the History major, students will be able to]: Use methods of narrative and analysis appropriately for communicating historical phenomena.

We sampled six students' senior theses in order to understand the degree to which students were able to achieve this learning outcome and provide conclusions that faculty can use to advance the unit. Using an evaluation rubric that we specifically designed for this task, we have learned that, while at least one student's paper was excellent, for the most part students were average in their ability to use methods of narrative and analysis appropriately for communicating historical phenomena. All faculty members contributed to building the rubric, the FAO and SSHA Assessment Manager worked together to ensure appropriate methodology, three faculty members scored the theses, and at the time of this report submission all faculty members were alerted to the findings. Overall, we have improved our assessment approach from previous years and score as "developed" in all areas of annual assessment criteria.

#### Literature and Cultures Major

We report our second annual Learning Outcome Assessment, using senior theses written in English as direct evidence of student work.<sup>13</sup> For this report, we looked exclusively at the senior project as the evidence

<sup>&</sup>lt;sup>13</sup> We still do not have a large enough number of theses in Spanish to do a valid, or even a provisional, analysis. Moreover, we have not figured out how to norm our readings across the languages. This is probably a moot point in that Literature

for assessing our fifth PLO, "Articulate, cogently and with sensitivity to context, in both speech and writing, her/his interpretations and evaluations." We chose to move from the first to the fifth for two reasons. First, our assessment of PLO #1 raised doubts that we could separate writing as a skill from content. We speculated last year that we might need to roll our assessment of communication skills into the other four outcomes. Second, WASC plans to impose a requirement to use external benchmarks in three areas, one of which is writing proficiency. If so, then we will need to keep our fifth PLO as is and find an appropriate tool for benchmarking against other universities.

We began our assessment this summer by reviewing various rubrics that could be used to assess our students' writing. While we recognized that it might be expedient to choose a rubric that would enable benchmarking, we agreed that it would serve our students best to choose a rubric that would most effectively enable us to evaluate our students' skills. The benchmarked rubrics did not rise to the top. After choosing the rubric we felt would best reveal our students' development as writers, we normed our responses to three theses and then assigned numerical values to all theses submitted in LIT 190, Spring 2011. We draw three conclusions:

- 1. Only about half of our students reached or exceeded our expected outcome.
- 2. There is a great deal of "noise" in our data as, norming exercise notwithstanding, we were not as close in assigning scores as we would like to be.
- 3. The noise in the data registers the near impossibility of separating writing proficiency as a skill from content mastery. We believe that it will best serve us in the future to incorporate writing skills into the rubrics we use to evaluate the other learning outcomes.

We did not "review how the PLO under study aligns with the program's required and regularly taught elective courses" because the Literature and Cultures major is proposing to split into Spanish and English majors. The faculty in the proposed English major have been taking our first two annual assessments into account as we plan a new major. In short, we have decided to develop a stronger sequence, with lower division courses concentrating on skill development, mid-level courses focusing on applying these skills through wide reading that will develop broad content knowledge, and upper-division courses to emphasize integration and depth. In short, we will be submitting a large number of new CRFs and most of the current courses will, after teaching out the LITC major, lapse. Thus, it would be a waste of time for us to map course learning outcomes with program learning outcomes.

#### Philosophy Minor

This year, the Philosophy faculty members assessed PLO 2 which involves an ability to "Present welldefined claims of one's own, give clear philosophical arguments in defense of these claims, and respond to critical objections others might raise against these claims." Direct and indirect evidence were gathered. The direct evidence involves papers written by Philosophy minors, graded by two reviewers using a custom rubric. The indirect evidence involves survey data gathered from 19 students. The data suggests that work needs to be done to improve student proficiency in this PLO (only 25% of juniors and 33% of seniors were proficient according to our own criteria, and the self-rating survey data indicates that a majority of students had an understanding of philosophical arguments which is in some way problematic). A variety of ways to address these issues (some of which were suggested by students in the surveys) have been identified and in coming months the Philosophy faculty plan to consider these

proposals and implement as many as are feasible. We feel the assessment infrastructure we developed was successful, and mechanisms have been put in place to further improve assessment in future years. For example, we are moving to an all-online paper submission system, which will make student papers easily accessible for future assessment reports.

#### Political Science Major

The Political Science program assessment committee, consisting of professors Monroe,

and Cultures intends to split into separate English and Spanish majors, each with its own, and radically different, learning outcomes.

Hibbing, and Huang, set out to assess Political Science Program Learning Objective 3: "Utilize contemporary social science research methods to conduct rigorous research on political phenomena." The committee used both indirect (i.e. an exit survey of graduating seniors in May 2011) and direct (i.e. a rubric-driven scoring evaluation of research papers from an upper division Political Science course) methods of assessment. We found that while the goal is being partially met, some improvement is needed. As a result, simultaneously with the preparation of this report, the Political Science major is being revised to add a second course on research methods (Poli 2) that we hope will better serve the diverse interests and skill set among our majors and minors.

#### Psychology Major

This report presents results from the assessment of PLOs #4 (writing) for the Psychology major. Both the direct and the indirect evidence suggest students are performing satisfactorily on this PLO. They display satisfactory knowledge of APA style, and they say that their writing skills have improved greatly as a result of their education. In addition, a pilot test of a pair of rubrics for grading student papers suggested those rubrics could produce valid results.

#### Public Health Minor

The Public Health (PH) minor examined PLO 3, *"Scientific Literacy*: Ability to access, understand and synthesize empirical studies from the scientific literature on public health and disparities." Students in three PH courses were sampled from for both direct (N=15) and indirect (N=109) evidence. The direct evidence tool was designed by the PH Advisory Committee, across three rounds of revision. The indirect evidence tool inquired into students' experiences with PLO 3. The program goal was for the students to demonstrate scientific literacy by reaching a score of 75% in the direct evidence. 74% of student sampled reached this goal. We discuss learning support and future assessment action items to continue to support student learning in PH.

#### Spanish Minor

The PLO assessed for the academic year of 2010-2011 was the one related to student reading abilities in Spanish. The program (minor in Spanish) pursued the question of whether, through their completion of the minor in Spanish, students possessed Spanish reading skills equivalent to at least the advanced level of the ACTFL Proficiency Guidelines. To assess this PLO, faculty evaluated the students' class assignments that provided evidence of their reading comprehension of a written text (direct evidence). In addition, faculty analyzed the content of student's reflective essays in which they answered nine questions related to whether the minor helped them to improve their reading skills in Spanish (indirect evidence). The results of our assessment showed different areas where most students demonstrated adequate reading proficiency in understanding both literary and non-literary texts in Spanish at an advanced level, but also pointed to areas where our program can improve its assessment of reading skills in Spanish. While after examining students' work we feel confident that those who finished the minor in Spanish during the academic year of 2010-2011 possess an advanced level of reading in Spanish, by the end of the Fall semester we realized that some components of our assessment method were not the most adequate. Therefore it was decided that a different assessment method should be used in the future. Nevertheless, for the sake of consistency, we decided not to change our assessment methodology to assess the direct and indirect evidence submitted by students at the end of the Spring semester. At that point we started working on a different reading assessment approach that was tested during the Spring semester of 2011 and that may be used in the future. Even if our method to assess reading skills needs to change, we are satisfied with the reading skills attained by our students. Yet to maintain and further improve the quality of our program, it is imperative that we keep small classes. Last semester, Spanish courses saw their maximum enrollment grow from 25 to 30 students. While we understand the budgetary reasons of that decision, we advise against further increases of the maximum enrollment for Foreign Language courses.

#### Sociology Major

Sociology assessed one Program Learning Outcome (PLO) for our majors and minors in the 2010-2011 school-year: the ability to design and evaluate empirical sociological research. In the fall of 2010, we assessed

this PLO in our Research Methods course (SOC 015) which is required for both majors and minors. We continued evaluating this PLO in our spring Statistics for Sociology course (SOC 010), which is required for majors. The results of both assessments demonstrate that students made significant gains in their understanding of sociological research methods and analytic techniques. Our primary recommendations for the program as we move ahead involve revision of our assessment measurement techniques for this PLO. We provide further information on the process and outcomes of these assessment activities in this report.

#### College One

#### Core 1

This report will summarize assessment efforts for Core 1 (UCM's lower-division General Education course) during 2011, focusing in particular on two Program Learning Outcomes (PLOs) that are oriented toward problem solving and ethics and that complement the mission of the Merritt Writing Program (whose faculty staff Core 1 discussion sections, and are instructors of record for the course). The course's chief concern is to get students to make connections among academic disciplines. As its syllabus states, Core 1 "capitalizes on an interdisciplinary approach ... to demonstrate, through examples, that complex questions are best understood not from a single, decoupled perspective, but by insights gained from different—even seemingly disparate—approaches." Such exploration and synthesis of different perspectives is also fundamental to the work of academic inquiry and research methods, as the Writing Program teaches them. Hence, whereas (1) in Year 1 we based our assessment efforts on investigating the Core 1 Cumulative Essay (a comprehensive course capstone in which students apply their understanding of academic argument to an interdisciplinarily inflected survey of the course), and (2) in Year 2 we extended those efforts to explore students' capacity to manage scholarly information and exercise scientific literacy in quantitative assignments, in Year 3 we further assessed such quantitative assignments to examine the extent of students' ethical problem solving capacities within them. We feel that the same rhetorical principles that apply to essay writing also inform the arts of organization, explanation, presentation, processing and sensitivity implicit in the ethical analysis and deployment of quantitative information.

This report documents participating instructors' approaches to teaching and grading Core 1 quantitative assignments (which blend mathematical calculation and rhetorical analysis) via our collaboration in revising and applying a shared rubric for grading them. The report explores the extents to which Core 1 students fully execute satisfactory degrees of diagnosis and response characteristic of ethical problem solving. In particular, we examined Quantitative Assignment #2, which asks students to compose a response to a hypothetical pandemic flu outbreak scenario centered in Merced and developing around California more widely. Specifically, each student must analyze the problem by collecting and addressing relevant information about (1) the spread and symptoms of pandemic flu and (2) geographic, demographic, economic, and civic details that could influence the spread of the disease and inform the means of combating or containing it. With such data assembled, students must propose an ethical plan for distributing limited vaccines and for developing containment protocols targeted to specific places and populations.

In assessing student work for this assignment, we tested a slightly revised version of our quantitative assignment rubric on a selection of sample student work. As is indicated by problems we ultimately experienced in rater calibration, we found the associated course learning outcomes to be somewhat more difficult to assess than we had first assumed, in part because (1) there are perhaps infinite ways to approach and address the problem (such that there are perhaps also infinite ways of grading it, to say nothing of infinite ways of understanding it, for both student and instructor), and also because, (2) particularly insofar as the assignment takes the form of a report essentially in essay form, difficulties associated with composition (such as the need for clarity, organization, and explanation) tended to compromise students' success in elaborating the problem and providing solutions. In sum, despite our consistent satisfaction with the extents to which writing instruction, scientific literacy, and statistical savvy might go hand in hand, in this instance we were somewhat disappointed with students' capacity for ethical problem solving as evidenced in the work they submitted, and with our capacity to agree on the forms that ethical problem solving might take (and thus how we might grade them).

Students demonstrated an awareness of ethics and useful means of problem solving, but rarely were such criteria as completely explored and elaborated as they might have been.

We will continue to revise our rubric and overall approach to quantitative assignments by developing further methods of teaching them, and by holding general quantitative assignment workshops. In our next round of assessment exercises—which focus on collaborative work as manifest in the same assignment, Quantitative Assignment #2—we will revisit some of the problems we experienced in identifying ethical problem solving, so as to better define aspects of course learning outcomes that pertain to it. We will also (1) revise the Quantitative #2 assignment so that it better situates students to meet outcomes associated with ethical problem solving, (2) have students complete the assignment collaboratively (so as to model problem solving and afford discussions about ethics), and (3) continue to practice our grading of the assignment by making ethics and problem solving more explicit subjects of discussion and definition in our regular staff meetings.

## Merritt Writing Program

This year's PLO report attends to research ethics, defined as students' ability to "apply professional ethical standards to the research process and its public representation." Data reflect indirect and direct evidence of student learning, with examples from diagnostic exams and portfolios. Our evaluation indicates that freshman and Writing Minor students attend responsibly to source attribution, and our students exceed one national study's evaluation of "purposeful" use of evidence. We have learned from this process, though, that we aspire for our students to identify with more of the professional nuances of research writing. Attribution is one important component of working with outside sources; however, there are many more nuanced aspects of working with sources that are worth further emphasis. Our report concludes with some suggestions for how to improve our current assessment process and develop some relevant curriculum to meet higher-order research ethics skills.

# UNIVERSITY OF CALIFORNIA, MERCED

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



5200 N. LAKE ROAD MERCED, CA 95343 (209) 228-4439

SANTA BARBARA • SANTA CRUZ

OFFICE OF THE PROVOST AND EXECUTIVE VICE CHANCELLOR

October 8, 2013

# ELIZABETH WHITT, VICE PROVOST AND DEAN OF UNDERGRADUATE EDUCATION

Dear Elizabeth,

As you know, the Senate Administration Council on Assessment and Planning recently brought to the Senate's and my attention concerns about undergraduate writing that have emerged from annual program assessment activities.<sup>1</sup> Given this topic's broad institutional reach, its critical and enduring importance to the learning and success of all UC Merced undergraduates, and its relationship to new accreditation expectations,<sup>2</sup> I write to ask that you please take the lead on forming a task force in partnership with the Academic Senate to facilitate a robust discussion of undergraduate writing.

As noted by SACAP, our undergraduates engage in diverse forms of writing in both academic and co-curricular contexts. Indeed, writing is a learning outcome for the Division of Student Affairs.<sup>3</sup> As such, I endorse SACAP's suggestion that the task force membership reflect this institutional commitment to this core intellectual and professional skill. Similarly, I endorse SACAP's suggestion that the Merritt Writing Program be involved, as any discussion of undergraduate writing will benefit from their knowledge of the research literature and related expertise in writing instruction and assessment, as well as their understanding of the writing needs of UC Merced's undergraduate population(s).

In conducting its work the task force will likely want to consider campus goals for undergraduate writing (recognizing there may be many), related student needs and resources, and the relevant literature(s). As the contributions of graduate students to undergraduate instruction are anticipated to grow, the task force may also want to consider graduate student writing needs, including both professional and instructional. Finally, the task force should consider the intersection of this work with new accreditation expectations. The campus Accreditation Liaison Officer, Laura Martin, can assist in this regard.

<sup>&</sup>lt;sup>1</sup> Memo dated May 23, 2013, appended here.

<sup>&</sup>lt;sup>2</sup> Two new, interrelated requirements include demonstrate student learning outcomes for five competencies, including written and oral communication, and defining the meaning and quality of the degree.

<sup>&</sup>lt;sup>3</sup> The Division's third learning outcome is "Develop effective written, verbal and technological communication skills."

Outcomes of the task force should include a clarification of campus goals for undergraduate writing, recommendations that address the structure and resources necessary to achieve these goals, and a sustainable process by which attention to undergraduate writing can be evaluated and the results used to inform our practices.

I appreciate your willingness to lead this effort. I have attached the memo from SACAP as well as the Executive Summary of the Committee for the Review of PLO Assessment Reports for your reference.

Sincerely,

Thomas Ulu leteror

Thomas W. Peterson Provost and Executive Vice Chancellor

CC: Ignacio Calvo-Lopez, Chair, Academic Senate Laura Martin, Accreditation Liaison Officer Susan Sims, Chief of Staff to the Provost Dejeune Shelton, Director, Academic Senate Fatima Paul, Assistant Director, Academic Senate

# Undergraduate Writing Task Force Agenda Thursday, January 16, 2014 2:00 – 3:00 PM KL 159 (Acorn Room)

#### I. Introductions

#### II. Background and Context

#### III. Review "Charge" to the Task Force

- a. Is the focus clear and appropriate?
- b. Discussion Questions:
- c. What does the charge require in terms of process?
- d. What must we produce for this task force to be successful?

#### Charge to the Task Force:

Outcomes of the task force should include a clarification of campus goals for undergraduate writing, recommendations that address the structure and resources necessary to achieve these goals, and a sustainable process by which attention to undergraduate writing can be evaluated and the results used to inform our practices.

In conducting its work the task force will likely want to consider campus goals for undergraduate writing (recognizing there may be many), related student needs and resources, and the relevant literature(s). As the contributions of graduate students to undergraduate instruction are anticipated to grow, the task force may also want to consider graduate student writing needs, including both professional and instructional. Finally, the task force should consider the intersection of this work with new accreditation expectations.

- IV. Plan of Action
  - a. Timeline and deadlines
  - b. Structuring our work
    - i. What has to be done as a whole?
    - ii. What should be done in work groups?
    - iii. What data do we need?
    - iv. Do we need external consultants?
    - v. How do we get feedback from stakeholders? How often and at what points in our process should we be soliciting feedback?
  - c. Future meetings and agendas
# UNIVERSITY OF CALIFORNIA

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



SANTA BARBARA • SANTA CRUZ

UNIVERSITY OF CALIFORNIA, MERCED P.O. BOX 2039 MERCED, CALIFORNIA 95344

Date: May 16, 2013

**To:** Peggy O'Day, Chair, Academic Senate Tom Peterson, Provost/EVC

- **From:** Mark Aldenderfer, Co-Chair, Senate Administration Council on Assessment and Planning Ignacio López-Calvo, Co-Chair, Senate Administration Council on Assessment and Planning
- **RE:** Undergraduate writing student learning findings from annual Program Learning Outcome Reports

On behalf of SACAP, we write to share the AY 2011-12 report (appended) of the Committee for the Review of PLO Assessment Reports.<sup>1</sup> This report, with an executive summary, summarizes the Committee's review of the academic program assessment reports submitted to SACAP in AY 2011-12.

While the report is generally positive, SACAP wishes to call to your attention the Committee's findings that

- 1) Nearly 33% (8) of the undergraduate program reports (submitted in 2011-12) identified student writing/composition skills as an area requiring attention; and
- 2) These results add to findings from the previous two years' of PLO Reports.<sup>2</sup>

More specifically, over the last three years, a number of undergraduate programs<sup>3</sup> have identified weaknesses in student writing and composition skills including in the areas of argument development, scientific writing, appropriate use of the disciplinary literature and citations, the ability to express mathematics or other forms of quantitative problem solving in writing, and basic grammar and sentence structure. Underdeveloped writing has also been noted to complicate and confound efforts to confidently assess student knowledge and intellectual skills. As a result, one program<sup>4</sup> has debated whether written communication should be integrated into every program learning outcome or addressed as a discrete program outcome. Relatedly, graduate student writing is also emerging as a broadly shared concern and, although support has been directed toward the issue in the form of a Writing Consultant based in the Bright Success Center, the topic likely warrants further consideration given its implications for student success, both graduate and undergraduate.

<sup>&</sup>lt;sup>1</sup> A standing subcommittee of SACAP, this <u>Committee</u> is charged with 1) providing formative feedback to individual academic programs on their PLO assessment efforts, and 2) identifying common assessment or student learning-related strengths, weaknesses or issues as potential foci for further study or action.

<sup>&</sup>lt;sup>2</sup> In both its September 2010 and December 2011 reports, the Committee noted that communication skills, particularly writing, may benefit from development efforts focused at the disciplinary level.

<sup>&</sup>lt;sup>3</sup> Anthropology, Applied Math, Chemistry, Cognitive Science, Earth Systems Science, History, Literature and Cultures, Merritt Writing Program, Psychology, Physics, and Core 1.

<sup>&</sup>lt;sup>4</sup> Literatures and Cultures

Given that multiple programs identify student writing as an area of weakness annually, and that these concerns have been identified by programs in more than one school, *SACAP concurs with the Committee's recommendation that the campus would benefit from a broader discussion of undergraduate writing, including related goals, student needs and resources, that draws on the body of research addressing the development of writing/composition abilities. SACAP asks that the Senate consider facilitating such a discussion and, as appropriate, recommend action in this area. As written communication is also a learning outcome for the Division of Student Affairs,<sup>5</sup> and General Education,<sup>6</sup> and because our students are engaging in diverse forms of writing in both their curricular and co-curricular/extra-curricular experiences, SACAP suggests that it may be productive to consider questions of student writing development, including expectations and cultivation thereof, at a broadly institutional level.* 

Regardless of the approach, SACAP suggests that the Merritt Writing Program may be a productive partner, given the faculty's knowledge of the research literature, and related expertise in writing instruction and assessment, together with their understanding of the writing needs of UC Merced's undergraduate population(s), particularly upon matriculation. With respect to the development of academic writing, SACAP also suggests that it may be useful to explore initiatives that have been adopted to address similar concerns at other institutions, including, for example, writing across the curriculum and/or writing within the disciplines.

As you know, WASC has been redesigning its reaccreditation expectations. Although the full implications of the redesign are not yet clear, we do know that the campus will have to demonstrate, in some manner, undergraduate achievement of five "core competencies" - written and oral communication, information literacy, critical thinking, and quantitative reasoning - at the time of our reaccreditation review in 2018. The campus will also need to have articulated the meaning, and demonstrably ensured the quality and integrity of an undergraduate degree from UC Merced.<sup>7</sup> Given that communication skills will be a part of both of these expectations, and because a focus on written communication is likely to enhance student proficiency in all competencies, SACAP anticipates that initiating a discussion about student writing now will also benefit these longer term planning needs. Laura Martin, UC Merced's Accreditation Liaison Officer, can provide additional details regarding these new accreditation expectations.

CC: Jack Vevea, Interim Vice Provost and Dean for Undergraduate Education

Undergraduate & Graduate FAOs Dan Hirleman, Dean, School of Engineering Dean Meza, Dean, School of Natural Sciences Robert Ochsner, Anne Zanzucchi, Co-Directors, Merritt Writing Program Committee for the Review of PLO Assessment Reports

<sup>&</sup>lt;sup>5</sup> The Division's third learning outcome is "Develop effective written, verbal and technological communication skills."
<sup>6</sup> One of the Eight Guiding Principles for General Education, specifically "Communication: The ability to convey information to and communicate and interact effectively with multiple audiences, using advanced skills in written and other modes of communication."

<sup>&</sup>lt;sup>7</sup> "Exploring the meaning of a degree thus involves addressing questions about what the institution expects its students—undergraduates and graduates alike— to know and be able to do upon graduation, and how graduates embody the distinct values and traditions of the institution through their dispositions and future plans. It leads to analysis of how effectively courses, curricula, the co-curriculum, and other experiences are structured, sequenced, and delivered so that students achieve learning outcomes at the expected levels of performance in core competencies, in their majors or fields of specialization, in general education, and in areas distinctive to the institution. It means ensuring alignment among all these elements, and maintaining an assessment infrastructure that enables the institution to diagnose problems and make improvements when needed. Not least of all, it means developing the language to communicate clearly about the degree—what it demands and what it offers—to internal and external audiences." P. 27, 2013 Handbook of Accreditation, Penultimate Draft – March 2013.

## UNIVERSITY OF CALIFORNIA, MERCED

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



SANTA BARBARA • SANTA CRUZ

SENATE ADMINISTRATION COUNCIL ON ASSESSMENT AND PLANNING (SACAP) Ignacio Lopez-Calvo, Co-Chair <u>ilopez-calvo@ucmerced.edu</u> Mark Aldenderfer, Co-Chair <u>maldenderfer@ucmerced.edu</u> UNIVERSITY OF CALIFORNIA, MERCED 5200 NORTH LAKE ROAD MERCED, CA 95343 (209) 228-7930; fax (209) 228-7955

August 8, 2013

To: School Academic Unit Chairs

From: Ignacio López-Calvo, SACAP Co-Chair Mark Aldenderfer, SACAP Co-Chair

Re: Integrating evidence of faculty engagement with the assessment of student learning into the personnel process

The Senate Administration Council on Assessment and Planning (SACAP) wants to ensure that UC Merced's commitment to assessment as a means for improving student learning is supported through the academic personnel process. In particular, SACAP wants to promote a personnel process that acknowledges faculty for both participating in the assessment of the program learning outcomes of the academic programs within which they teach *and* the intentional use of assessment within their own courses to inform instructional planning and curriculum design in support of goals for student learning. SACAP also wants to ensure that the work of Faculty Assessment Organizers (FAOs) is recognized in the academic personnel process, but is pursuing this separately given the distinctiveness of that position and its associated responsibilities.

In consultation with the Academic Senate, SACAP recommends that work in assessment be part of the evaluation of teaching. It identified two possible lines of evidence that could be included in faculty files and (as appropriate) addressed by case writers, the faculty discussion, or the Dean. These are 1) thank you letters issued by the School, and signed by the Dean, indicating the faculty member's contributions to their program's annual assessment activities and 2) teaching statements that address their use of formal or informal assessment practices to refine teaching activities, curriculum design, pedagogy, or other aspects of instruction or the instructional environment.

We recognize that the campus must take steps to cultivate both lines of evidence and their integration into faculty review processes. Regarding the development of annual thank you letters, FAOs will not be asked to write letters but rather to ensure that individual faculty

contributions to annual program assessment are documented in the program's PLO report and/or otherwise communicated to the school's assessment coordinator. Second, SACAP will work with you and the Center for Research on Teaching Excellence to identify sample teaching statements representing a variety of disciplines to be shared with faculty. Finally, we are asking you as chairs to be cognizant of the significance of assessment work as a contribution to teaching at the level of the course, the program, and the campus.

Cc: SACAP Members Provost/EVC Peterson Senate Chair School Deans School Executive Committee Chairs School Assessment Coordinators Academic Personnel Office

# UNIVERSITY OF CALIFORNIA

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



SANTA BARBARA • SANTA CRUZ

UNIVERSITY OF CALIFORNIA, MERCED Mailing Address: 5200 North Lake Rd. MERCED, CALIFORNIA 95343 October 26, 2012

OFFICE OF THE GRADUATE DEAN

Professor Boaz Ilan School of Natural Sciences

Dear Professor Ilan,

With this letter I am happy to appoint you to the position of Graduate Group Chair for the Applied Mathematics Graduate Group. This is a calendar-year appointment effective July 1, 2012 through June 30 2013. This one-year appointment is renewable on an annual basis, subject to administrative review by Dean Meza and the graduate dean, in consultation with AP faculty members. As liaison between your graduate group and the Graduate Division, your responsibilities include the following:

- Oversee the progress of graduate students through the program, including satisfaction of degree requirements and advancement to candidacy, in coordination with group advisors, faculty and staff
- Represent the group faculty in all matters related to the degree program(s) to the lead dean, the graduate dean, Graduate and Research Council, and School Executive Committee(s)
- Determine resource needs and administer program budget, in consultation with group faculty, lead dean, and graduate dean
- Oversee graduate student recruitment, graduate program website, admissions, and financial aid, in consultation with group faculty, lead dean, and graduate dean
- Determine graduate course offerings each semester, including curriculum changes, in consultation with group faculty, and school staff and faculty involved in course scheduling and teaching assignments
- Determine graduate course resource needs for equipment, staff support, and other resources, in consultation with faculty and lead deans
- Serve as graduate group Faculty Accreditation Organizer by overseeing annual program assessments and periodic program review, to monitor and maintain academic excellence
- Consult with deans in selecting and reviewing graduate support staff
- Coordinate participation of the graduate group in School and University program activities, including graduate student fellowship and award programs
- Develop and maintain a plan for promoting diversity among matriculated graduate students
- Manage and respond to program feedback and inquiries from faculty, students, staff, and reviewers

If you agree to accept these responsibilities, you will receive compensation in the form of \$5000 per year, which can be used either for research expenses or summer stipend. I thank you for considering this appointment on behalf of your colleagues and the Graduate Division. Please signify your acceptance of these responsibilities by signing below, and returning a signed copy to the Graduate Division.

Professor Boaz Ilan

Sincerely, Professor Chris Kello Acting Dean of the Graduate Division

#### School of Engineering

#### **BioEngineering Major**

The bioengineering program chose to evaluate student capstone projects to investigate the PLOs of interest: (C) The ability to make measurements on, and interpret data from, living systems; (D) The ability to address problems associated with the interaction between living and non-living materials and systems; and (F) The ability to communicate effectively in written, spoken, and visual formats with technical, professional, and broader communities. The program sought to investigate if students were able to demonstrate these outcomes in project reports and presentations from the BIOE 150 Bioengineering Design (capstone course). The evidence collected for assessing these outcomes was found to be highly relevant. The evidence suggests that students are achieving outcomes (C) and (F) and, to a lesser extent, (D). However, another review cycle is recommended for the capstone design course due to relatively small numbers in the past year.

#### Computer Science and Engineering Major

The assessment meeting focused on PLO B, which is: An ability to analyze a problem and identify the computing requirements appropriate for its solution; An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs, and PLO G, which is: Recognition of the need for and an ability to engage in continuing professional development. The program was interested in how well the learning outcomes are being achieved, and how well the program courses and assignments prepare students for success with respect to the outcomes. Projects were examined from CSE 150 Operating Systems, and discussed among the program faculty, who decided that due to the nature of CSE projects' documentation and work products, a different approach to assessment would be examined for subsequent semesters. As indirect evidence for PLO G, student attitudes were gleaned from the undergraduate alumni and the senior exit surveys.

#### Environmental Engineering Major

The environmental engineering program evaluated several program learning outcomes this semester, with direct evidence from two key courses, ENGR 120 (Fluid Mechanics) and ENGR 191 (Professional Seminar), and indirect evidence from student surveys. Preliminary evidence was collected from the new environmental engineering capstone course ENVE 190. The goal of the assessment was to further develop assessment practices and to establish performance benchmarks for future assessments. The outcomes chosen for direct assessment ware:

A: An ability to apply knowledge of mathematics, science, and engineering

B: An ability to design and conduct experiments, as well as to analyze and interpret data

C: An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

D: An ability to function on multidisciplinary teams.

G: An ability to communicate effectively.

I: A recognition of the need for, and an ability to engage in life-long learning.

K: An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

#### Materials Science and Engineering Major

The materials science and engineering program evaluated several program learning outcomes this semester, with direct evidence from two key courses, ENGR 120 (Fluid Mechanics) and ENGR 191 (Professional Seminar), and indirect evidence from student surveys. Indirect evidence from the senior exit survey, NSSE survey, and a course survey were used to supplement and inform the results of direct evidence assessments. The outcomes chosen for direct assessment were:

A: An ability to apply knowledge of mathematics, science, and engineering

B: An ability to design and conduct experiments, as well as to analyze and interpret data

C: An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety,

manufacturability, and sustainability

D: An ability to function on multidisciplinary teams.

I: A recognition of the need for, and an ability to engage in life-long learning

K: An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

#### Mechanical Engineering Major

The mechanical engineering program evaluated several program learning outcomes this semester, with direct evidence from two key courses, ENGR 120 (Fluid Mechanics) and ENGR 191 (Professional Seminar), and indirect evidence from student surveys. Preliminary evidence was collected from the mechanical engineering capstone course (ME 170), to develop assessment practices and establish a performance baseline for future assessments. Results were incorporated with the findings from the previous PLO report to obtain a perspective towards program growth and improvement. The outcomes chosen for direct assessment were:

A: An ability to apply knowledge of mathematics, science, and engineering

B: An ability to design and conduct experiments, as well as to analyze and interpret data

C: An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

D: An ability to function on multidisciplinary teams.

G: An ability to communicate effectively

I: A recognition of the need for, and an ability to engage in life-long learning

K: An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

#### **School of Natural Sciences**

#### Applied Mathematics Major

The applied mathematics faculty performed an assessment of the Applied Mathematical Sciences program. In particular, we studied the fifth program learning outcome: *Model real--- world problems mathematically and analyze those models using their mastery of the core concepts*. The applied mathematics faculty used direct (course project) and indirect (student focus group discussion) evidence for this assessment. Through this assessment, the applied mathematics faculty discovered that they need to allow more, if not all, students majoring in applied mathematics to take our Mathematical Modeling class (Math 150). Consequently, the applied mathematics faculty have made concrete plans to institute these curricular changes.

#### **Biological Sciences Major**

Program Learning Outcome #4 for the Biological Sciences Major is "The ability to read, evaluate, interpret and apply numerical and general scientific information." We reviewed the ability of BIO students to achieve this PLO, via course syllabi review, evaluation of several final exams from courses in which we felt this PLO should be achievable, and exit interviews of graduating BIO seniors. Early in the process, we found that the wording of this PLO does not lend to easy assessment of all of its parts, and decided to divide the PLO into two for our purposes, so that we could evaluate the ability of students to apply numerical information separate from general scientific information. Our assessment demonstrated that there are adequate opportunities in the BIO courses to achieve this PLO, but that course syllabi may need to be updated to map the course material to PLO 4. Exam questions were found that our students did feel they had acquired those skills within their BIO courses. Improvement of the assessment process in the future, including the development of clear rubrics to measure is required. We provide recommendations on how to ensure the success of this assessment improvement, which will require the continuation or addition of current staff assigned to this process and incentives to research track faculty to become more engaged in the process.

#### Chemical Sciences Major - In Program Review

#### Earth Systems Science Major

In 2012-2013, the Earth Systems Science (ESS) Program evaluated Program Learning Outcome #3 (an ability to employ critical thinking, quantitative and numerical analyses, and hypothesis-driven methods of scientific inquiry). The PLO was assessed through independent evaluation of written assignments from two upper division courses (ESS 120, Introduction to Ecological and Environmental Microbiology and ESS 170/170L, Fundamentals of Soil Science). These two courses were selected because they each require assignments involving critical thinking and quantitative analysis, and ESS 170L has several field trips that enabled assessment of a course with a field component. A total of 17 written assignments were ranked (low, medium, high) in three or four categories using a standard rubric by two independent evaluators. In general, the majority of students (70-80%) demonstrated medium or high overall proficiency in elements related to this PLO. Examination of category scores indicates that students were weaker in areas related to hypothesis formulation and quantitative hypothesis testing compared with understanding of methods and background information. In addition, results from a small focus group discussion with four graduating ESS seniors indicated that students felt they had proficiency in this PLO. However, discussion summaries revealed that students interpreted this PLO in terms of practical skills (e.g., lab work, instruments) rather than critical thinking skills. Recommendations include more emphasis in courses on problem formulation and hypothesis testing, and on quantitative skills related to data analysis, quantitative reasoning, and statistical analysis. As written, this PLO is broad, and students apparently interpret the objectives differently than faculty. Faculty should consider revising this PLO to articulate more focused outcomes, perhaps separating cognitive abilities from practical skills, that can be easily understood and assessed. Continued use of explicit, consistent, and shared rubrics for assessment of specific learning areas is encouraged.

#### Natural Sciences Education Minor

The Natural Sciences Education (NSED) minor is primarily intended for students interested in teaching careers at the K-12 level. The NSED minor program prepares students for direct admission into teaching credentialing programs in the State of California. The NSED minor includes pedagogy and teaching methods coursework at the lower and upper division levels. Drawing from the experience of the previous year's assessment, the NSED staff has further developed assessment methods and

evaluated lower and upper division courses in the program. Both direct and indirect evidence of the program's performance has been collected and analyzed. Direct evidence came from assessing the students' performance in the NSED courses using assignments and tests directly related to PLOs. We also conducted surveys of students from a variety of majors and experiences in NSED courses to provide us with indirect evidence of whether the program meets its PLOs. This is the second year of evaluating both lower and upper division coursework, allowing a broader view of the program as a whole. Based on the feedback on previous reports the assessment methods have been modified to ensure that at each stage of the assessment all NSED staff is involved in the analysis and interpretation of the results. Based on the outcomes of the assessment, the NSED staff collectively came to the conclusion that the program learning outcomes are, in fact, being met. The coursework demonstrated to be well aligned with the PLOs and the multifaceted evaluation of student learning illustrated that the students are acquiring the necessary skills to fulfill the goals of the program. The assessment also revealed that more work is needed to have consistent evaluation across lower and upper division coursework as well as among all lower division courses. Recommendations from the past report including connecting the program more closely to specific external teaching credentialing programs were also addressed in this report.

#### **Physics Major**

Physics worked to assess PLO #4: (Oral and Written) Communication and Teamwork Skills. Physics majors are required to submit a senior thesis accompanied by a presentation; these were used to assess written and oral communication, respectively. A group video project in Physics 137: Quantum Mechanics was used as a pilot for teamwork assessment. SATAL facilitated a focus group of majors regarding the entirety of PLO #4 as indirect evidence. Our results illuminated need for a program-wide plan for assessing each of our PLOs (including data collection) calibrated rubrics, and resolving disparate expectations among faculty for more abstract skills. The physics group has created an assessment subcommittee that is currently working towards: (1) mapping PLO development, signature assignments, and PLO assessment to our physics curriculum matrix, (2) drafting and/or revising PLO rubrics to be descriptive and applicable at both the course and program levels, and (3) piloting various data collection and archiving methods so that we have the necessary data for robust PLO assessment. The goal is to have a working plan in place by the end of AY 2012-2013 for all our PLOs. This requires no resources in addition to committee activities.

#### **School of Social Sciences, Humanities and Arts**

#### Anthropology Major

Anthropology Program assessment of student learning for AY 2011-12 focused on direct evidence of learning with respect to ethics (PLO3), using different assessments for each of three criteria for this PLO outlined in our Assessment Plan. Indirect evidence of student learning for both PLO3 and four additional PLOs complemented these data. Results show that senior majors are meeting or exceeding targets 80% of the time, while senior minors are meeting targets 53% of the time. Detailed analysis suggests that this discrepancy between majors and minors relates to greater capacity for critical thinking and more developed analytical skills among majors than minors, rather than lack of knowledge. As such, goals for minors may have to be revised to reflect their more limited engagement with the subject. Overall, indirect evidence indicates significant improvement in confidence and competency in all areas emphasized in the anthropology program.

#### Arts Minor

For this round of PLO assessment, we focused on PLO 4: "Engage artworks critically." We built a rubric with three criteria that articulate the expectations of this PLO. We pulled samples of student work from two lower division and one upper division course rather than only from upper division courses since our minor curriculum does not have prerequisites for the ordering of courses towards demonstrating proficiency in the minor. The sample size is 18. We also collected indirect evidence via a student feedback survey on students' engagement with PLO 4 at the junior and senior class levels. We found that students by and large acquired necessary skills to engage artworks in a critical way and articulate their analysis in proficient manner.

#### Chicano/a Studies Minor

The PLO assessed this inaugural year of our program was PLO 6, which seeks to determine whether or not CCS students are able to produce research papers exploring topics salient to Chicana and Chicano Studies. Our goal was to measure student learning by focusing on students' ability to identify significant CCS issues and to produce significant research about those issues. To assess this PLO, faculty with the help of SSHA Manager of Student & Program Assessment, designed a rubric to measure direct evidence, and a survey to produce indirect evidence of learning. Both are attached as appendices. The rubric was broad enough to account for the fact that CCS includes multiple disciplines whose professional procedures, methodologies, and goals may be significantly different. Therefore we focused on three main parameters in the rubric: structure, content, and writing conventions. The survey allowed for student self-assessment of knowledge, as well as for their evaluation of in-class and outside-of-theclass learning activities. The results of these analytical measures suggest that the program has succeeded in attaining its goal that 80% of the seniors and juniors met the targeted overall score of 9 points or "Moderate Proficiency" or better. However, the results also indicated areas in which immediate attention should be warranted, such as ensuring that students avail themselves of such existing resources as office hours consultation with their professors, as well as the necessity of designing avenues for students to apply concepts learned in class to real-life situations. In that regard, we recommend implementing some measures such as regular meetings with CCS students and prospective students to explain some aspects of academic culture that may be foreign to them (e.g. office hours), to explore potential community internships, community-centered research projects, and service learning opportunities. As for resource implications, the faculty would like to note that many of our peer institutions have such dedicated resources as Chicano/a counselors and Chicano/a cultural/study centers or similar spaces that Chicano/a students can call "home"; we would like to see UC Merced help us work toward establishing such type of resources, which would have a most positive effect on our students.

Cognitive Science Major - In Program Review

History Major - In Program Review

#### Literature and Cultures Major

We report our third annual Program Learning Outcomes assessment, using reflective essays written in English for the LIT 190 capstone class.<sup>1</sup> We focused on our third PLO, "judge the ethical value(s) of texts and contexts." We attempted to utilize an external model of ethical development to assess learning with the reflective essays, but learned that the model does not suit literary study per se. That is, the model assumes that ethics are the inculcation of values, and that ethical understanding is a matter of cognition. We therefore have no results to report for direct evidence. In the fall 2012, we

collected indirect evidence of PLO 3 via a student feedback survey from 75 seniors majoring in our program to better understand how students interpret their own judgment of ethical values and their proficiency in engaging the literature for this purpose. Next year, we plan to attempt a new strategy for collecting direct evidence of PLO 3 while also assessing another PLO, producing meaningful results from two different PLOs.

#### Philosophy Minor

This year the philosophy faculty assessed PLO 4, which concerns students' ability to use philosophy in an interdisciplinary way. This PLO reflects one of the unique features of philosophy at UC Merced—its emphasis on interdisciplinary connections between philosophy and other areas, like cognitive science, psychology, economics, and political science. Direct and indirect evidence were gathered, both in the form of survey questions. While the indirect evidence suggests that students feel they are acquiring proficiency in this PLO, some of the direct evidence does not support this. The mismatch may be associated with the assessment mechanism rather than with students' actual proficiency. Thus a goal in future years will be to improve our assessment tools. Part of doing this will be to better align course learning outcomes with this program learning outcome. By identifying courses which support interdisciplinary philosophy skills, and ensuring that assessable work is produced whenever these course are taught, we can improve our ability to assess this PLO. By making the production of interdisciplinary work mandatory in such classes this also has the potential to improve student proficiency at applying philosophy outside of its traditional boundaries.

#### **Political Science Major**

For this round of assessment, we studied PLO 4 in the upper division course POLI 102. We designed a program-level rubric and it fit well with the POLI 102 final paper assignment. We reviewed the 20 student papers for which one of the coauthors was a senior political science major. We also assessed PLO 4 indirectly by examining student feedback on PLO 4 from the Graduating Senior Survey and the Alumni Survey that were administered in 2012. We learned that there is a good deal of evidence that our students are learning to become writers, though not all seniors demonstrate the level of proficiency that we would like to see.

#### Psychology Major

We assessed two Program Learning Outcomes (PLOs) of the Psychology Program Major and Minor. We assessed PLO 2: Students demonstrate that they understand the basic principles of and correctly interpret applications of the designs and methods that psychologists use to gather data; and PLO 3: Students show that they can understand and correctly interpret the statistical analyses psychologists use to analyze data. To obtain direct evidence, we administered a locally-designed Exit Exam consisting of 22 multiple-choice questions about research methods and statistics concepts to graduating students (N = 70) who majored or minored in Psychology. To obtain indirect evidence, we added questions about perceived proficiency in research methods and statistics to the campus-wide Graduating Senior Survey. Sixty-three students (88% of graduating students) completed this selfassessment measure. On the Exit Exam, 70% or more of the majors and minors correctly answered correctly 7 of 22 items and 51%-67% of the majors and minors correctly answered an additional 6 items. Students generally performed better on the research methods items than on the statistics items. Comparisons of the average item scores with those obtained in 2011 from the ETS Exit Exam (our benchmarks for student performance) suggest that students graduating in 2012 were comparable to the 2011 graduating students in their performance on the research methods items and they performed slightly better than the 2011 graduating students on the statistics items. On average, Psychology majors (n = 55) correctly answered 11.67 of the 22 items whereas Psychology minors (n = 14) correctly

answered 9.86 out of 22 items. Of particular concern is that 50% of Psychology minors and 16.4% of Psychology majors correctly answered fewer than 10 of the 22 items. Analyses of the self-assessment responses revealed that the Psychology program made its goal of at least 85% of graduating majors and 75% of graduating minors reporting proficiency at the Moderately Proficient level or better for these PLOs. Among the majors, 93% (PLO 2) and 88% (PLO 3) understood themselves to be at the Moderately Proficient level or better. Among the minors, 81% (PLO 2) and 90% (PLO 3) understood themselves to be Moderately Proficient or better. Overall, the Exit Exam and self-assessment analyses provide mixed evidence regarding the teaching and learning effectiveness of our Psychology program for our graduating seniors. We identified several extenuating factors potentially contributing to poor performance on the Exit Exam, and these led to recommendations for revising the assessment approach so that the Exit Exam items are embedded within exams of relevant courses rather than administered as a separate exam. It is also recommended that faculty members enhance their coverage of topics on which students performed poorly, and that we revise problematic items to improve their validity and sensitivity. Difficulty in establishing appropriate benchmarks led to the recommendation that we consult with members of psychology programs in other universities regarding benchmarking strategies. The recommended actions will require additional time and effort from faculty members, but no other resources will be needed.

#### Public Health Minor

The Public Health (PH) minor examined PLO 3, "Scientific Literacy: Ability to access, understand and synthesize empirical studies from the scientific literature on public health and disparities." Students in three PH courses were sampled from for both direct (N=15) and indirect (N=109) evidence. The direct evidence tool was designed by the PH Advisory Committee, across three rounds of revision. The indirect evidence tool inquired into students' experiences with PLO 3. The program goal was for the students to demonstrate scientific literacy by reaching a score of 75% in the direct evidence. 74% of student sampled reached this goal. We discuss learning support and future assessment action items to continue to support student learning in PH.

#### Service Science Minor

The Service Science Minor aims to provide students a cross-disciplinary perspective on service, enabling understanding of key differences between traditional goods and services, the use of information technology, and the essential nature of value creation. This first annual assessment of the minor examined student performance on one of five program learning outcomes, specifically, "assess how goods and services can improved, administered, and optimized."Performance was assessed directly using grades from student final papers in MGMT 150, "Service Science", from Fall 2011, and indirectly using a survey administered to students in MGMT 150 in Fall 2012. Because very few students have declared a minor in Service Science and are available in the direct and indirect samples, our assessment relies on data from the larger group of students in the sampled courses. The results suggest good student outcomes overall, but this conclusion is only tentative given limited data. To improve student learning outcomes, we recommend an awareness campaign to increase student enrollment, changes to the curriculum to include more service-science-specific content, and changes to MGMT 150 content. To improve assessment, we recommend gathering data from a broader group (either of SSC minors or MGMT majors more generally), reframing some of the program learning outcomes to be more easily assessable, and aligning directly in-class assessments with Service Science program learning outcomes.

#### Spanish Minor

The PLO assessed for the academic year of 2011-2012 was the one related to linguistics. Our purpose was to find out, not only if students were able to identify common grammatical errors, but also student proficiency in identifying major syntactic and morphological issues pertinent to the Spanish language. Another of our goals for this assessment exercise was to learn about students understanding of the pragmatic use of language. The program (minor in Spanish) pursued the question of whether, through their completion of the minor in Spanish, students are able to identify on class assignments, class discussions, research papers, and exams the linguistic and pragmatic components of the Spanish language. To assess this PLO, faculty with the help of SSHA Manager of Student & Program Assessment, designed an exam that would serve as direct evidence. This exam covered different linguistics topics that are usually discussed on some of the courses that count for the minor. They are also often mentioned on instructor feedback related to compositions and other assignments. As indirect evidence, students completed a survey in which they indicated how they consider their knowledge of Spanish linguistics has improved during their completion of the minor and how they think it has helped them in their oral and writing communication in Spanish. The survey also included a question related to student self-assessment of their understanding of Spanish when used for different goals. The result of our assessment shows that most students consider their understanding of Spanish linguistics has improved since they started their minor in Spanish. However, it also indicates that even if there are different areas where most students demonstrate adequate proficiency, our program can improve how we teach linguistics. In fact, 41.4% of students that finished the minor last academic year showed a lack of proficiency in Spanish syntaxes and morphology. An important piece of information learned from this assessment is that students that had taken the course Spanish Linguistics had better results on the exam than most students that did not take the course. Consequently, we consider that courses that are only focused on studying linguistics make a real difference on students understanding of the subject, even if they have been introduced to the materials in other courses. We are sure that the hire of a Spanish Linguistic professor planned for the academic year of 2013-2014 will allow us to offer more linguistic courses. In addition, we have started to implement a different approach to the teaching and learning of grammar on our lower division courses designed for Spanish Heritage speakers and in our Spanish Composition and Conversation course.

#### Sociology Major

Sociology assessed one Program Learning Outcome (PLO) for our majors and minors in the 2011-2012 school-year: Explain and apply the major theoretical perspectives in sociology. In the fall of 2011, we assessed this PLO in our Sociological Theory course (SOC 100) which is required for all sociology majors. We continued evaluating this PLO in our spring Sociology of Education course (SOC 132), which is an optional upper division course. The results of both assessments demonstrate that students made significant gains in their understanding of sociological theory in the two courses. Our primary recommendations for the program as we move ahead involve refining our assessment process. We provide further information on the process and outcomes of these assessment activities in this report.

#### College One

#### Core 1

This report will summarize assessment efforts for Core 1 (UCM's lower-division General Education course) during 2012, focusing in particular on a Program Learning Outcome (PLO) about collaboration in sharing expertise, making connections, and assembling knowledge. The course's chief concern is to get students to draw parallels between academic disciplines. As its syllabus states, Core 1 "capitalizes on an interdisciplinary approach ... to demonstrate, through examples, that complex questions are best understood not from a single, decoupled perspective, but by insights gained from

different—even seemingly disparate—approaches." Such exploration and synthesis of different perspectives is essentially a collaborative enterprise, especially insofar as it depends upon cooperation among disciplines, engages a variety of expertises, and entails active learning. In a word, to learn in Core 1 is to collaborate.

Such pedagogical concern with collaboration has been implicit in our assessment efforts—which we ourselves have always pursued collaboratively. In Years 1 and 2 we investigated the extents to which the course's interdisciplinary ethos manifested itself in student work with respect to synthesis, argument, capacity to manage scholarly information, and proficiency in scientific literacy. In Year 3 we further assessed students' ethical problem solving skills in Quantitative Assignment #2, in which students compose statistically-informed reports that respond to a hypothetical pandemic flu outbreak scenario. In Year 4 we wanted to discern the extents to which students' capacity to meet course outcomes was enhanced by collaboration. To this end, we took a recommendation from last year's assessment—that Quantitative Assignment #2 be completed in *teams* rather than by individuals working alone—and developed a framework for collaborative process within the assignment procedure.

After assessing this year's sample of collaboratively produced work, we found that student performance on the assignment improved significantly. Though we base our conclusions on an apparent correlation between degrees of collaboration and benchmarks of student success, we feel that the assignment implicitly benefits from teamwork, where students actively compile, compare, and refine ideas by "self-crowdsourcing"—such that they constitute their own audience as well as their own authorship, and thus intrinsically practice the process of readying scholarship for the world.

In learning from this assessment exercise, we will continue to revise our grading rubric and overall approach to quantitative assignments by scaffolding in more collaboration-oriented exercises, by developing further methods of teaching them, and by holding general quantitative assignment workshops. We will also (1) further revise the Quantitative #2 assignment so that it better situates students to meet outcomes collaboratively, and (2) continue to practice our grading of the assignment by focusing on the challenges of teaching collaboration.

#### Merritt Writing Program/Writing Minor

This year's annual assessment report attends to collaboration, defined by our program as students' ability to "synthesize diverse perspectives through collaboration in academic discourse communities."

Data include indirect and direct evidence of student learning, from diagnostic exams and portfolios. Our evaluation indicates that peer review is what freshman students cite most often as being their engagement with collaboration. At the upper-division level, writing minor and general education coursework demonstrated high levels of engagement with group writing projects. While students largely met collaboration expectations with providing meaningful and constructive feedback in peer review, describing roles in group projects, and actively participating in the development of text, we confirmed two important ongoing goals for all students: (1) describe barriers and progress in concrete and authentic terms in reference to supporting evidence and (2) account for intersecting audience analysis skills.

It is worth noting that a confounding factor in our evaluation was how dynamic collaboration is in practice. One consistent question was how pre-writing factors into collaboration; traditional writing assessment (i.e. final papers or timed writing) may not be able to fully account for important details of collaboration, which include gathering information and exchanging ideas. The exchange of ideas is a particularly tricky point, as the text-based aspects of traditional composition may not attend to the more ephemeral parts of the collaboration process which are often auditory or background work. As one reader notes "this student's collaboration section demonstrates that not all collaborative work is writing. Some is information gathering and discussion." Instructional technology to support multimodal composition priorities are important to stress, then. Our current pilot with Canvas includes integrated audio functions to support an enriched portrait of feedback loops and collaboratively composed projects. Our report concludes with priorities to address and support these kinds of instructional goals with respect to capturing audio-based data associated with the writing process, feedback, and collaboration.

Since initiating annual program assessment in 2009, program assessment practices have continued to evolve toward a *Developed* or higher standard of practice on UC Merced's <u>Rubric for the Review of PLO Reports</u>. For example, relative to 2009-10, a larger fraction of reports submitted in 2012-13 were scored as *Developed* for all rubric criteria except *Conclusions and Recommendations* (Figure 1). When programs with practices scored as *Emerging/Developed* or higher are considered, it becomes apparent that, by 2012-13, the vast majority of programs demonstrate some or all of the attributes of *Developed* assessment practices for four of five rubric criteria. We continue to focus on advancing practices associated with the *Reliable Results* criterion.

**Figure 1:** The fraction of program assessment reports scored as *Developed* or higher on the <u>Rubric for the</u> <u>Review of PLO Reports</u> between AY 2009-10 and 2012-13.



**Figure 2:** The fraction of program assessment reports scored as *Emerging/Developed* or higher on the <u>Rubric</u> <u>for the Review of PLO Reports</u> between AY 2009-10 and 2012-13.



#### EXECUTIVE SUMMARY AY 2012-2013 Report of the Committee for the Review of PLO Assessment Reports January 27, 2014 Prepared by Laura E. Martin, Committee Convener

This executive summary summarizes the work and findings of the <u>Committee for the Review of PLO Assessment</u> <u>Reports</u> for AY 2012-2013. The Committee is charged with providing formative feedback to individual academic programs on their PLO assessment efforts, and identifying common assessment or student learning-related strengths, weaknesses or issues as potential foci for further study or action. This report addresses item 2. The Committee's review process is organized around the <u>Rubric for the Report on PLO Assessment</u>, which articulates the practices that underpin an intentional, transparent, and programmatic approach to fostering student intellectual development within a degree granting program. The Committee's full report is appended.

#### I. Program Reporting Rate

- 22 PLO Reports summarizing undergraduate assessment activities from AY 2011-2012 were reviewed, including 14 undergraduate majors, eight stand alone minors, and Core 1.<sup>1</sup>
- 91% of all undergraduate programs expected to submit a PLO report did, with 100% of programs in SSHA and SOE reporting as anticipated.

#### II. Student Learning Outcomes: Results, Emerging Trends, and Committee Recommendations

A diverse set of Program Learning Outcomes were assessed during 2011-2012.<sup>2</sup> In terms of satisfaction with student learning results,

- 73% (16) of programs expressed some level of satisfaction<sup>3</sup>;
- 14% (3) concluded that students did not meet faculty benchmarks for performance.
- 14% (3) did not draw a conclusion, typically due to insufficient evidence.

Teamwork/collaboration, oral communication, and written communication, emerged as shared areas of program focus, with 27% (6), 18% (4), and 18% (4) of reports addressing these skills, respectively.

1) With respect to teamwork/collaboration, 50% (3/6) of reports addressing this outcome noted the challenges of assessing collaboration and teamwork; one also noted the challenges of instructing teamwork. All programs recognized teamwork or collaboration as a critical skill. In addition to these six programs, another three used group projects to assess student achievement of a non-teamwork related PLO, suggesting that collaborative projects are may be fairly common in the undergraduate curriculum. This conclusion is supported by institutions survey results<sup>4</sup>. Teamwork also appears in the PLOs of at least two additional undergraduate programs, is a General Education outcome and a learning outcome for the Division of Student Affairs.

Given the priority placed on developing student abilities for effective teamwork/collaboration, the challenges of teaching and assessing teamwork/collaboration, and the observed variation in expectations related to collaboration/teamwork, the Committee suggests that the campus might benefit from an informal forum to share and discuss practices and resources for defining, instructing, and assessing teamwork and collaboration.

<sup>&</sup>lt;sup>1</sup> Additional details are provided in Appendix A of the full report.

<sup>&</sup>lt;sup>2</sup> Appendices E and F provide the PLOs assessed and related report abstracts, respectively.

<sup>&</sup>lt;sup>3</sup> This includes characterizations of results as "mixed", "somewhat satisfied", etc.

<sup>&</sup>lt;sup>4</sup> 2012 UCUES and 2011 NSSE results.

2) With respect to oral communication, all four programs concluded that a majority of their seniors were achieving acceptable or better levels of performance, although several programs desired increased sample sizes before drawing any firm conclusions.

Given that an additional four majors identify oral communication as an explicit program outcome, communication is one of the Eight Guiding Principles of General Education, and oral communication is one of the five WASC Competencies to be assessed in anticipation of reaccreditation, **the committee suggests establishing an informal forum to share instructional and assessment practices for this outcome as well.** 

3) With respect to writing communication skills, 50% (2/4) of programs assessing this skill reported satisfaction with student abilities. Of the remaining two, one concluded that the results were "mixed" and noted that student writing ability is difficult to attribute to the degree program as upper division classes sizes (45-80 students) make it challenging to teach writing intensive courses. The second concluded that student research papers did not demonstrate the expected level of performance, particularly in relation to topic selection, thesis development, clarity and coherence of writing, and quality of sources. This information will be shared with the Task Force on Undergraduate Writing.

A complete summary of the committee's findings regarding these three skills, and student learning more generally, are provided in Section IIIF of the full report.

#### **III. Percentage of Programs Proposing or Reporting Actions in Response to Assessment Findings** Actions in support of improved student learning:

- 86% (19/22) of programs had sufficient confidence in their learning results to propose follow-on curricular or pedagogical actions or to conclude that no changes were warranted.
- 14% (3) of programs did not address this topic, or concluded the evidence was insufficient to act.

#### Actions in support of improved assessment practices:

- 91% (20) identified improvements to assessment methods.
- 9% (2) of programs concluded no changes were needed.

#### IV. Assessment Practices: Results, Emerging Trends, and Committee Recommendations

- 1) Programs were commended for a diversity of assessment-related strengths (28 strengths in total). The most commonly cited strengths included
  - Thorough/rigorous/comprehensive assessment (32%)
  - Effective use of complementary lines of direct and indirect evidence (32%).
  - Taking program, rather than a course-level, approach to program assessment (23%).
- 2) 95% (21/22) of reporting programs used both direct and indirect forms of evidence to assess student achievement of the PLO. This represents a 31% percentage point increase over the prior year, and thus a significant advancement for this foundational expectation for a <u>Developed level of assessment practice</u>. The committee commends this development, as this approach to assessment provides insight into both what students are able to do (direct evidence) and why and how they are able to do it (indirect).
- 3) Programs continue to learn from their assessment efforts, with 64% (14)<sup>5</sup> identifying curricular or pedagogical actions that could be taken in response to learning results and 91% (20) identifying improvements to assessment methods. Since reports typically propose rather than summarize actions taken, 64% (14) of programs received feedback encouraging pursuit of the curricular or methodological improvements identified in the report. The committee encourages all programs to take this step to ensure that substantial efforts to assess student learning are put to good use.

<sup>&</sup>lt;sup>5</sup> Of the remaining 8 programs, 5 (23%) were satisfied with student performance; 3 (14%) did not draw a conclusion/and or address this topic.

4) Four years of assessment reporting reveal that the Valid Evidence and Reliable Results criteria of the <u>Rubric</u> for the <u>Review of PLO Reports</u> are the most challenging to meet at the <u>Developed</u> level, with an average of 40% and 30% of reported practices achieving this standard over the last four years, respectively.<sup>6</sup> This suggests that programs would benefit from continued support for identifying productive lines of evidence and cultivating shared, program-level expectations for student learning. Table 2 of Section IIID of the full report details the specific recommendations made, and thus areas for targeted attention.

Looking forward, the Committee notes that programs are or will soon begin to re-assess their PLOs. As programs continue to improve their assessment methods and refine their pedagogical practices, the Committee anticipates that programs will need support collecting, archiving, and using assessment tools and related data sets over multiple years of PLO assessments.

5) A good number of programs continue to struggle with small sample sizes. Many recognized this as something to be addressed through revisions to assessment methodologies. Consequently, reviewers encouraged only 14% (3) of programs to consider strategies to increase their sample sizes. The committee encourages programs to continue to build sample sizes, noting that this can be most efficiently accomplished through planning that increases the frequency with which evidence is collected.

A complete summary of the results are provided in Section IIID.

#### V. Programs with Notable Assessment Practices

The Committee highlights the following programs for their particularly commendable approaches to program assessment.

- 1) The Anthropology program for its thoughtful, considered approach to annual assessment in which each year's assessment is informed by the proceeding year's activities and results.
- 2) The Spanish program for its high quality assessment practices. Reviewers recognized the program's report as "one of the best PLO reports they have seen", commending the program's PLOs and the faculty's clear commitment to student learning.
- 3) Applied Mathematics for its consistently sound assessment practices, and its assessment committee as a best practice.

#### VI. Implications of Program Findings for Budget and Planning

A review of program responses to Section VI of the PLO Report Guidelines - *Implications of Proposed Changes* (Budget/Planning) revealed that

- 73% (16) of programs requested no additional resources beyond faculty time or the support of existing professional assessment staff (e.g. the school assessment specialist, SATAL, CRTE), suggesting that faculty time and existing professional assessment staff are important to program efforts.
- 27% (6) of programs identified at least one specific resource to implement actions stemming from assessment findings, with two noting that resources to support the proposed step already exist or have been allocated.
- Two programs (9%) requested that the campus address the issue of incentivizing ladder-rank faculty participation in program assessment in light of the full breadth of faculty responsibilities, including research.<sup>7</sup>

A review of dean cover letters associated with report submission indicated ongoing support for proposed faculty actions. Where substantive resources were indicated, deans anticipated working with programs or senior administration to consider the identified need.

<sup>&</sup>lt;sup>6</sup> See Figure 2 of the full report.

<sup>&</sup>lt;sup>7</sup> A detailed summary of program requests is provided in Table 2 in Section IIIE.

# School of Engineering: Inventory of Educational Effectiveness Indicators

School of Engineer	ring: Program & Degree	Bioengineering, B.S.	Computer Science & Engineering, B.S.	Environmental Engineering, B.S.	Materials Science & Engineering, B.S.	Mechanical Engineering, B.S.
1. Are Program Learning Outco Developed UD= Under Develop	omes (PLOs) developed? D= pment UR= Under Revision	D	D	D	D	D
	All Course Syllabi					
2. Where publish Program	Some Course Syllabi	Х	X	Х	Х	X
Learning Outcomes?	Catalog	Х	X	Х	X	X
	Program/School Website	Х	X	X	X	X
	Capstone Courses	Х		Х	Х	X
	Embedded Questions	Х	X	X	X	X
	Student Survey	Х	X	X	X	X
3. Other than GPA, what	Alumni Survey	X	X	X	X	X
data/evidence is used to	Licensure Exam			X		X
determnine that graduates	Student Interviews			X		X
have achieved stated progran learning outcomes?	Other	Professional Seminar	Extracurricular activities, Professional Seminar papers, course projects	Feedback from advisory boards, Professional Seminar papers, lab reports	Advisory board feedback, Professional seminar papers, lab reports	Advisory board feedback, Professional seminar papers, lab reports
4 Who interprets the	Program - Some Faculty	Х	X	Х	Х	X
avidance/date2 <sup>1</sup> What is the	School Staff	Х	Х	Х	Х	Х
$e^{2}$	Dean	Х	X	X	X	X
determine that graduatesStudent interviewsInterviews <td>Х</td> <td>X</td>		Х	X			
	Improve Assessment Process	Х	Х	Х	Х	X
	Improve Curriculum	Х	X	Х	Х	X
	Examine Curriculum Content	Х	X	Х	Х	X
5. How are findings used?	Examine Skill Development	Х	X	X	X	X
	Change Pedagogy		X	Х	X	X
	Stimulate Faculty Discussion		X	X	Х	X
	Re-examine PLOs		X			
6. Date of last program review <sup>4</sup>	ļ.	Scheduled	In review	2010-11	In review	2011-12

<sup>1</sup> In some programs, including the Merrit Writing Program, faculty will include Lecturing Faculty.

<sup>2</sup> See Annual Program Learning Outcome Reports for program-specific processes.

<sup>3</sup> Senate-Administrative Council on Assessment and Planning

<sup>4</sup> Program reviews are scheduled or in progress.

	School of Natural Sc	ciences: In	ventory of	Education	al Effective	eness Indic	ators	
School of Natura	Il Sciences: Program and Degree	Applied Mathematical Sciences, B.S. & Minor	Biological Sciences, B.S.	Chemical Sciences, B.S. & Minor	Earth Systems Science, B.S.	Physics, B.S. & Minor	Environmental Science & Sustainability Minor	Natural Sciences Education Minor
1. Are Program Learning	Outcomes (PLOs) developed? D=							
Developed UD= Under De	evelopment UR= Under Revision	D	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>
	All Course Syllabi					X		
2. Where publish Program Learning	Some Course Syllabi	Х		X	X	X		
Program Learning	Catalog	Х	Х	X	Х	X	х	X
Outcomes?	Program/School Website	X	X	X	X	X	X	X
	Constant Courses			v	v			
	Capstone Courses			~		v		
						X		
	Exhibit							X
	Embedded Questions	X	X	X	X	X	X	X
	Comprehensive Assessment Exam			X				X
3. Other than GPA, what	Student Survey	Х	Х	X	Х	X	Х	X
data/evidence is used to	Alumni Survey	Х	Х	X	Х	X	Х	X
araduates have achieved	Employer Survey							X
stated program learning	Student Focus Group	Х				X	Х	
outcomes?	Student Interviews	Х			Х	X	Х	X
	Placement Rates				x			
	Other		Lab reports; TA interviews	GRE scores; Upper division research and laboratory reports		Independent assessment of final exams and other work in core courses		
	Some Faculty	Х	Х				Х	X
	Program - Entire Faculty			X	X	X		
4. Who interprets the	Program Curriculum Committee	X	X		X			
evidence/data? what is	Program Chair/Head	X	V	X	V	v	V	X
the process?"	Dean	A Y	A Y	A Y	A Y	A Y	X Y	A Y
		× Y	× ×	× ×	× ×	×	× ×	× v
	Improve Assessment Process	X	X	X	X	X	X X	X
	Improve Assessment Process	X Y	X Y	X X	X Y	X X	X Y	× Y
	Examine Curriculum Content	X	x	X	X	X	x	X
5. How are tindings	Examine Skill Development	X	~	X	X	X	X	X
used?	Change Pedagogy	X		X	X	X	Х	X
	Stimulate Faculty Discussion	Х	Х	X	Х	X	Х	X
	Re-examine PLOs		X		X	X	X	X
6. Date of last program re-	view <sup>3</sup>	2009-10	Scheduled	2012-13	Scheduled	2010-11	Scheduled	Scheduled

<sup>1</sup> See Annual Program Learning Outcome Reports for program-specific processes.

<sup>2</sup> Senate-Administrative Council on Assessment and Planning

<sup>3</sup> Program reviews are scheduled or in progress.

### School of Social Sciences, Humanities & Arts: Inventory of Educational Effectiveness Indicators for Majors

School o Humanities a	f Social Sciences, Ind Arts: Program and Degree	Anthropology, B.A. & Minor	Cognitive Sciences, B.A., B.S. & Minor	Economics, B.A. & Minor	English, B.A. <sup>1</sup>	History, B.A. & Minor	Literatures & Cultures, B.A. <sup>2</sup> & Minor <sup>3</sup>	Management, B.S. & Minor	Political Science, B.A.	Psychology, B.A. & Minor	Spanish, B.A. <sup>1</sup> & Minor	Sociology, B.A. & Minor
1. Are Program Learni Developed UD= Under	ng Outcomes (PLOs) developed? D= Development UR= Under Revision	D	D	D	D	<u>D</u>	D	D	D	D	D	D
2. Where publish	All Course Syllabi	X	Х	Х	Х	Х	Х	X	Х	Х	X	X
Program Learning	Catalog	X	Х	Х	Х	Х	Х	X	Х	Х	X	X
Outcomes?	Program/School Website	X	X	X	X	X	X	X	X	Х	X	X
	Capstone Courses				Х	X	Х					
	Senior Project				Х	X	Х					
	Embedded Questions	X	Х	Х	Х	X	х	X	Х	х	X	X
	Comprehensive Exam										Х	
3. Other than GPA,	Student Survey	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
what data/evidence is	Alumni Survey	Х	Х	Х	Х	Х	Х	X	Х	х	Х	Х
that graduates have	Student Focus Group/Interviews								Х	х		Х
achieved stated program learning outcomes?	Uther		Course assignments oral and written assignments)		Reflective essay	other short papers and projects, analytical papers and projects, exams, internship project, reports, presentations, reflection papers that accompany the thesis	Reflective essay					Course assignments (oral and written assignments)
	Some Faculty			Х				X				
	Program - Entire Faculty	Х	Х		Х	Х	Х		Х	Х	Х	X
4. Who interprets the	Program Assessment Committee								X			
evidence/data? <sup>4</sup> What	Program Chair/Head	X	X	X	X	X	Х	X	X	Х	X	X
is the process?°	School Staff	X	X	X	X	X	Х	X	X	Х	X	X
	School Dean	X	X	X	X	X	Х	X	X	Х	X	X
	SACAP <sup>o</sup>	X	X	X	X	X	X	X	X	X	X	X
	Improve Assessment Process	Х	X	Х	Х	X	X	X	Х	Х	Х	X
	Improve Curriculum	Х	Х	Х	Х	Х	X	X	X	X	X	X
5. How are findings	Examine Curriculum Content	Х	Х	Х	Х	Х	Х	X	Х	Х	X	Х
used?	Examine Skill Development	Х	Х	Х	Х	X	Х	X	Х	Х	X	X
	Change Pedagogy	Х	Х	Х	Х	Х	Х	X	Х	Х	X	X
	Stimulate Faculty Discussion	Х	Х	Х	Х	Х	Х	X	X	Х	X	X
	Re-examine PLOs	Х	Х	Х	Х	Х	X	X	X	Х	X	X
6. Date of last program	ı review <sup>7</sup>	Scheduled	2012-13	2011-12	Scheduled	2012-13	N/A	2012-13	Scheduled	In review	In review	Scheduled

<sup>1</sup> New as of fall 2013; <sup>2</sup> Deactivated as of fall 2013 & teaching out; <sup>3</sup> Deactivated as of fall 2014.

<sup>4</sup> In some programs, faculty will include Lecturing Faculty.
 <sup>5</sup> See Annual Program Learning Outcome Reports for program-specific processes.

<sup>6</sup> Senate-Administrative Council on Assessment and Planning

<sup>7</sup> Program reviews are scheduled or in progress.

# SSHA: Inventory of Educational Effectiveness Indicators for Minors

School of Social Sciences, Humanities and Arts: Stand Alone Minors		American Studies Minor	Arts Minor	Chicano/a Studies Minor	Interdisciplinary Public Health Minor	Philosophy Minor	Service Science Minor	Writing Minor
1. Are Program Learning Ou	utcomes (PLOs) developed? D=							
Developed UD= Under Dev	elopment UR= Under Revision	<u>UD<sup>1</sup></u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>
2 Whore publich Program	All Course Syllabi	Х	X	X	X	Х	Х	X
Learning Outcomes?	Catalog	Х	X	X	X	Х	Х	X
	Program/School Website	Х	Х	X	X	Х	X	X
	Exhibit		X					
	Embedded Questions		X	X	X	Х	Х	
	Portfolio Review							X
	Student Survey		X	X	X	Х	Х	X
	Alumni Survey		X	X	X	Х	Х	X
	Student Interviews				X			
	Student Focus Group			Х	X			X
	Other		Peer reviews of artisitc work.		Embedded exam questions, in-class surveys.		Embedded exam question	Essays
	Some Faculty	Х		X	X			X
	Program - Entire Faculty		Х			Х	Х	
1 M/ba interprets the	Program Assessment Committee				X			X
4. Who interprets the	Program Curriculum Committee							X
the process <sup>23</sup>	Program Chair/Head	Х	Х	Х	X	Х	Х	X
the process?	School Staff	Х	Х	Х	X	Х	Х	X
	Dean	Х	Х	Х	X	Х	Х	X
	SACAP⁴	Х	Х	X	X	Х	Х	X
	Improve Assessment Process	UD	Х	Х	X	Х	Х	X
	Improve Curriculum	UD	Х	Х	X	Х	Х	X
	Examine Curriculum Content	UD	Х	Х	X	Х	X	X
5. How are findings used?	Examine Skill Development	UD	Х	Х	X	Х	Х	X
	Change Pedagogy	UD	Х	Х	X	Х	X	X
	Stimulate Faculty Discussion	UD	Х	Х	X	Х	Х	X
	Re-examine PLOs	UD	Х	Х	X	Х	Х	X
6. Date of last program revie	ew <sup>5</sup>	In process	Scheduled	Scheduled	Scheduled	Scheduled	Scheduled	2010-11

<sup>1</sup> Fewer than 5 students enrolled.

<sup>2</sup> In some programs, including the Merrit Writing Program, faculty will include Lecturing Faculty.

<sup>3</sup> See Annual Program Learning Outcome Reports for program-specific processes.

<sup>4</sup> Senate-Administrative Council on Assessment and Planning

<sup>5</sup> Program reviews are scheduled or in progress.

#### **Standalone Graduate Degree Programs: Inventory of Educational Effectiveness Indicators**

Gradu	ate Programs	Applied Mathematics, <sup>1</sup> M.S. & Ph.D.	Chemistry & Chemical Biology, M.S. & Ph.D.	Environmental Systems, M.S. & Ph.D.	Cognifive & Information Sciences, Ph.D.	Interdisciplinary Humanities, <sup>1</sup> M.A. & Ph.D. (from World Cultures IGP Emphasis)	Psychological Sciences, Ph.D.	Political Science, M.A. & Ph.D.	Quantitative & Systems Biology, M.S. & Ph.D.
1. Are Program Learning Outco UD= Under Development UR=	mes (PLOs) developed? D= Developed Under Revision	D	D	<u>D</u>	D	D	D	D	D
	All Course Syllabi							X	
	Some Course Syllabi	X	X	X	X	X	X		X
2. Where publish Program	Catalog	X	X	X	X	X	X	UD	X
Learning Outcomes? <sup>2</sup>	Program Website	UD	UD	X	UD	UD	UD	UD	X
	Other	Policies and Procedures		Policies and Procedures					
	Qualifying Exam	Х	Х	Х	X	Х	Х	X	X
	Dissertation/Thesis Proposal		Х	X	X	X	X	X	X
	Annual Progress Report	X	X	X	X	X		X	X
	Student Survey	X	X	X	X	X	X	X	X
2 Other then CDA what	Alumni Survey	Х	Х	Х	X	Х	Х	Х	Х
data/evidence is used to	Graduate Student Teaching Experience						Х	Х	Х
data/evidence is used to determnine that graduates	Student Focus Group/Interviews	Х		Х			Х	Х	
have achieved stated program	Placement Rates	Х	Х	Х	X	Х	Х	Х	Х
learning outcomes?	Dissertation	Х	Х	Х	X	Х	Х	Х	Х
	Thesis	Х	Х	Х	Х	Х		Х	X
	Other	Coursework, publications, conference presentations	Publications, patents, conference presentations		First and second year research reports	Term papers, student study plans	Pre-candidacy project, service activities, coursework	Conference presentations	Professional presentations, publications
	Some Faculty						Х		
	Program - Entire Faculty	X	Х	X		X		X	X
4. Who interprets the	Program Exeuctive or Education Policy Committee	x	x	x	x	x	x		x
evidence/data? what is the	Program Chair/Head	Х	Х	Х	X	Х	Х	Х	Х
process?	School Staff			Х	X	Х	Х	Х	Х
	Dean	X	X	X	X	X	Х	X	X
	SACAP <sup>3</sup>	X	X	X	X	X	Х	X	X
	Improve Assessment Process	X	X	X	X	X	X	X	X
	Improve Curriculum	X	X	X	X	X	Х	X	X
	Examine Curriculum Content	X	Х	X	X	X	Х	X	X
<ol><li>How are findings used?</li></ol>	Examine Skill Development	X	х	X	X	X	Х	X	X
	Change Pedagogy	X	Х	X	X	X	Х	X	X
. How are findings used? E	Stimulate Faculty Discussion	Х	Х	X	X	Х	Х	Х	X
	Re-examine PLOs	X	Х	X	X	X	Х	X	X
6. Date of last program review <sup>4</sup>		In review	2011-12	2007	2010-11	In review	2010-11	2012-13	2010-11

<sup>1</sup> Campus and CCGA approved; pending WASC approval.

<sup>2</sup> Under Development (in keeping with UC Merced Graduate Graduate Council Policy)

<sup>3</sup> Senate-Administrative Council on Assessment and Planning

<sup>4</sup> Program Review Schedule for next seven years



#### **Graduate Emphases: Inventory of Educational Effectiveness Indicators**

			Emphases within	the Individual Gradua	te Program <sup>1</sup>	
Gra	iduate Programs	Biological Engineering & Small-scale Technologies <sup>2</sup>	Electrical Engineering & Computer Science	Mechanical Engineering	Physics	Social Sciences <sup>3</sup>
1. Are Program Learning Outcomes	s (PLOs) developed? D= Developed UD= Under					
Development UR= Under Revision		D	D	D	D	D
	All Course Syllabi					
	Some Course Syllabi	Х	X	X	X	X
2. Where publish Program	Catalog	Х	X	X	X	X
Learning Outcomes?	Program Website	UD	UD	UD	UD	UD
3. Other than GPA, what data/evidence is used to determnine that graduates have	Other		CCGA Proopsal	CCGA Proposal	CCGA Proposal	CCGA Proposal
	Qualifying Exam		X	Х	X	
	Dissertation/Thesis Proposal		X	Х	Х	
	Annual Progress Report		Х	Х	Х	
3. Other than GPA, what	Student Surveys		X	X	X	
data/evidence is used to	Alumni Survey		X	X	X	
determnine that graduates have	Student Focus Group			X		
achieved stated program learning	Placement Rates		Х	X	X	
determnine that graduates have achieved stated program learning outcomes?	Dissertation		X	X	X	
	Thesis		X	X	X	
	Other		Project reports, course projects		Coursework, publications, conference presentations	
	Program - Entire Faculty		X	X	X	
4. Who interprets the	Program Exeuctive or Education Policy Committee		X	X	X	
evidence/data? What is the	Program Chair/Head		X	X	X	
process?	Dean		X	X	X	
	SACAP <sup>4</sup>		X	Х	X	
	Improve Assessment Process		X	X	X	
	Improve Curriculum		X	X	X	
5 How are findings used?	Examine Skill Development		X	X	X	
J. How are infunds used?	Change Pedagogy		X	X	X	
	Stimulate Faculty Discussion		X	X	X	
	Re-examine PLOs		X	X	X	
6. Date of last program review <sup>5</sup>		Scheduled "	In review	In review	In review	In review

<sup>1</sup> Umbrella program offering Masters and Ph.D. degrees in the five graduate emphases listed below.

<sup>2</sup> Assessment plan in development; anticipated by close of AY2013-14. Scheduled for Program Review in 2014-15.

<sup>3</sup> Includes Economics, Public Health and Sociology tracks. Sociology has developed PLOs and assessment plan as part of its proposal for standalone degree-granting

status. The proposal is currently in review. Public Health and Economics are undergoing program review to support near-term development of a proposal for standalone status, which includes assessment plans.

<sup>4</sup> Senate Administration Council on Assessment and Planning

<sup>5</sup> As per UC Merced Graduate Council policy, review to become a standalone degree granting program is program review.

UC Merced Graduate Program Review Schedule





		Table 8.1: Inventory of Concurrent	t Accreditation and Ke	y Performance Indicators		
Name of accredited or certificated program	Professional, special, state*, or programmatic accreditation agency for this program	Date of most recent accreditation action by agency	Summary ("bullet points") of key issues for continuing institutional attention identified in agency action letter or report	One performance indicator accepted by the agency; selected by program	For one indicator, provide 3 years' trend data. Use link to cell for graph if desired.	
				Indicator: Student ability to design and conduct experiments including their satisfaction with the education and experience they received through this program in this regard.	Between 85 and 93% of students perform at level Basic	
Environmental ABET Site visit occurred October 2013; accreditation decision summer 2014		The program is currently undergoing accreditation	Evaluation: Formal assessment by each graduating student in the form of an exit survey, as well as assessment of direct evidence in the form of lab reports from required courses.	for current ability and 2.7 for starting ability (1-4 scale). Over 50% participate in facul research.		
				Indicator: Student skills in oral and written communication including their satisfaction with the education and experience they received through this program in this regard.	Student ratings increased from 89% to 96% feeling prepared	
Materials Science & Engineering	ABET	Site visit occurred October 2013; accreditation decision summer 2014	The program is currently undergoing accreditation	Evaluation: Formal assessment by each graduating student in the form of an exit survey and assessment of direct evidence (capstone presentations, technical reports, and professional seminar papers).	evidence show 100% above adequate performance in oral and written communication in 2012 and 2013.	
Mechanical Engineering	ABET	Site visit occurred October 2013: accreditation decision summer 2014	The program is currently undergoing	Indicator: Student ability to engage in lifelong learning through their professional careers including their satisfaction with the education and experience they received through this program in this regard.	AY 2012-13: 92% rated their preparation as adequate,	
			accreditation	Evaluation: Formal assessment by each graduating student in the form of an exit survey, as well as focus group feedback.	compared to 91% the previous year.	

\*Within the WASC region only

# Psychological Sciences 2012-13 PLO Assessment Report

# Jan Wallander, PhD., Graduate Group Chair

# I. Abstract

PLO#2 was selected for this PLO Assessment,: *Statistics and Methods: Graduate students will demonstrate skills in the use the basic data gathering methods and statistical techniques used for typical analyses in conducting research in the Psychological Sciences*. This was assessed through: (1) summaries of student grades in required core statistics and research methods courses; (2) faculty evaluation of competency with data gathering methods and statistical techniques demonstrated in Pre-Candidacy Project and the Doctoral Dissertation; and (3) exit survey with students who have completed the PhD. Thus both Direct and Indirect Evidence were used. This PLO Assessment can best be considered as a pilot project, given the early stage of development of the PhD Program, the relatively few students in the program especially at advanced levels, and the few projects that could be evaluated at this point. Because of these limitations, it is inappropriate to draw significant conclusions and implications. In tentative terms therefore, on the whole it appears that the GS are performing up to expectations in regard to Statistics and Methods. At the same time, statistics instructors will be asked to review what can be done to improve student learning and procedures are being implemented to improve the monitoring of student experience and progress in the program.

# **II. Introduction**

The Psychological Sciences PhD Program Learning Outcomes (PLOs) are:

- 1. *Core Knowledge*: Graduate students will demonstrate advanced knowledge in a specialized area of Psychological Sciences of their choosing.
- 2. *Statistics and Methods*: Graduate students will demonstrate skills in the use the basic data gathering methods and statistical techniques used for typical analyses in conducting research in the Psychological Sciences.
- 3. *Pedagogy*: Graduate students will participate in classroom pedagogy used in undergraduate education.
- 4. *Writing*: Graduate students will produce written communications of the quality and in the style expected in Psychological Science.
- 5. *Professionalism*: Graduate students know and participate in the intellectual and organizational aspects of the profession of psychology.
- 6. *Independent Research*: Graduate students will conduct independent research resulting in an original contribution to knowledge in Psychological Sciences, including all steps from generating an original question to writing a manuscript describing all aspects of the study.

For this review of PLOs, the faculty selected PLO#2,

*Statistics and Methods*: Graduate students (GS) will demonstrate skills in the use the basic data gathering methods and statistical techniques used for typical analyses in conducting research in the Psychological Sciences

With regard to this PLO#2, the faculty desire to know (1) to what extent GS demonstrate growth in knowledge across stages of development in the program, (2) what level of knowledge is demonstrated by students who complete the PhD Program, and (3) what if any changes should be considered in the PhD Program to achieve this PLO.

### **III. Assessment Methods**

To evaluate PLO#2, *direct evidence* will be constituted by:

- 1. Grades in required courses relevant to PLO#2:
  - a. PSY 202A Advanced Psychological Statistics I
  - b. PSY 202B Advanced Psychological Statistics II
  - c. PSY 204 Research Design and Methodology
- 2. Evaluation using PLO#2 rubric (below)
  - a. Pre-Candidacy Project
  - b. Doctoral Dissertation

Indirect evidence will be constituted by:

1. Program exit survey

Several factors mitigate the validity of the assessment that could be completed at this time:

- In AY 2012-13, of the 28 GS enrolled in the PhD Program at some point, 18 were either 1<sup>st</sup> or 2<sup>nd</sup> year GS, and would not have been expected to have completed activities that could provide direct evidence for PLO#2 (Direct Evidence 1 or 2).
- Only four of the more advanced students completed either the Pre-Candidacy Project or Doctoral Dissertation in this evaluation period (June 2012-May 2013). Therefore, scoring rubrics are completed for three Pre-Candidacy Projects and one Doctoral Dissertation. During the following evaluation period, it expected tat numerous students will have completed one of the targeted projects. This does not, in the judgment of the faculty, reflect any problems in GS making progress towards the PhD Program, but rather the developmental stage of the program which until recently had admitted few GS.
- During this evaluation period, only PSY 202A and 202B were offered due to the sabbatical of the instructor teaching PSY 204.
- Only one student graduated with the PhD in AY 2011-12, resulting in one Program Exit Interview.

Thus on the whole, relatively sparse evidence is available at this time, primarily reflecting the stage of development of the PhD Program. The assessment of PLO#2 therefore should be viewed as a pilot effort.

All faculty were requested to complete a scoring rubric if they had chaired a Pre-Candidacy Project or Doctoral Dissertation. Grades for the indicated courses were provided by a School staff person. The GG Chair administered the exit survey to students who had completed the program during the evaluation period.

### **IV. Results**

#### A. Direct Evidence

#### Grades in Required Courses

Summaries are presented below of the grades for the 27 students in the PhD program AY 2012-2013 when they completed the relevant required core statistics courses (PSY 200A and PS 200B) and research methods course (PSY 204). All 27 have completed the two statistics courses and 17 the research methods course, as of the end of the AY.

Table 1: Summary of Grades in Required Courses									
	200A	200B	204						
	n (%)	n (%)	n (%)						
А	19 (70)	13 (48)	11 (65						
В	8 (30)	13 (48)	6 (35)						
C/F	0 (0)	1 (2)	-						
Total	27	27	17						
completed									

Our goal is for the majority of GS to perform at the A standard. This goal was met for PSY 200A and 204, but not for 200B. It appears students are challenged in meeting standards of excellence in the second semester of the statistics sequence.

#### Evaluation of Required Research Projects

As noted previously, GS collectively completed only four projects in AY 2012-13 that could be evaluated using scoring rubrics, three Pre-Candidacy Projects and one Doctoral Dissertations. Whereas these evaluations are presented in Table 2, the sample must be considered to be too small on which to base any substantial conclusions, but can be added to future assessment of this PLO.

Table 2: Summary of Scoring Rubrics for Completed Projects AY 2012-13										
Project	Criterion A: Data gathering methods	Criterion B: Statistical techniques								
Pre-Candidacy Project 1	Developed	Developed								
Pre-Candidacy Project 2	Developed	Developed								
Pre-Candidacy Project 3	Mastery	Mastery								
Doctoral Dissertation 1	Developed	Developed								

The goal of the program is for both criteria to be evaluated as Developed for the Pre-Candidacy Project and as Mastery for the Doctoral Dissertation. These goals reflect an expected development of competences over time.

Two students met these expectations and one exceeded them based on demonstrated competences in completing the Pre-Candidacy Project. However, the student completing the Dissertation did not meet the expected demonstration of Mastery regarding PLO#2. This student was likely at a disadvantage, being among the very first to enter the program prior to the course structure and resources being well established; as well this student worked with faculty for all but the last year of completing the program who provided less than ideal research supervision.

#### **B. Indirect Evidence**

As noted, only one GS exited the PhD Program, having earned the PhD, and completed the Exit Survey.

Relevant to PLO#2, this GS self-evaluates that s/he had Excellent competency in "basic data gathering methods...in conducting research" and Good competency in "statistical techniques."

More broadly s/he self-evaluates the competencies addressed in the other PLOs all as Excellent upon leaving the program. This GS rates her readiness to assume an independent research position (e.g., as Assistant Professor) as "Moderately Ready."

At the same time, this GS evaluates the core learning experience of being mentored by the Faculty Advisor, with whom she worked through all but one of the years in the program, as problematic. S/he advises the GG faculty to more closely monitor the situation of all graduate students and proactively address problems earlier rather than later in the process.

### **V. Conclusions & Recommendations**

#### A. Student Learning

This PLO Assessment can best be considered as a pilot project, given the early stage of development of the PhD Program, the number of students in the program especially at advanced levels, and the number of projects that could be evaluated at this point. Because of these limitations, it is inappropriate to draw significant conclusions about and implications for student learning.

In tentative terms therefore, on the whole it appears that GS are performing up to expectations and at an appropriate level in regard to PLO#2 Statistics and Methods. A caveat may be raised about the smaller than desired portion meeting standards of excellence in the second portion of the required statistics course sequence. The statistics instructors will be apprised of this and asked to evaluate what should be done to improve student learning.

The feedback from the one GS who exited the program, having earned the PhD, regarding the experience with his/her Faculty Advisor is troubling (and unfortunately, it has been shared by another GS still in the program). After dealing with the situation encountered by this GS (as well as that of the other GS) by changing Faculty Advisor for the completion of the Doctoral Dissertation, two more general changes have been implemented: (1) the annual review process of all GS has become more detailed as well as centrally monitored by the Graduate Group Chair, and (2) the Lead Faculty for each track within the Graduate Group has been encouraged to monitor GS experiences and progress concurrently.

#### **B. Assessment Methods**

The limitations in the assessment that could be completed at this time are mainly due to (1) the early stage of development of the PhD Program, (2) the relatively few number of students in the program at advanced levels, and (3) the small number of projects that could be evaluated at this point. At this stage it appears that the Assessment Plan can provide useful information in future years when simply more data can be collected. It is premature to evaluate the utility of the Assessment Plan without there being more data.

It will be helpful in the future to collect these data concurrently whenever possible. It will also be useful to seek support in improving the assessment methodology from resources on campus. Nonetheless, because PLO Assessment adds significantly to the burden of the Graduate Group Chair, this position will

continue to need to be compensated. In addition, faculty need to be trained in the use of the rubrics to evaluate completed projects and some attention needs to be paid the reliability of these evaluations. Therefore, it will be useful if about two Psychological Sciences faculty meetings per semester are devoted to the Graduate Group PLO Assessment, to request faculty to provide concurrent evaluations when possible, calibrate subjective evaluations, and identify when the Exit Survey need to be conducted.

# VI. Implications for Planning / Budget

- 1. The Graduate Group Chair position is being compensated by the Division of Graduate Studies in part for the responsibility of leading the PLO Assessment. This needs to continue.
- 2. Course grade and evaluation data is now being collected by a School staff member, which is most helpful. This needs to continue.

### **VII. Self Evaluation**

Applying the rubrics provided, the following evaluations were made: Assessable Program Learning Outcome (PLO): Developed Valid Evidence: Developed Reliable Results: Initial Results Summary: Developed Conclusions & Recommendations: None of the rubric statements are applicable. Conclusions and recommendations are necessarily limited because of the amount of data available for this assessment due to structural issues.

### **VIII. Appendices**

Two items are appended: (1) Scoring rubric used for the evaluation of PLO#2 for the Pre-Candidacy Project and the Doctoral Dissertation and (2) Exit Survey. However, to append "representative examples of scored student work" would add approximately several 100s of pages. If this is still desired, they can be added upon request.

# PLO#2 PCP and Dissertation Assessment Rubric

**PLO 2:** *Statistics and Methods*: Graduate students will demonstrate skills in the use the basic data gathering methods and statistical techniques used for typical analyses in conducting research in the Psychological Sciences.

PLO 2	Mastery	Developed	Introductory
Criteria	(1)	(2)	(3)
Criterion A: Data gathering methods	Literature Review shows that the student has an advanced level of understanding of the methodological issues relevant to the topic being studied. Design and methods selected are among the most sophisticated available in this research area and/or represent best practices to address the research questions or hypothesis	Literature Review shows that the student has an enhanced level of understanding of the methodological issues relevant to the topic being studied. Design and methods selected are mainstream for the research area and at least reasonable to address research questions or hypothesis.	Literature Review shows that the student has a rudimentary level of understanding of the methodological issues relevant to the topic being studied. Design and methods selected are unsophisticated for the research area but at least marginally reasonable to address the research questions or hypothesis
Criterion B: Statistical techniques	Statistical techniques selected are among the most sophisticated available in this research area and/or represent current best practices to address the research questions or hypothesis. Statistical techniques are accurately executed with attention to adapting them to suit exact needs. Results from the statistical techniques are interpreted at an advanced level.	Statistical techniques selected are mainstream in this research area and at least reasonable to address the research questions or hypothesis. Statistical techniques are accurately executed but attention to adapting them to suit exact needs is lacking. Results from the statistical techniques are interpreted at an enhanced level.	Statistical techniques selected are unsophisticated for this research area but at least marginally reasonable to address the research questions or hypothesis. Statistical techniques are mostly accurately executed but at least some issues are not completely addressed Results from the statistical techniques are interpreted at a basic level.

# **Psychological Sciences PhD Program Exit Survey**

The following questions relate specifically to your experiences in the Psychological Sciences graduate program.

1. Please rate your graduate preparation by putting an X in the appropriate column in terms of your abilities to demonstrate each competency upon graduation from *as well as* entry into the PhD program 1. That is, each dimension in the left-most column needs to be rated twice, once for upon graduation and once for upon entry in the program.

	Rate ya gradu	our compe ation from	etency up n progra	oon Im	Rate your competency at the start of your graduate program				
	Excellent (1)	Good (2)	Fair (3)	Poor (4)	Excellent (1)	Good (2)	Fair (3)	Poor (4)	
Advanced knowledge in a specialized area of Psychological Sciences of your choosing									
Basic data gathering methods used for typical analyses in conducting research in the Psychological Sciences									
Statistical techniques used for typical analyses in conducting research in the Psychological Sciences									
Ability to communicate disciplinary concepts in written form to expert and non- expert audiences									

Ability to communicate disciplinary concepts in oral form to expert and non-expert audiences				
Understanding of ethical, responsible conduct in the research of your discipline				

# 2. Please select the three most important skills that you expect to use in your current or most immediate future position by indicating their numbers here:

- 1. Ability to initiate and conduct independent research that makes an original contribution to your discipline/field (1)
- 2. Displaying acquisition of fundamental knowledge in your discipline (2)
- 3. Ability to communicate disciplinary concepts in written form to expert and non-expert audiences (3)
- 4. Ability to communicate disciplinary concepts in oral form to expert and non-expert audiences (4)
- 5. Competent use of ethical, responsible conduct in the research of your discipline (5)
- 6. Proficiency in laboratory research techniques (6)
- 7. Proficiency in theoretical techniques (7)
- 8. Proficiency in field research techniques (8)
- 9. Proficiency in computational techniques (9)
- 10. Other (Please specify.) (10) \_\_\_\_\_
  - 3. Which activities have helped you to reach your current level of knowledge and skills in advanced knowledge in your specialized area of Psychological Sciences? (Number all that apply with the key codes, leave blank those which do not apply)

Required Psy Sci Coursework (Stat, Res Meth, Pro Sem)	
Additional coursework	
Colloquium series	Kev
Research projects with faculty advisor	1 = Vital
Research projects with other faculty	
Candidacy Exam (process and final project)	2 = Helpful
Presentations at conferences	3 = Minimally useful
Authoring manuscripts with faculty advisor	
Authoring manuscripts with other faculty members	N/A = Not applicable
Research Assistantships with faculty advisor	
Research Assistantships with other faculty members Teaching Assistantships Peer interactions among grad students, generally Campus resources specific to graduate education training Other: \_\_\_\_\_\_Other: \_\_\_\_\_\_

4. How ready are you to demonstrate advanced knowledge in your specialized area of Psychological Sciences as an Assistant faculty member or in another research position? (put an X in front of your response)

Not ready Minimally ready Moderately ready Fully ready

- 5. Please briefly describe how your graduate training prepared you in the competences listed in #1 above.
- 6. Please provide any other comments that you have regarding your graduate education in your program.
- 7. If you could offer one piece of advice to in-coming graduate students regarding preparation for entering the postgraduate workforce, what would it be?

## UNIVERSITY OF CALIFORNIA, MERCED

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



SANTA BARBARA • SANTA CRUZ

SENATE ADMINISTRATION COUNCIL ON ASSESSMENT AND PLANNING (SACAP) Peggy O'Day, Co-Chair, poday@ucmerced.edu Sam Traina, Co-Chair, straina@ucmerced.edu UNIVERSITY OF CALIFORNIA, MERCED 5200 NORTH LAKE ROAD MERCED, CA 95343 (209) 228-7930; fax (209) 228-7955

Date: May 24, 2012

To: Chairs, Graduate Groups

From: Peggy O'Day, Co-Chair, Senate-Administration Council on Assessment and Planning Sam Traina, Co-Chair, Senate-Administration Council on Assessment and Planning

Re: Annual Graduate PLO Assessment

On behalf of the Senate-Administration Council on Assessment and Planning (SACAP), please find appended a proposed schedule for planning and implementing annual Program Learning Outcome (PLO) assessment for graduate emphasis areas within or currently emerging from the IGP.

SACAP anticipates a number of benefits to initiating this work, including:

- 1) To better understand the strengths of our evolving graduate programs as they relate to desired goals for student learning and success, and to implement strategies to better support students' degree aspirations, including timely progress to degree.
- 2) To position programs for a successful WASC Substantive Change Review for stand-alone status.

SACAP expects that programs will benefit from a formal engagement in assessment prior to proceeding through substantive change review, particularly given that WASC substantive change proposals must include a formal response to all recommendations stemming from prior WASC reviews, and that prior graduate-level substantive change review panels have noted that "Future proposals will be stronger if UCM presents data in areas such as marketing/program demand, retention/attrition, time to completion and assessment outcomes."<sup>1</sup> The ability to share assessment findings with the review panel is likely to be particularly important for programs that have been educating students for a number of years prior to review for standalone status.

While the proposed schedule is intended to help position programs for successful review, graduate groups are encouraged to implement annual assessment earlier than proposed if it

<sup>&</sup>lt;sup>1</sup> The full set of recommendations stemming from previous graduate-level substantive change reviews is appended.

would support the program's goals for pursuing stand-alone status. If you have any questions about the timeline associated with CCGA and WASC substantive change reviews as it relates to implementing annual assessment, please contact Laura Martin, <u>Imartin@ucmerced.edu</u>, the Coordinator for Institutional Assessment and UC Merced's Accreditation Liaison Officer (ALO).

Support for developing assessment plans for Masters and/or PhD degree programs is available from both the School Assessment Coordinators (cc'd here) and Laura Martin. Because student learning and achievement vary with the degree awarded, program learning outcomes and plans for assessing these outcomes are expected for each degree the program intends to offer.

3) To position the institution for a successful WASC Interim Report due March 1, 2014. Among expectations, this report must address UC Merced's progress in "extend[ing] assessment efforts to graduate education" as part of our effort to "institutionaliz[e] and sustain assessment of student learning." <sup>1</sup> Progress on recommendations stemming from institutional accreditation reviews must also be addressed in WASC Substantive Change proposals.

SACAP asks that you please review the proposed timeline and submit confirmation or propose any revisions to Senate Principal Analyst Fatima Paul (<u>fpaul@ucmerced.edu</u>) by the start of fall semester 2012, Thursday, August 16<sup>th</sup>.

Copy: School Deans School Associate Deans School Assistant Deans School Assessment Coordinators Graduate Group Coordinators SACAP Members

Encl. (3)

<sup>&</sup>lt;sup>1</sup> p.4, <u>WASC Commission Action Letter</u>, July 5, 2011.

## Proposed Timeline for Planning and Implementing Annual PLO Assessment within IGP Emphases

The table below provides the proposed schedule for developing and implementing a multi-year assessment plan and annual assessment reporting of Program Learning Outcomes for emphasis areas within the IGP.

- The multi-year assessment plan template is appended. Assessment plans (and PLOs) should be developed for each degree the program plans to offer (ex. Masters and PhD).
- Once the multi-year plan is completed, please share it with your School assessment coordinator, the program's lead Dean, and SACAP.

	AY in which Develop a Multi-	Submission Date for First	
Graduate Group	Year Assessment Plan	Annual PLO Assessment Report	
Chemistry and Chemical Biology	AY 2011-2012	May 17, 2013 <sup>1</sup>	
Interdisciplinary Humanities	AY 2011-2012	May 17, 2013 <sup>1</sup>	
AMGS	AY 2012-2013	AY 2013-2014, Oct 1 <i>or</i> Mar 1	
Physics	AY 2012-2013	AY 2013-2014, Oct 1 <i>or</i> Mar 1	
BEST	AY 2012-2013	AY 2013-2014, Oct 1 <i>or</i> Mar 1	
EECS	AY 2012-2013	AY 2013-2014, Oct 1 <i>or</i> Mar 1	
MEAM	AY 2012-2013	AY 2013-2014, Oct 1 <i>or</i> Mar 1	
Political Science	AY 2012-2013 <sup>2</sup>	AY 2013-2014, Oct 1 <i>or</i> Mar 1	
SCS	AY 2012-2013 as part of program review	AY 2013-2014, Oct 1 <i>or</i> Mar 1	

<sup>&</sup>lt;sup>1</sup> This date is intended to provide the program with one full academic year to implement assessment. For AY 2013-2014 and beyond, the program is asked to choose an annual assessment report submission date of October 1<sup>st</sup> or March 1<sup>st</sup>.

<sup>&</sup>lt;sup>2</sup> Based on memo to GRC regarding SCS program review dated 11.18.2011 in which it was indicated that Political Science would pursue CCGA review in AY2012-2013.

# Recommendations from the Substantive Change Action Reports Emanating from the Sub Change Reviews of UCM Graduate Programs in Spring 2011

## General Recommendation Regarding Future Substantive Change Proposals

- 1) Future proposals will be stronger if UCM presents data in areas such as marketing/program demand evidence, retention/attrition, time to completion, and assessment outcomes.
- 2) The University is encouraged to move to more formal collection of evidence of undergraduate student interest in graduate programs, as discussed with UCM representatives.

### **Recommendations to Strengthen Assessment Practices & Processes**

- Faculty and academic administration incorporate into the emerging program and student outcomes assessment process regular collection and analysis of data in areas such as market/program demand, retention/graduation, time to completion, as well as student support services.
- 2) While acknowledging that graduate student learning and program assessment is in the "emerging" stage, the panel encourages the faculty to build on current momentum of regular conversation and planning to ensure that assessment processes and systems become sufficiently regularized and institutionalized to last beyond the program start up phase.
- 3) Move assessment activities beyond the anecdotal to formalize the presentation of data and evidence based on the collection and analysis of data, e.g. retention needs assessment, time to completion, student achievement of learning outcomes and student/alumni satisfaction.
- 4) Under the guidance of SACA, mature the initial programmatic educational effectiveness and program assessment activities to insure the sustainability and elevated practice of educational effectiveness activities, both to strengthen student learning and provide for continuous improvement of programs.
- 5) One program was encouraged to continue to think about learning outcomes assessment for individual students as they progress through the program. Consider a variety of strategies for assessing student learning and development, such as the student/advisor yearly progress report.
- 6) Continue to think holistically about learning outcomes assessment at the program level. In addition to admissions and career outcome data, the panel encourages making sure that evidence about how the program promotes or impedes student learning and development is collected and fed back into the process to assess and improve the program. For example, gather information regularly from students about how to improve the program.
- 7) The panel recommends that, as the program conduct studies in areas such as retention/attrition, needs assessment, time to completion and assessment studies, that the process moves beyond anecdotal collection of information to formalize collection and presentation of data and information based on collection and analysis of data in these and other appropriate areas.

### **Recommendations to Communicate Educational Effectiveness Results**

1) As assessment matures on campus, ensure that mechanisms are in place to effectively communicate educational effectiveness results to all constituents.

#### **Recommendations Related to Faculty and Student Numbers and Workload**

- 1) Monitor faculty workload as the number of advisees and research commitments increase.
- Adjust faculty and student growth plans as circumstances related to evolving financial realities require. In particular, seek to maintain an appropriate ratio of full-time faculty to graduate students.

#### Other

1) The panel encourages the faculty to think collectively about the challenges of balancing the desire, on the one hand, for a short time to degree and efficient use of funding for students with, on the other hand, the needs and wishes of individual students and their faculty advisors for more training, research experience, and publications.

#### Specific Summary Regarding Master's Fast Track Applications

 Interim Approval for Master's degree programs emanating from the existing Interim Graduate Program (IGP). Expedited proposals under this authorization should include a detailed description of specifically how the proposed program has evolved from a particular emphasis within the IGP. Any new master's degree programs that have not been incubated from within the IGP should be submitted through the normal Substantive Change Process.

## ASSESSMENT PLAN – MASTERS AND/OR PhD

**Program Learning Outcomes (PLOs), Evidence, Timeline, and Process:** For each PLO\* indicate what kind of direct (student work) and indirect evidence (ex. surveys, focus groups) will be gathered and examined to assess student achievement of the PLO. Indicate the year the PLO will be assessed (ex. AY2010-2011). Who will participate? How will assessment be conducted, results shared, and the findings used to improve student learning? What are the desired targets (or benchmarks) for student performance/learning and other metrics?

## PLO #1

Direct Evidence: Indirect Evidence: Year to be Assessed: Participants: Process:

## PLO #2

Direct Evidence: Indirect Evidence: Year to be Assessed: Participants: Process:

## PLO #3

Direct Evidence:
Indirect Evidence:
Year to be Assessed:
Participants:
Process:

## PLO #4

Direct Evidence: Indirect Evidence: Year to be Assessed: Participants: Process:

## PLO #5

Direct Evidence: Indirect Evidence: Year to be Assessed: Participants: Process: [Programs can have more than five program learning outcomes; it is recommended that you assess one PLO per year. It is helpful to keep in mind that there is a <u>seven-year program review cycle</u>, with the review taking nearly two years, leaving approximately 5 years between review periods. For more information, see the Program Review Policy and Schedule <<u>http://senate.ucmerced.edu/program-review</u>>.]

## CURRICULUM MAP- MASTERS AND/OR PhD

Create a chart summarizing how the course learning outcomes align with/support achievement of the PLOs. The outcomes listed in course syllabi should reflect the PLOs indicated in the map. Include ALL curriculum -- the dissertation or culminating experience, directed research, individual directed readings, lab meetings, journal clubs, etc. Within the map, it is helpful to distinguish required from elective courses. (Include an abbreviated description of each PLO in the heading, as in the sample below.)

## Example:

	PLO#1	PLO# 2	PLO# 3	PLO#4	PLO #5
	Oral and written	Research skills	Critical analysis	Use of primary	Content
	communication			and secondary	knowledge
				sources	
HST 201	[Indicate level of	Ι	D	D	Ι
	mastery]				
HST 202	D	D	D	М	D
HST 203	D	Μ	Μ	Μ	D
HST 204	Μ	М	М	М	D

[I= introductory (for graduate level); D= developed; M= mastery]

**Masters Degree:** If your program offers a Master's Degree, please describe the program learning outcomes for this degree and how you will separately assess student learning annually for this degree. Provide PLOS, evidence, a timeline, and a curriculum map for the masters degree.

\* For resources on how to develop PLOs, see Graduate CLO and PLO Guidelines.

Undergradua	ate Program Revi	iew Cycle	
Program	Review	Following Review	FAO (as of Dec 2013)
Applied Mathematics	2009-2010	2017-2018	Arnold Kim
Environmental Engineering	2010-2011	2018-2019	Tom Harmon
Physics	2010-2011	2018-2019	Kevin Mitchell
Writing (Program/Minor)	2010-2011	2018-2019	Appe Zanzucchi
	2010 2011	2010 2015	
Economics	2011-2012	2019-2020	Alex Whalley
Mechanical Engineering	2011-2012	2019-2020	Gerardo Diaz
Chemical Sciences	2012-2013	2020-2021	Anne Kelley
Cognitive Science	2012-2013	2020-2021	Mike Spivey
History	2012-2013	2020-2021	Susan Amussen
Management	2012-2013	2020-2021	Paul Maglio
Computer Science and Engineering	2013-2014	2021-2022	Shawn Newsam
Earth Systems Science	2012 2014	2021-2022	
Concerct Education	2013-2014	2021-2022	Feggy O Day
	2013-2014	2021-2022	
Material Sciences Engineering*	2013-2014	2021-2022	Valerie Leppert
Psychology	2013-2014	2021-2022	Jack Vevea
Spanish (Minor)	2013-2014	2021-2022	Virginia Adan-Lifante
American Studies (Minor)	2014-2015	2022-2023	Susan Amussen
Arts (Minor)	2014-2015	2022-2023	David Kaminsky
Anthropology	2014 2015	2022 2023	Kathloon Hull
Ricensing	2014-2015	2022-2023	Mai Chun Chin
Bioengineering	2014-2015	2022-2023	Wei-Chun Chin
Natural Science Education (Minor)	2014-2015	2022-2023	iviayya Tokman
Biological Sciences	2015-2016	2023-2024	Jennifer Manilay
Literature and Cultures	2015-2016	2023-2024	Gregg Camfield
Philosophy (Minor)	2015-2016	2023-2024	Carolyn Dicey Jennings
Political Science	2015-2016	2023-2024	Nathan Monroe
Services Science (Minor)	2015-2016	2023-2024	Paul Maglio
Services Science (Minor)	2015-2010	2022-2024	Nolla Van Dyko
Sociology	2013-2010	2023-2024	
Chicano/a Studies (Minor)	2016-2017	2024-2025	Manuel Martin-Rodriguez
Environmental Science and Sustainability (Minor)	2016-2017	2024-2025	Teamrat Ghezzehei
Public Health (Minor)	2016-2017	2024-2025	Susana Ramirez
	-		
Applied Mathematics	2017-2018	2025-2026	Arnold Kim
English Major	2017-2018	2025-2026	Gregg Camfield
Spanish Major	2017-2018	2025-2026	Virginia Adan-Lifante

\* ABET used as substitute for review

# Chemical Sciences program self-study Executive Summary January, 2013

# Table of Contents

I. Introduction: Program Mission, History, Context	
a. Mission	p. 2
b. History	p. 2
c. Evolution of the program	p. 2
II. Program Philosophy, Goals, and Learning Outcomes	
a. Program goals	р. 3
b. Program learning outcomes	p. 4
c. Connection to institutional goals and general education	p. 4
III. Curriculum	
a. Program and emphasis tracks	р. 6
b. Requirements for the Chemical Sciences B.S.	р. 6
c. Chemical Sciences minor	p. 8
d. Electives	p. 8
e. Comparison to ACS program guidelines	p. 8
f. Student profile and associated challenges	p. 9
g. Comparison to curricula of other chemistry programs	p. 11
IV. Faculty and Staff	
a. Senate faculty	p. 11
b. Teaching loads and role of non-Senate lecturers	p. 12
c. Laboratory instructors and discussion leaders	p. 12
d. Resources for improving and assessing teaching	р. 13
e. Instructional laboratory staff	р. 13
f. Advising	p. 14
g. Program planning	p. 14
V. Assessment	
a. Grades in coursework	p. 14
b. Formal assessment of program learning outcomes	p. 15
c. Student retention and time to graduation	р. 16
d. Student placement after graduation	p. 1
VI. Future Directions/Planning	p. 17

## I. Introduction: Program Mission, History, Context

### I.a. Mission

The Chemistry and Chemical Biology unit has the following objectives:

- To foster excellent, important, and nationally and internationally recognized research in chemistry, chemical biology, and related interdisciplinary fields;
- To support graduate education in chemistry, chemical biology, and related interdisciplinary fields;
- To deliver first-rate undergraduate education in chemistry, both in the large lowerdivision service courses and in the upper-division courses taken mainly by majors.

#### I.b. History

When UC Merced admitted its first class of undergraduates in Fall 2005, there were three Schools (Natural Sciences, Engineering, and Social Sciences, Humanities, and the Arts), no disciplinary departments, and only six undergraduate majors. No chemistry major was offered, but three chemistry faculty (Anne Kelley, David Kelley, and Matt Meyer) had been hired to begin establishing the foundations for undergraduate and graduate programs in chemistry and to teach the lower-division chemistry courses needed by other majors, particularly Biological Sciences. (Mike Colvin, trained as a theoretical chemist, was also a member of the founding faculty but he taught entirely in the biology program until 2011.) In recognition of strong student demand for majors in chemistry and other science disciplines, the Chemical Sciences major was opened in Fall 2006 along with Applied Mathematical Sciences and Physics. The major has grown steadily since then and it is now the second most popular of the five undergraduate programs in Natural Sciences, with 194 majors as of Fall 2012. A Chemical Sciences minor was added in 2010, but it has not been very popular (18 declared minors as of Fall 2012). There are twelve faculty who teach primarily in chemistry and several others who do part of their teaching in chemistry. Our first graduates, members of the inaugural student class that entered in 2005, earned their degrees in Spring 2009. By the end of the 2011-2012 academic year, 25 students had earned B.S. degrees in Chemical Sciences.

### I.c. Evolution of the program

The name "Chemical Sciences" was chosen for parallelism with other majors in Natural Sciences and is not meant to imply a curriculum significantly different from a standard chemistry B.S. program. Although UC Merced was established with the intent of promoting strongly interdisciplinary research and educational programs, it quickly became apparent that our students wanted fairly traditional undergraduate majors. In addition, we felt that it was important for a new program to satisfy the American Chemical Society's guidelines for undergraduate programs, and those guidelines, while flexible, do impose a fairly well-defined structure.

The original version of the Chemical Sciences program had a couple of quirks that arose from the dominance of the very large Biological Sciences major within Natural Sciences. First, all students in the School of Natural Sciences, including Chemical Sciences majors, were required to take one semester of biology. We have retained this requirement, believing that in the modern world all chemistry majors should know some biology. Second, our original lowerdivision course sequence inserted the first semester of organic chemistry between the two semesters of general chemistry, and the ordering of the topics within general chemistry was chosen to emphasize relevance to biology; for example, gas laws were not covered until the second semester. We quickly found, however, that most of our students were not ready to take organic chemistry after one semester of general chemistry, and also that too much of what they learned in the first semester of organic chemistry had been forgotten by the time they took the second semester, a year later. We therefore returned to a more standard sequence, one full year of general chemistry followed by one year of organic, and to a more standard ordering of the topics within general chemistry.

A third aspect of our original program had to be dropped for purely practical reasons. Believing strongly in the benefits of research experience for undergraduates, we initially required several units of research for all majors. This worked fine at first, but it became unsupportable as the student to faculty ratio within the major grew from 2-3 to more than 15. The faculty simply cannot handle that number of undergraduate research students, particularly with an institutional policy that gives no teaching credit for research supervision. Many of our undergraduates continue to carry out research with program faculty, but it is no longer feasible to require it for everyone.

### II. Program Philosophy, Goals, and Learning Outcomes

#### II.a. Program goals

The undergraduate Chemical Sciences program at UC Merced is designed to offer a solid foundation in chemistry for students majoring in other disciplines, as well as a comprehensive education in chemistry for our majors. Chemistry is often referred to as "the central science" because of the key position it occupies in modern science, engineering, and medicine. One would be hard pressed to think of any major research university that does not have a respectable program in chemistry; it is one of the core disciplines. At the lower division, where students majoring in chemistry and in other subjects learn side by side, we teach basic concepts that provide the foundation for more advanced learning in chemistry and other areas of science and engineering, as well as help our students make informed decisions as citizens. At the upper division, where chemistry majors primarily populate our courses, we attempt to educate our students in all of the main areas of modern chemistry. The curriculum is described in section III below.

#### II.b. Program learning outcomes

The chemistry program at UC Merced was being established at the same time the institution was preparing for its initial accreditation. Thus, while we designed our program to be largely similar to other successful chemistry programs in the U.S., it was also important to articulate from the outset what we want our students to learn, how we intend to teach them, and how we will assess their learning. The learning outcomes we selected for the Chemical Sciences program were adapted from the "Student Skills" listed in the American Chemical Society Committee on Professional Training guidelines for degree programs. The official Program Learning Outcomes (PLOs) for the Chemical Sciences major are:

<u>1. Fundamental knowledge and skills</u>: Students are able to describe the major concepts and theoretical principles in chemistry. They can identify the central ideas underlying the principal subfields of chemistry— analytical, inorganic, organic, and physical chemistry—as well as the broader interdisciplinary subfields of biological, environmental and materials chemistry. Students are able to operate modern chemical instrumentation, perform chemical syntheses and carry out other essential chemical experiments with strict adherence to sound laboratory techniques as well as good safety and hygiene practices. They know how to use modern webbased methods to effectively search the scientific literature.

<u>2. Scientific methodology</u>: Students have developed the ability to integrate the aforementioned fundamental knowledge and skills into scientific inquiries. They can formulate well-defined and quantitative questions, develop testable hypotheses, design and execute experiments, analyze and interpret the results and reach appropriate conclusions. They are also able to critically analyze the work of other scientists and assess its correctness, importance, and relevance.

<u>3. Communication and teamwork skills</u>: Students are able to write organized and concise reports and present technical information using electronic media, posters and oral presentations. They have developed the communication and teamwork skills that allow them to work effectively both as leaders and as team members in a group.

<u>4. Citizenship, ethics, role of chemistry in society</u>: Students have an appreciation for the role of chemistry in the global society as well as the central role chemistry plays in other scientific disciplines such as biology, medicine, environmental science, and engineering sciences. They conduct themselves ethically and responsibly in science-related professions.

Section III describes how we go about teaching these skills, and section V describes assessment.

### II.c. Connection to institutional goals and general education

UC Merced has developed eight Guiding Principles for General Education listed below. Most of these principles map onto one or more of the Chemical Sciences PLOs as indicated: <u>Scientific Literacy</u>: To have a functional understanding of scientific, technological and quantitative information, and to know both how to interpret scientific information and effectively apply quantitative tools (PLOs #1 and #2).

<u>Decision Making</u>: To appreciate the various and diverse factors bearing on decisions and the know-how to assemble, evaluate, interpret and use information effectively for critical analysis and problem solving (PLO #2).

<u>Communication</u>: To convey information to and communicate and interact effectively with multiple audiences, using advanced skills in written and other modes of communication (PLO #3).

<u>Self and Society:</u> To understand and value diverse perspectives in both the global and community contexts of modern society in order to work knowledgeably and effectively in an ethnically and culturally rich setting.

<u>Ethics and Responsibility</u>: To follow ethical practices in their professions and communities, and care for future generations through sustainable living and environmental and societal responsibility (PLO #4).

<u>Leadership and Teamwork:</u> To work effectively in both leadership and team roles, capably making connections and integrating their expertise with the expertise of others (PLO #3).

<u>Aesthetic Understanding and Creativity:</u> To appreciate and be knowledgeable about human creative expression, including literature and the arts.

<u>Development of Personal Potential</u>: To be responsible for achieving the full promise of their abilities, including psychological and physical well-being (all chemistry PLOs).

At present, the chemistry faculty make only a small contribution to the education of students outside the sciences and engineering at Merced. There are not yet enough regular faculty to cover all of the required courses for the undergraduate major and the graduate program, and we cannot spare anyone to teach additional courses. The only chemistry course taken by significant numbers of students outside the sciences and engineering is CHEM 1. While this course is geared toward science and engineering majors who need help in bringing their skills up to par prior to enrolling in the first semester of general chemistry, 25-30% of CHEM 1 students have not yet declared a major and 6-8% of them are majoring in SSHA (Social Sciences, Humanities, and the Arts) subjects. Erik Menke also co-taught a 2-unit course on problem solving (USTU 20) during Fall 2012. Apart from this, the main contribution of chemistry faculty to general education has been through their occasional participation as guest lecturers in CORE 1 (The World At Home), a team-taught course required for all freshmen that develops writing, critical thinking, and quantitative reasoning skills in the context of exploring how different academic disciplines connect with one another.

#### III. Curriculum

#### III.a. Program and emphasis tracks

Our major is based on a "core plus emphasis" model that has a common set of courses required for everyone, with four different emphasis tracks that allow students to explore areas of specific interest within chemistry or related to chemistry. The four emphasis tracks are Biological Chemistry, Materials Chemistry, Environmental Chemistry, and Chemistry (unspecialized). The additional coursework requirements for the Biological, Materials, and Environmental emphasis tracks are offered mainly by disciplines other than chemistry (most of them are required courses for other majors) and are taught by non-chemistry faculty. This allows us to leverage our small faculty to provide a richer and more personalized educational experience for our majors, with the down side that we exert no control over the content or rigor of these courses. The two biochemistry courses (CHEM 111 and CHEM 122) are cross-listed with Biological Sciences and are taught by faculty from both the Chemistry and Chemical Biology unit and the Molecular Cell Biology unit.

Biological is by far the most popular emphasis track, accounting for nearly half of our majors. Most of the remaining students either have not yet declared an emphasis or have chosen the unspecialized Chemistry track; only 4% and 3%, respectively, are in the Environmental and Materials tracks. It should be noted that our Biological Chemistry track is not equivalent to a biochemistry degree, which UC Merced does not yet offer. Students in the Biological track must fulfill the same course requirements in physical and inorganic chemistry and instrumental analysis as all other chemistry majors, but they also take a second semester of biochemistry and two other upper-division biology courses.

#### III.b. Requirements for the Chemical Sciences B.S.

The requirements for the Chemical Sciences major have been revised several times since the program was started in Fall 2006, reflecting experience with "experiments" that were found not to work well (see Section I), the realities of offering a large major with a small faculty, and the need to teach and evaluate all of the skills that we want our students to have according to our PLOs. The complete requirements for the most recent revision to the major, effective Fall 2010, are listed in Appendix 3b. Below is a condensed summary:

Requirements for the B.S. degree in Chemical Sciences General education requirements (*e.g.* writing) common to all students in Natural Sciences Two semesters of general physics with lab (PHYS 8 and 9) One semester of biology, lab optional (BIO 1) Calculus through differential equations and linear algebra (MATH 21, 22, 23, and 24) One semester of probability and statistics (MATH 32) A one-semester computer course (*e.g.* CSE 20) Two semesters of general chemistry with lab (CHEM 2 and 10) Two semesters of organic chemistry, the first including lab (CHEM 8 and 100) Two semesters of physical chemistry (CHEM 112 and 113) One semester of instrumental analysis (CHEM 115) One semester of inorganic chemistry (CHEM 120) One semester of biochemistry (CHEM 111)

Advanced lab courses in organic, physical, instrumental, and inorganic/materials, each 6 hours of lab/week (CHEM 101L, 153, 155, and 150)

A one-semester, one-unit senior seminar course on ethics and communication (CHEM 194) Two or three additional courses, specified or elective, depending on emphasis track chosen.

Unless otherwise noted, lecture-only courses are three units (three hours of lecture per week) and lecture courses with labs and/or discussions are four units (three hours of lecture and 1-3 hours of lab/discussion per week).

Below are the catalog descriptions for the upper-division CHEM courses that are required for all Chemical Sciences majors:

**CHEM 100: Organic Synthesis and Mechanism [3]** Reactions, syntheses, purification and characterization of all of the major classes of organic compounds. Includes standard organic reaction mechanisms and bioorganic mechanism. A retrosynthetic approach to synthetic design is emphasized. *Prerequisite: CHEM 008 and CHEM 010.* 

**CHEM 101L: Advanced Synthetic Laboratory [2]** Laboratory experiments in synthetic methods and chemical and spectroscopic characterization of organic and inorganic compounds. Emphasis is on microscale techniques. *Prerequisite: CHEM 100, which may be taken concurrently.* 

**CHEM 111: Biochemistry I [4]** Advanced study of proteins, enzymes, enzyme kinetics, and carbohydrates metabolism in living organisms. *Prerequisite: CHEM 100. Letter grade only. Discussion included.* 

**CHEM 112: Quantum Chemistry and Spectroscopy [3]** Theory and practical application of molecular quantum mechanics. Schrodinger equation and matrix representations of quantum mechanics; simple exactly solvable model problems; calculation of observable properties; vibrational and electronic wave functions; approximation methods; quantum mechanics of spectroscopy. *Prerequisite: CHEM 010 and MATH 024 and PHYS 009. Letter grade only.* 

**CHEM 113: Chemical Thermodynamics and Kinetics [3]** Statistical mechanics, thermodynamics, and chemical kinetics, taught from a perspective that develops the behavior of bulk matter from molecular properties. *Prerequisite: CHEM 112. Letter grade only.* 

**CHEM 115: Instrumental Analysis and Bioanalytical Chemistry [3]** Spectroscopic, electrochemical, and separation methods of chemical analysis including bioanalytical techniques. *Prerequisite: CHEM 112, which may be taken concurrently.* 

**CHEM 120: Inorganic Chemistry [3]** Descriptive inorganic chemistry, reactivity, inorganic spectroscopy, group theory, and crystallography. *Prerequisite: CHEM 008 and CHEM 010. Letter grade only.* 

**CHEM 150: Inorganic and Materials Chemistry Laboratory [2]** Laboratory experiments focusing on the synthesis and characterization of inorganic compounds. *Prerequisite: CHEM 120, which may be taken concurrently. Letter grade only. Laboratory included.* 

**CHEM 153: Physical Chemistry Laboratory [2]** Introduces students to modern laboratory instrumentation and experimental techniques in physical chemistry. It consists of a number of experiments that use different techniques to explore fundamental concepts in spectroscopy, kinetics, and chemical thermodynamics. *Prerequisite: CHEM 112, which may be taken concurrently. Letter grade only. Laboratory included.* 

**CHEM 155: Instrumental Analysis Laboratory [2]** Introduces students to the major concepts of instrumental analysis and to some of the instrumental techniques most commonly used in analytical and bioanalytical chemistry. It emphasizes the use of modern, commercial instrumentation to perform quantitative and qualitative analyses of the physical properties and chemical composition of samples. *Prerequisite: CHEM 115, which may be taken concurrently. Letter grade only.* 

#### III.c. Chemical Sciences minor

The Chemical Sciences minor requires two semesters of general chemistry, two semesters of organic chemistry, and any three additional upper-division chemistry courses. No course may be used to satisfy more than one requirement (*e.g.* a major and a minor). While the minor does not require any of the time-consuming upper-division laboratory courses required for the major, the requirement of three upper-division chemistry courses seems to discourage most students from going this direction. Nevertheless we feel it is worth keeping as an option for those students who want it.

#### **III.d.** Electives

Several upper-division electives are listed in the course catalog, but only one of those, Organic Spectroscopy and Computation (CHEM 130), has yet been taught. With thirteen faculty (see Section IV) available to deliver both undergraduate and graduate programs, we have little opportunity to offer courses beyond the minimum requirements. Students seeking electives often take courses related to chemistry in other disciplines such as biology, physics, earth systems science, or materials science. Some of them also take chemistry graduate courses, a good option for our stronger undergraduates. We will be able to offer more electives as we continue to grow the faculty.

#### III.e. Comparison to American Chemical Society program guidelines

As mentioned in Section I, the requirements for the major are intended to satisfy the requirements for an American Chemical Society approved program whose graduates can receive ACS-certified degrees. The ACS requirements are fairly flexible but do impose some constraints that have been challenging to meet, particularly the number of hours of laboratory

work. Appendix 6a is the ACS program guidelines document and Appendix 6b maps our program's requirements onto the ACS guidelines.

#### III.f. Student profile and associated challenges

One of the greatest challenges to delivering a chemistry curriculum at UC Merced, as at many other universities, is the enormous spread in ability and preparation among entering freshmen. As shown in the Appendix data, chemistry at UC Merced has an extremely diverse student body. About 25% are Hispanic, about 40% Asian, and only about 20% are non-Hispanic whites. More than half are first-generation college-goers and more than half have family incomes low enough to make them Pell Grant eligible. UC Merced's newness, small size, and location make it generally less desirable than the other UC campuses, and Merced is now the only campus that is "nonselective" -i.e., that offers admission to all applicants who meet the nominal minimal standard for UC eligibility. As a result, while our best students are competitive with the best at other UC campuses, many of our freshmen enter with poor study skills and very weak high school preparation, and they often have personal issues (e.g. having to work many hours per week to make ends meet, or resistance from their families to pursuing higher education) that limit their academic progress. Like many other campuses, Merced has had to institute "ramp-up" courses in math and chemistry to bring entering students to the level where they are ready to undertake university-level work. The ramp-up course in chemistry, CHEM 1 (Preparatory Chemistry), is a 3-unit course with a discussion section but no lab. It covers some of the topics in general chemistry as well as mathematical and quantitative skills, problem solving techniques, and study skills. We have designed a placement exam, originally based on one used at UC Irvine, that tests basic mathematical and quantitative skills as well as fundamental concepts of chemistry that are expected to be taught in high school. Until Fall 2012, all entering science students were placed in CHEM 1 unless they passed the placement exam (passing scores were tweaked slightly from year to year) or scored 3 or better on the chemistry Advanced Placement exam. Historically, 60-70% of our students had to take CHEM 1 before starting the regular chemistry sequence with CHEM 2, and even so, failure rates in CHEM 2 were high. After analyzing correlations between placement exam scores and CHEM 2 success over several years, in Fall 2012 we revised the requirements for placement into CHEM 2 to include performance on both the math placement exam and the chemistry placement exam. The qualitative sense of the lecturer teaching CHEM 1 in Fall 2012 is that the students in that course did better than in previous years, but the real test will be whether requiring more students to take CHEM 1 improves their subsequent performance in CHEM 2 and beyond.

The chemistry faculty have no direct input into the quality or preparation of the students who choose this major. UC Merced admits all students who meet the nominal standards for UC admission, and any student may opt to declare a major in Chemical Sciences. Participation of faculty in recruiting students to the major has mainly taken the form of presentations, information tables, and occasional demonstrations and lab tours at our two major campuswide recruiting efforts, Preview Day in the fall and Bobcat Day in the spring. Instructional lab coordinator Donna Jaramillo-Fellin and her staff also participate in lab tours and demonstrations. The students entering the major from 2007 through 2012 had an average math SAT score of 545. This is quite low for students hoping to major in a discipline that requires strong quantitative and mathematical skills as well as abstract conceptual reasoning. For comparison, entering chemistry majors at UC Irvine have average math SAT scores of 615 to 654, the average SAT score for freshmen in all majors at UCSC in 2011 was 605, and the middle 50% range of math SAT scores for all freshmen at UC Davis in 2011 was 610-740. Most students who enter UC Merced as Chemical Sciences majors do not remain in the major. We do not have enough data to draw solid conclusions about eventual graduation rates or even four-year retention rates, but for the cohorts entering in 2007 through 2010, only about one-third remained in the major after two years although nearly 75% were still at UC Merced. As described above, we are still seeking better ways to help poorly prepared freshmen succeed in chemistry and other science disciplines. At the same time, we need to be sure that our programs retain the rigor appropriate to a University of California chemistry program. Part of the solution to the retention problem may be to discourage the weakest students from declaring this major in the first place.

One step in this direction has already been made in the form of the Early Progress Policy, which applies to all majors in the School of Natural Sciences. This policy, instituted in 2010, states that all students must pass either pre-calculus or calculus I, and either CHEM 1 or CHEM 2, during their first year. Students who fail to do this are ineligible for continued enrollment in any Natural Sciences major and are moved to undeclared status. The rationale for this policy is that even a poorly prepared student should be able to pass both pre-calculus and preparatory chemistry within two semesters (three including summer) if he/she has the ability and work ethic to succeed in a science major. This policy does not eliminate very many students from the Chemical Sciences major, and a somewhat stronger version may be appropriate for Chemical Sciences and perhaps other majors within Natural Sciences.

From the standpoint of the Chemical Sciences major, challenging the strongest students is perhaps more important than helping the weakest ones. Honors versions of CHEM 2, 10, and 8 were recently approved, and we expect to begin offering these courses during the 2013-2014 academic year. The Applied Math and Physics programs already offer two different versions of their introductory courses, one geared toward life science majors and the other toward physical science majors, and there was considerable discussion among the chemistry faculty as to whether we should divide the courses along a life science/physical science axis or an honors/non-honors axis. We decided in favor of the latter based on the observation that many of the strongest students in our lower-division courses are biology majors. From a pedagogical standpoint we feel it is better to group students according to ability than according to interests. We also hope that giving the best biology students a very good lower-division chemistry experience may help to attract some of them into the chemistry major.

#### III.g. Comparison to curricula of other chemistry programs

With a few exceptions, most of our required upper-division courses are fairly similar to comparable courses offered by other chemistry programs. Our four upper-division laboratory courses offer a set of experiments that are likely to be more modern and relevant than those in many departments simply because they were all designed and implemented within the past one to eight years. The upper-division physical and instrumental labs emphasize the use of modern commercial instruments to obtain and analyze data, although we still do a few of the venerable experiments such as bomb calorimetry for their pedagogical value. Our physical chemistry sequence is intended to introduce quantum mechanics before thermodynamics, but we have allowed students to take the two semesters in the opposite order when doing otherwise would unreasonably draw out the student's time to graduate. Our program is unusual, although not unique, in requiring a course (CHEM 194) that explicitly addresses scientific ethics (Program Learning Outcome #4) and also teaches students how to present a scientific talk (PLO #3). Most of our courses emphasize fundamental chemical knowledge and skills (PLO #1), while the laboratory courses also involve working in pairs or teams and writing detailed lab reports (PLO #3).

## **IV. Faculty and Staff**

#### IV.a. Senate faculty

The Chemical Sciences undergraduate major is delivered mainly by 13 full-time, tenured or tenure-track faculty:

- Mike Colvin, Professor, computational biophysics (Ph.D. in theoretical chemistry, but taught in biology program until this year); started 2003
- Jason Hein, Assistant Professor, physical organic chemistry; started 2011
- Christine Isborn, Assistant Professor, theoretical/computational chemistry; started 2012
- Erin Johnson, Assistant Professor, theoretical/computational chemistry; started 2010
- Anne Myers Kelley, Professor, physical and analytical chemistry; started 2003
- David F. Kelley, Professor, physical and materials chemistry; started 2003
- Andy LiWang, Associate Professor, biochemistry; started 2007
- Patricia LiWang, Professor, biochemistry (Ph.D. in organic chemistry, primary appointment in Molecular Cell Biology); started 2007
- Erik Menke, Assistant Professor, inorganic materials chemistry; started 2008
- Matthew Meyer, Associate Professor, physical organic chemistry; started 2005
- Meng-Lin Tsao, Assistant Professor, bioorganic chemistry; started 2007
- Jess Vickery, Lecturer with Potential Security of Employment, chemical education; started 2012
- Tao Ye, Assistant Professor, surface chemistry; started 2007

A search is currently underway for another junior-level theoretical/computational chemist who will start in Fall 2013. Two other tenured faculty from the Molecular Cell Biology program, Henry Forman and Jinah Choi, also do part of their teaching in the chemistry program—first-semester organic chemistry (CHEM 8) and Biochemistry II (CHEM 122), respectively.

### IV.b. Teaching loads and role of non-Senate lecturers

The standard teaching load for the research-active regular faculty is one full course per semester. This is a very typical teaching load for chemistry faculty at research universities. Newly hired assistant professors teach only one of their first two semesters. Jess Vickery, our Lecturer with Potential Security of Employment whose appointment does not have a research component, teaches five courses per year (3+2). Efforts are made to have all regular faculty teach both graduate and undergraduate courses and courses with both large and small enrollments, but this has to be balanced against the large additional time investment required to teach a new course. The regular faculty cannot quite cover all of the graduate and undergraduate courses that we need to teach, so temporary (non-Senate) lecturers are hired on a year-by-year basis to handle some of the general chemistry and organic chemistry courses. Regular research faculty have 9-month appointments and normally focus on research during the summer, although they may volunteer to teach during the summer for additional compensation. Non-Senate lecturers have taught all summer session courses offered to date, but Vickery is expected to teach some of these courses in the future. Graduate students do not serve as instructors of record for any courses in our program.

#### IV.c. Laboratory instructors and discussion leaders

Laboratory and discussion sections are run by lab instructors working under the direction of the instructor of record. The lab instructors are normally graduate student teaching assistants, but the chemistry graduate program does not have enough students to fill all needed TA slots. The remaining positions are filled first by qualified graduate students from other science and engineering programs and then by lecturers. Most of our lecturers have advanced degrees and are overqualified for lab instructor positions, but the downturn in the economy has left many highly qualified people willing to fill these positions. Lecturers must have at least a bachelor's degree in chemistry and most of our lecturers have M.S. or Ph.D. degrees. In order to insure that graduate students from other programs have sufficient disciplinary knowledge to teach chemistry, they must pass an exam consisting of representative final exam problems from CHEM 1, 2, 8, and 10. Most biology, physics, and engineering students who believe that they can serve as chemistry TAs are found to be qualified for at least CHEM 1 and often CHEM 2, but rarely for CHEM 8 or 10. A standard teaching load for a graduate student with a normal 50% appointment is two three-hour lab sections per week, each with a maximum of 20-24 students, or three discussion sections with up to 30 students per section. For a lecturer, a 100% appointment is six lab sections per week. According to School policy, TAs are assigned only to courses that have a lab or discussion component, and discussion sections must have an enrollment of 20 to be assigned a TA. However, we have recently been able to get readers for

upper-division lecture-only courses that have enrollments of 30-45 and require large amounts of grading. Readers, who may be qualified undergraduates (when available) or graduate students, do grading and hold office hours. Campus policy prohibits hiring undergraduates to lead laboratory or discussion sections, but they may work as readers.

### IV.d. Resources for improving and assessing teaching

Several types of resources are available to assist faculty and staff in improving their teaching and in evaluating teaching performance. The campus Center for Research in Teaching Excellence organizes a campuswide TA orientation each fall that covers pedagogical principles, classroom dynamics, and course planning (Appendix 6c). The CRTE also provides ongoing support services for TAs including workshops on specific topics and personalized teaching consultations, as well as English language evaluation and training for international TAs. International students are not allowed to work as TAs until their English language skills have been judged adequate by CRTE staff. Incoming graduate students also receive disciplinespecific training led by chemistry faculty, lecturers, and advanced graduate students (Appendix 6c). Both instructors of record and lab instructors/discussion leaders receive anonymous student teaching evaluations. Finally, faculty under consideration for personnel actions are required to provide, in addition to student evaluations, a brief narrative statement of their accomplishments in teaching, supported by evidence such as course syllabi, exams, or other assignments. Both student evaluations and these additional forms of evidence are used in making decisions on advancement and promotion.

#### IV.e. Instructional laboratory staff

The Chemical Sciences major requires nearly 500 hours of laboratory work taken from freshman through senior years. The instructional laboratory staff play a key role in making the lab courses run smoothly. Donna Jaramillo-Fellin, the instructional lab coordinator for chemistry and physics, has a Ph.D. in analytical chemistry and was one of the first staff members hired by the School of Natural Sciences. She has overall responsibility for supporting all aspects of the instructional laboratories in chemistry and physics including acquiring and maintaining equipment, purchasing chemicals and supplies, maintaining inventory, establishing and overseeing lab safety procedures, and providing discipline-specific laboratory safety training for TAs. She also trains and oversees several other professional staff members and a number of student workers. Donna works closely with the faculty to develop experiments that are pedagogically effective, not excessively expensive, and doable within the allocated time periods and in a safe manner. The instructional laboratories function very well despite severe time and space crunches; currently, many of our lab rooms are used almost continuously from 7:30 am to 9:50 pm Monday through Thursday, with Fridays (and Monday mornings) left mostly open for TA meetings, graduate seminars, and the time needed to take down one experiment and set up the next.

#### IV.f. Advising

Angie Salinas, the lead advisor for the Chemical Sciences program, plays a key role in shepherding our students through the program. Angle is available to meet with students each semester to clarify university and school policies, regulations, program requirements and procedures, and to offer advice on course selection and satisfaction of degree requirements. She assists students facing difficulties that affect their education, refers students to appropriate university support services as needed, and discusses with students their academic performance and its implications for degree completion. She also trains and oversees a group of undergraduate Academic Advising Mentors who can help with straightforward questions or point students toward other resources available to them. Angle works closely with the program faculty on determining equivalency between UCM courses and those taken at other institutions, and on approving exceptions to policy such as course substitutions. More advanced students, particularly those who have progressed to doing independent research, often receive considerable informal advising from faculty, and chair Kelley occasionally e-mails all majors with invitations to meet with her to discuss specific issues or broader aspects of the program. However, the majority of the advising is carried out effectively by Angie and the other members of the Natural Sciences advising staff. Samples of advising materials are given in Appendix 3a.

### IV.g. Program planning

Program assessment is carried out by the faculty, although the Natural Sciences staff, particularly Director of Student Success Masa Watanabe, provide considerable help in gathering data and carrying out statistical analyses and projections. New faculty lines are proposed by the chemistry faculty and are then reviewed by the Dean of Natural Sciences and by a campus-wide Academic Senate committee before the final allocations of faculty lines are made by the Provost and/or Chancellor. Curriculum planning is carried out by the faculty subject to budgetary constraints (*e.g.* numbers of non-Senate lecturers) imposed by the Dean. The faculty do solicit input from the non-Senate lecturers who teach many of the lower-division courses in planning those courses and selecting textbooks.

#### V. Assessment

#### V.a. Grades in coursework

The most obvious way to assess student learning is through grades in course work. This is an effective mechanism for evaluating the relative performance of different students taking the same curriculum, but it is less useful for assessing the performance of our students relative to those at other institutions because grading policies tend to vary significantly among faculty. The average GPA (all courses) for Chemical Sciences majors at graduation is just over 3.0 for the four graduating classes from 2009-2012.

#### V.b. Formal assessment of program learning outcomes

In accord with the institutional policy that all programs carry out an annual assessment of one or more of their program learning outcomes, the Chemical Sciences faculty have proposed and started to implement alternative measures of student learning to supplement course grades. The several assessment reports found in Appendix 5 describe the evidence used and the conclusions reached for the first few rounds of assessment. PLO #1 (fundamental knowledge) is assessed largely by having graduating seniors take the ACS Diagnostic of Undergraduate Chemistry Knowledge (DUCK) exam, of which there are several versions. The DUCK exam consists of a number of real-world type "scenarios", each accompanied by a number of questions that call upon the student's knowledge of all areas of chemistry. It is a good test of the student's ability to figure out what knowledge is applicable in a particular situation rather than simply to answer exam questions in a well-defined subfield of chemistry. Unfortunately the DUCK exam does not appear to be used much by other institutions, so the statistical data available for comparison through ACS are rather meager. Furthermore, the number of students we have tested to date is small (only 20). The limited data we have suggest that our students are about average relative to the available nationwide sample, which presumably consist of advanced chemistry majors at other institutions. This result is perhaps disappointing, but unsurprising in view of the middling grades our students earn in their upper-division courses, and the general sense of the faculty that we have relatively few really strong students.

Assessment of the other three learning outcomes is more subjective and therefore more difficult. We initially attempted to assess our second learning outcome (scientific methodology) through faculty evaluation of student reports from CHEM 195 independent research courses. We concluded that reports from independent research are not very useful for quantitative assessment because of the widely varying nature of different research projects. For this reason and because of the elimination of research as a requirement for all majors (see Section I), assessment of this outcome will subsequently be based on written reports from our four upper-division laboratory courses, which are required of all majors. Assessment of our third learning outcome (communication and teamwork) was based on written reports and faculty observation of student teamwork in upper-division laboratory courses and independent research. We conclude that most of our students are quite deficient in writing ability, not only the technical aspects of scientific writing but also basic grammar and general writing style, but we are quite satisfied with our students' ability to work in teams. Assessment of the oral communication part of this learning outcome as well as ethics (PLO #4) will be carried out as a part of the new Ethics and Communication course (CHEM 194), which is being offered for the first time this spring and is now a requirement for all senior Chemical Sciences majors. Rubrics for assessing this PLO will be developed by the course instructor (Andy LiWang) working with our new Faculty Assessment Organizer (Jess Vickery).

#### V.c. Student retention and time to graduation

Other measures of program success include retention, discussed briefly in Section III, and time to degree. The Chemical Sciences major is intended to be completed in four years. However, the hierarchical nature of knowledge and skills in math and science requires that many courses be taken in a well-defined series, so progress through the major can be seriously delayed if a student fails a course or is unable to enroll in it because of space or schedule constraints. The two semesters of general chemistry and the two semesters of organic chemistry are all taught in both fall and spring semesters to maximize opportunities for students to get the courses they need, and CHEM 1, 2, 8, and 10 are also offered during summer session. However, we are only able to offer most of the upper-division courses once per year, so anyone who fails one of these courses has to wait a full year to repeat it. The students who graduated in 2009-2012 after starting as freshmen in the Chemical Sciences major required an average of 8.47 semesters to complete the degree (Appendix 2c) , but because ours is such a new program, counting only those students who have already graduated may weight the statistics toward students who are graduating faster. Those who are taking longer may contribute more heavily to our time to degree statistics in the future.

#### V.d. Student placement after graduation

Arguably the best measure of a program's success is how well it prepares its graduates for life after graduation. Our first 25 B.S. graduates have graduated between Spring 2009 and Spring 2012, and these have been extremely difficult times for anyone attempting to enter the workforce, particularly those whose family situations compel them to seek employment in California (state unemployment rate >10.8% from May 2009 through May 2012 according to the U.S. Bureau of Labor Statistics) or, worse yet, the Central Valley (unemployment rate >14.5% in Merced and Stanislaus counties over that same period). Keeping track of our graduates after they leave UC Merced has also proved challenging. Faculty who advised students in research sometimes know of their placement immediately after graduation but tend to lose touch with them quickly thereafter. The Office of Institutional Planning and Analysis is formally tasked with keeping track of alumni, but they could provide no information on the placement of most of our graduates; much of the placement information in the table in Appendix 2b was filled in by faculty. At least seven of our graduates have gone on to study for advanced degrees, some in chemistry and some in other fields (forensic science, biomedical engineering), while others are employed in a variety of positions. We lack post-graduation placement information for nearly half of our graduates. Once we have a statistically significant number of graduates who are willing to respond to surveys about the usefulness of what they learned at UC Merced to their post-graduation positions, we will be able to use that feedback to modify the content of our program.

## **VI.** Future Directions/Planning

Short- to medium-term plans for the chemistry program include:

- Continued faculty growth to allow broader course offerings and research opportunities at both graduate and undergraduate levels. Our ability to add new faculty is currently limited by the absence of research laboratory space. Last year we hired two people, an LPSOE and a theoretical chemist, who do not require lab space, and this year we are searching for another theoretical chemist. The second Science & Engineering building is scheduled for completion in 2014 and we expect to resume hiring faculty with experimental research programs starting in Fall 2014. The three-year hiring plan put forth by the chemistry faculty and approved by the Dean of Natural Sciences includes new hires in organic and materials chemistry for Fall 2014 and in chemical biology for Fall 2015, although there is no guarantee that these positions will be released by the administration or, if released, that they can be filled in any given year. A larger faculty with a greater diversity of research interests will provide us with more flexibility in offering much-needed undergraduate electives and allow us to reduce our use of non-Senate lecturers to teach lower-division courses. Also, a larger chemistry research program means more chemistry graduate students who can serve as teaching assistants, reducing our reliance on students from other programs and lecturers as lab instructors.
- Attainment of American Chemical Society approval of our program. The Chemical Sciences major was designed from the outset to satisfy the requirements for an ACS-approved program whose graduates can receive ACS-certified degrees. A program cannot apply for ACS approval until its institution is accredited by its regional accrediting body and until it has graduated at least two chemistry degrees per year for five years. UC Merced achieved institutional accreditation in 2011, and we expect to reach our fifth year of at least two B.S. graduates at the end of the current (2012-2013) academic year. Thus we could apply for ACS approval of our program as early as Fall 2013. We plan to take advantage of the present program review as a preliminary step toward ACS approval.
- Establishment of a stand-alone Chemistry and Chemical Biology department at UC Merced. One of the "institutional environment" requirements for an ACS-approvable program reads "The administration of the approved program should rest in a chemistry department organized as an independent unit with control over an adequate budget, faculty selection and promotion, curriculum development, and assignment of teaching responsibilities. If the program is part of a larger unit, the chemistry faculty must have reasonable autonomy over these functions." The present Chemistry & Chemical Biology unit has "reasonable autonomy" over the last three of these functions, but it controls only a few small pieces of its budget (*e.g.*, it has a budget for graduate seminars). The level of budgetary autonomy required by ACS does not require a separate department, as many liberal arts colleges lacking chemistry departments do have approved

chemistry programs. However, we think that departmental status is justified and will allow for more effective operation of our programs given the size of our faculty and of our undergraduate and graduate programs. The decision not to have disciplinary departments is an institutional one, but the faculty in specific disciplines can continue to press for change. As all programs on the campus become larger, the rationale for having departments will become stronger.

# **UC Merced Chemistry Undergraduate Program Review 2013**

## Summary

The UC Merced Chemistry Major program is a rigorous chemistry program. The students are required to complete a broad array of courses that include foundations in statistical and computational methods and ethics and communication. In addition, undergraduate research is encouraged by the faculty. The department has set up and is in the process of refining a useful program learning outcome assessment. Overall, UC Merced Chemistry Major provides an excellent education to its students. Furthermore, the diversity of students at UC Merced provides the Chemistry program with an opportunity to make a significant national contribution to diversity in the chemical professions.

On the other hand, this committee is concerned that that growth of the Chemical Science program might be stunted by a lack of resources. We recommend an input of resources into the program sufficient to allow it to develop, on par with Chemistry Departments at other UC campuses. An issue of particular concern is the slow growth rate of the number of faculty and of instructional and laboratory space compared to the projected student growth. This is closely linked to the troubling slow growth of the graduate program. We have no specific recommendations with respect to large scale resources, but our general recommendation is that they be sufficient to allow this program an opportunity to reach its full potential without being stifled it by an excessive number of undergraduates.

On a more localized level, resources should be allocated to build a multi-pronged approach to target the program's largest weakness, which is attrition of students from the major. The review committee was pleased to note that some resources have already been directed towards increasing the retention of Chemical Sciences majors, including the hiring of an LPSOE in the chemistry department, and the hiring of a campus wide STEM coordinator.

## **Program and Instructional Methods**

The UC Merced Chemistry Major program is a rigorous chemistry curriculum that satisfies the demands of an ACS-certified degree. The program has a number of interesting innovations and the department is clearly flexible in its approach to meet the needs of its students. Overall, the review team judges the program to provide an excellent foundation for students continuing on to graduate school or other professions involving chemistry.

The program requires a year of general chemistry, a year of organic chemistry, two semesters of physical chemistry, one semester of inorganic chemistry, one semester of instrumental analysis, one semester of biochemistry, and one semester of ethics and communication. Advanced laboratory courses in organic, physical, instrumental, and inorganic/materials chemistry are also required. Requirements outside of chemistry include two semesters of physics, one semester of biology, calculus through linear algebra, one semester of probability and statistics, and a one semester computer course. The only shortcoming of the program is that there are not enough faculty to teach upper-level electives. Therefore, at this point, only one upper level elective has been taught.

There are a number of innovations in this curriculum. The requirements in the nonchemistry courses are unusually broad. The inclusion of statistics in the math requirement, a computer course, two required biology-related courses (biology and biochemistry), and an ethics course is unusual. The faculty clearly recognize the growing importance of statistical and computational methods in analyzing chemistry data and the many applications of chemical methods in biological systems. The review committee was pleased to see the required ethics and communication course, although it is only a oneunit course, because ethical considerations ranging from safety to environmental concerns, to data ownership are important components of the chemistry profession. Similarly, communication skills are essential for all professionals, but are usually very difficult for students to learn. Finally, the major is divided into four emphasis tracks: Biological, Materials, Environmental, and Chemistry (unspecialized). This organizational innovation makes the connection between chemistry and applications of chemistry to other fields obvious.

There were several innovations that the department has altered over the past few years because they did not work well for their students. For example, they originally had one semester of general chemistry followed by organic chemistry. However, the students were overwhelmed by organic chemistry so early, and the department responded to the students by changing the curriculum to its current form. Thus, the department is sensitive to the needs and experiences of the students.

In addition to coursework, independent research is an essential component of any undergraduate degree program in chemistry. Undergraduate research is often a student's favorite experience and is de facto required for admission to graduate school. At the beginning of the program, undergraduate research was required for all students, but the department was forced to change that requirement when the number of majors increased. However, the value of independent research is clear to the faculty, and is encouraged. There seems to be considerable effort placed towards having students publish papers, go to national meetings, and pursue research opportunities off campus. Thus, the review committee concluded that the faculty are working to provide a strong education outside of the required course work.

The committee asked the faculty about the methods of teaching that are used in chemistry courses. There is a considerable chemical education literature that suggests that active learning pedagogies can help students learn more material than they do in a conventional lecture course. However, at his point, the faculty has not engaged in active learning pedagogies in either their lower or upper division courses. The faculty has commented on the passivity of the undergraduate students at Merced. The incorporation of active and collaborative learning pedagogies could promote student engagement. In large lecture courses in which it is unfeasible to grade problems sets, an electronic problem system could give students more practice to master the basic concepts of the course. It also

motivates students to regularly study chemistry, rather than just cramming for the exams. The review committee was pleased to learn that an LPSOE has been recently hired. We hope that this person will take a leadership role in integrating more innovative pedagogies into the curriculum.

There are support systems available to the students as they take chemistry courses. There is a campus tutoring program that is open to all students. There are a large number of other programs that support students, especially those from underrepresented groups. Unfortunately, the campus tutoring program is not well-attended, perhaps because students don't know about it. Students struggle with general chemistry courses, and many leave the major after these courses. Therefore, increased academic support of students within chemistry courses, may help increase retention of students in the major. One way that the faculty would like to provide extra academic support is to add discussion sections to courses that do not currently have them, especially at the introductory level. The review committee was enthusiastic about this suggestion.

## **Chemical Sciences Faculty and Staff**

Overview. The Chemical Sciences program at UC Merced has grown from the threefounding faculty in 2005, to the current faculty of twelve, plus Patricia LiWang from the Molecular Cell Biology unit, whose major teaching responsibility is in Chemical Sciences. The areas of specialization include all of the important subdisciplines of chemistry and, with a few exceptions, the organization of the Chemical Sciences major program and the course offerings are comparable to the major programs at peer Chemistry programs. The above thirteen tenured or tenure track faculty teach most of the courses in the Chemistry and Chemical Biology program. Non-Senate lecturers teach approximately two sections/year of General Chemistry, and courses in Biochemistry are cross-listed with Biological Sciences and taught by faculty from both the Chemistry and Chemical Biology unit and the Molecular Cell Biology unit. In addition the Chemical Sciences faculty taught a total of ten graduate classes between 2010 and 2013. The Chemical Sciences faculty directs an instructional laboratory staff, headed by Donna Jaramillo-Fellin, who takes the lead in managing the laboratory components of General Chemistry and Organic Chemistry. Chemical Sciences faculty members have the primary responsibility for teaching advanced lab courses in organic, physical, instrumental, and inorganic/materials chemistry.

Assessment of Faculty. The Chemical Sciences program at UC Merced is only eight years old. With seven of thirteen faculty members as yet untenured, the Chemical Sciences faculty remains a work in progress. This faculty has not yet achieved the critical mass needed to operate as a mature program in the UC system. It is too young to have firmly established defined strengths and weaknesses, and it has an enormous potential to succeed or fall short of the collective goals of its members. The committee was impressed by the level of morale of Chemical Sciences faculty members, and by their commitment to building a vibrant Chemical Sciences program at UC Merced. At the same time, individual faculty presented a realistic assessment of the current and future problems that they need to address in order to achieve their common goals.

The Chemical Sciences faculty members expressed pride in what they have achieved since the University opened in 2005. The Chemical Sciences Major has grown steadily, and with 194 majors in the Fall 2012 is the second most popular of the five undergraduate programs in Natural Sciences. Faculty members are pleased with the quality of the Assistant Professors hired in recent years, and expressed praise for the role that Dr. Jaramillo-Fellin plays in making the introductory lab courses run smoothly. The faculty is excited about the planned opening of a second Natural Sciences building, and the resulting opportunity to move research instrumentation onto the main campus. They will continue to work to build on the collegial interactions between the Molecular Cell Biology and Chemical Sciences units, which have resulted in many productive contributions of faculty across units. Faculty members are working to grow into a standalone unit, by satisfying the requirements for an American Chemical Society approved program to allow their graduates to receive ACS-certified degrees. Other significant activities include the organization of a Chemistry Club for undergraduate majors; the development of an Honors course in General Chemistry tailored to the best and the brightest students at UC Merced, and the presence of a Chemical Sciences seminar program.

The members of the Chemical Sciences faculty expressed several concerns to this committee. The prevalent problem of retention of Chemical Sciences Majors beyond the first year will be discussed separately. A second major concern is whether the input of new resources from the University will be sufficient to support the planned growth of the Chemical Sciences instructional program. For example, the lecture and laboratory space are currently being utilized at full capacity from Monday through Friday. This limits the flexibility of the Chemical Sciences to improve their General Chemistry program by the addition of discussion sections, or to add new laboratory sections in response to increases in enrollment.

Finally, Chemical Sciences Faculty members noted the slow pace of growth in the graduate program. Interactions with graduate students are an important component of undergraduate education at major research universities. Graduate students serve as teaching assistants for undergraduate laboratory courses and discussion sections, and assist in training undergraduates in a research laboratory setting. The Chemical Sciences graduate program does not have enough graduate students to cover their teaching needs, and the open positions are filled first by qualified graduate students from other science and engineering programs and then by lecturers. The issue is not the quality of instruction, which by all accounts is excellent. The problem is that the Chemical Sciences faculty members view the training of graduate students as an important and personally satisfying responsibility. A small graduate program that stifles efforts by faculty members to develop vibrant, visible programs of undergraduate research might have a negative impact on faculty morale, to the detriment of the undergraduate program.

## **Facilities and Resources**

Faculty in the Chemical Sciences program are working hard to make the most of the limited resources placed at their disposition. At present, service courses offered in Chemistry, the Chemistry major, and a Chemistry graduate program (not reviewed) are being offered by 13 faculty and a few lecturers. This number appears minimally sufficient to the task, and more faculty members are required to decrease the reliance on lecturers and allow for growth of the major. A larger number of teaching assistants is critical to the future success of the major, and every effort should be made to attract graduate students to the Chemistry graduate program.

One aspect of the major where additional resources are required in the short term stems from the proposed addition of discussion sections to several Chemistry courses, most notably Chem 2 and Chem 10. Doing so will require both rooms and teaching assistants, but we see it as an important step toward improving the quality of lower level Chemistry courses. In particular, this measure is expected to improve retention in the major and overall success rate in those introductory courses. A second aspect requiring additional support is student advising, which is already stretched thin, and can only worsen as more incoming students join the program. We recommend that Chemistry faculty take a more active role in advising Chemistry majors at the upper level, mostly to help with their placement after graduation. However, this would not alleviate the demand from lower division advising, which should be addressed by additional staff.

At present, there seems to be a lack of institutional support for undergraduate research. Chemistry faculty at UC Merced have a great opportunity to train an under-represented constituency in research, but doing so requires support. It is unrealistic to expect faculty to use research grant support to train undergraduates, who may not reliably produce results that are valuable to faculty. While current faculty members seem to spend a fair amount to time advising undergraduates in research, their efforts would be more successful if the students could find funding from sources other that faculty grants and start-up funds.

The teaching laboratories available at UC Merced are being used very efficiently. This is sufficient at present, but these facilities cannot accommodate the anticipated growth of the number of students requiring Chemistry courses without resorting to offering Saturday courses. This option may be the only avenue, other than preventing growth, but it is fraught with complications. In addition to requiring more staff and instructors, presumably paid overtime, it poses campus-wide complications (Health and Safety, Police, Parking, etc). Moreover, students are bound to resist such a change. The policy of campus growth without sufficient teaching facilities, though not directly related to the Chemistry major, is bound to reflect poorly on the Chemistry major and on the School of Natural Sciences and should be revisited.

## **Program Learning Outcomes and Assessment.**

The UC Merced Chemistry Major was developed around four Program Learning Outcomes (PLO). Each PLO is well described and appropriate for a Chemistry program. However, they do not appear to be of equal importance, and it may be somewhat misleading to present them as such. In particular, the first PLO (Fundamental knowledge and skills) could very well be separated in two outcomes, one focusing on theoretical aspects, and one focusing on experimental aspects. This would better reflect the structure of the Major, and the importance of this outcome, as well as allow for separate assessment of these two very different aspects of the Major. The second PLO (Scientific Methodology) seems appropriate as it is, both in scope and content. On the other hand, the third (communication and teamwork skills) and fourth (Citizenship, ethics, role of Chemistry in Society) PLO, seem to be more tangential to the Chemistry major. While there are clearly aspects of the major aimed at achieving those outcomes, they are far fewer than for the first two PLOs and they do not appear to be viewed as nearly as important. It may be more appropriate, and reflective of the Chemistry Major, to combine those two outcomes in a single one.

The assessment of the learning outcomes as described in yearly reports shows a work in progress, and confirms the importance of the first learning outcome, which was assessed twice. It is clear that the assessment methods used are improving and becoming more useful from year to year. One can anticipate that as rubrics and other assessment tools are developed, the assessment will become more effective and less time consuming for faculty members. At present, there are still aspects of the major (oral communication and ethics) that have yet to be properly assessed. The new course Chem 194, offered for the first time in Spring 2013 to 11 students, should help alleviate this issue. However, it is doubtful that a one-unit course can, by itself, accomplish the stated goals of the fourth PLO, as well as develop oral communication. If these goals, as well as the written communication outcome, are to be achieved by students, all upper division courses will need to explicitly value those aspects (ethics, oral, written communication) more directly. These outcomes seem to constitute a culture that must be imparted over longer periods of time. In particular, if a portion of the grade were explicitly attached to those skills, students would repeatedly receive the message that ethical behavior and communication skills are valued throughout the major.

Overall, it is evident that efforts were made to provide meaningful assessment of the program learning outcomes. These efforts have led to revisions and improvement of the assessment methods. Some of those suggested revisions have now been implemented but not yet assessed, such as the introduction of a one-unit course to teach ethics and where students can prepare for and take ACS exams. Other revisions, such as the development of rubrics used by reviewers seem to have helped improve the assessment. In addition, we would recommend incorporating direct input from students, perhaps in the form of student focus groups that may be organized by the CRTE. It is unfortunate that more useful data has not yet been collected, but with continued improvement of the assessment methods, one can anticipate that the next program review will be able to focus more on the assessment data obtained, rather than on the methods by which it was obtained.

## **Students: Retention of Majors in the Chemical Sciences**

The committee met with senior administrators over dinner on the first evening of the review, where the committee member from Buffalo was impressed by the server's interest when she learned that she would be serving faculty from UC Merced. This server was encouraging, and supportive of the positive impact of the University on the Central Valley of California. The implication was that UC Merced is in the process of establishing strong ties in the Central Valley that will spur mutual development and growth.

The Central Valley provides the Chemical Sciences program with a diverse student body, consisting of ca. 25% Hispanic, 40% Asian, and 20% are non-Hispanic Caucasian. More than half of these students are the first members of their family to attend a University. This enrollment profile presents the Chemical Sciences program with unique opportunities, and difficult challenges. There is an opportunity to provide a high quality education to the brightest students from the Central Valley, and secure the support of this community for many years to come. There is the challenge of maintaining the high standards expected for members of the UC system, while at the same time enabling students from disadvantaged backgrounds to reach their full potential as chemists. This requirement for *standards* may result in a high level of attrition among chemistry majors, who are inadequately prepared in High School for the rigors of a University education, and for whom family commitments and financial obligations create special problems. These issues were discussed in the Chemical Sciences self-study report, which also noted a gap between the SAT scores for entering first year students at UC Merced, compared with the higher scores for entering student at UC Davis and Irvine.

The level of retention of Chemistry majors past the freshman year is low. For example only 21/53 and 23/71 first year majors entering in 2009 and 2010, respectively, were retained after two years. This corresponds to a 40% and 32% retention rate, which is significantly smaller than the overall 2-year retention rate at UC Merced of 72% and 76% for 2009 and 2010. Both the Chemical Sciences faculty and UC Merced administrators expressed concern about the low retention of Chemistry majors, and an interest in taking steps to improve retention. This committee cannot resolve the conflicting demands of the requirements to maintain high standards and retain large numbers of undergraduate majors. However, we note the strong imperative for the Chemical Sciences program to adopt a proactive approach to improve the retention of majors. Some faculty members have expressed that too many students declare themselves to be Chemistry majors before truly knowing what it entails, which may result in a skewing of the retention data. The faculty should agree on what would constitute a reasonable criterion to estimate retention, so as to have a benchmark that should clearly be optimized.

An early step towards retaining Chemical Sciences majors is to move students through General Chemistry courses. Many students drop this major, because they are unable to complete CHEM 2 and 10 in a reasonable amount of time. Historically, 60-70% of the students enter UC Merced unprepared for CHEM 2, and are required to first take the

preparatory course CHEM 1. Even with preparation, there are high failure rates in CHEM 2 and 10. It is important that the Chemical Sciences program consistently put their best instructors into CHEM 2 and 10. Chemical Sciences faculty members should widely publicize and strongly encourage the students in all courses to use the excellent University tutoring services, and to join the Chemistry Club. The program should work to add a discussion section to CHEM 2, to enable students to interact informally with teaching assistants in small classes. Awards should be established to recognize excellence in student performance in General Chemistry. For example awards to recognize the top students in each class, and awards for the students showing the greatest improvement from CHEM 2. These awards could be presented during the first week of each semester, to motivate students to work to earn an award of their own.

The Chemical Sciences Faculty will establish high standards, consistent with the worldclass department they that they are working to build. However, in working to retain majors in their program, it is important for the faculty to make measured decisions in assigning General Chemistry grades, to ensure that their standards are comparable to those at peer institutions. This might be accomplished by using standard ACS examinations, which are widely administered at Universities throughout the US. Even if the use of standard tests has little effect on the assignment of grades, this would provide the faculty with assurance that they are assigning grades on a consistent basis from year to year.

The committee met with several undergraduates, who expressed an enthusiasm for Chemistry created by their interactions with Chemical Science faculty members. They also suggested that some majors reacted unfavorably to at least one instructor. It is important for instructors to emphasize the rigor of the Chemical Sciences program rather than the difficulty of this major. Successful students should be praised, failing students encouraged, and while a certain number of students will fail, a class should not be given the impression that an instructor expects this result for many of his or her students.

There are limited data for this new University, but only 22 Bachelor's degrees in the Chemical Sciences were awarded between 2009 and 2012. These data suggest that a significant number of majors complete two full years at UC Merced, and yet fail to receive a degree in Chemistry. Third year students are entering into the most productive and exciting phase of their education. One faculty member commented on the passivity of advanced Chemical Sciences majors. Any passivity might reflect a lack of engagement on the part of students from disadvantaged backgrounds, who lack role models to guide them to graduation. The most effective steps for increasing retention of majors past the third year are those designed to engage students by promoting faculty-student interactions. Assigning each Chemical Sciences major a faculty advisor at the end of their second year, and requiring twice yearly student-advisor meetings would provide students with a needed role model, while smoothing the path towards graduation and onto a post graduate position. The Chemistry Club will engage majors at all stages of their education. The Chemical Sciences program is heavily engaged in directing research by undergraduates, and the University should work to provide resources to support undergraduates engaged in research during the summer, along with teaching relief for the faculty who are the most heavily engaged in directing undergraduate research projects.

## Recommendations

Overall, the review committee was very impressed with the UC Merced Chemistry Major. The curriculum is rigorous and there is a strong undergraduate research program. Because of the diversity of students at UC Merced, the program is poised to make a significant national contribution to diversity in the chemical professions. To help further its progress, we make the following recommendations:

1. To increase retention in the introductory courses, the committee recommends assigning the most engaging instructors to these classes, introducing discussion sections, publicizing the available tutoring program, introducing awards for performance in those courses, and integrating evidence-based pedagogy into the curriculum at all levels.

2. To increase retention of upper level students, the committee recommends providing summer support for students to do research at the university, giving faculty teaching credit for mentoring undergraduate research, assigning each major a faculty advisor to meet with twice a year, and encouraging an active Chemistry Club.

3. To better understand retention and assessment efforts, we recommend incorporating direct input from students, perhaps in the form of student focus groups that may be organized by the CRTE, and defining a retention criterion that all faculty agree should be optimized.

4. To allow more upper level courses to be taught and faculty to have time to mentor undergraduate research, more faculty positions should be opened.

5. To have enough graduate students to staff the discussion and laboratory sections, more chemistry graduate students are needed. Providing incoming graduate students with greater, longer term financial support would help attract them to UC Merced.

6. To grow enrollment and recruit additional faculty, more instructional and faculty research laboratory space is essential and must be made available on the main campus.

7. To facilitate assessment and render it more meaningful, we recommend restructuring the program learning outcomes to better reflect the major.

8. To improve student communication skills, we recommend making writing an explicit component of the grades of all upper division courses.

Lastly, there are several recent additions to the program that could not be assessed by this committee, and that should be revisited by the next review. Most notably they are: the addition of an Honors track, the arrival of an LPSOE and of a STEM coordinator, the development of an Ethics class, the formation of a Chemistry club and the, presumably, upcoming discussion sections in Chem 2 and possibly Chem 10.
## **Review Committee Members**

an Jarage

June 3<sup>rd</sup>, 2013

Anne Baranger, Lecturer with Security of Employment in Chemistry, UC Berkeley

François Blancher

June 3<sup>rd</sup>, 2013

François Blanchette, Associate Professor of Applied Mathematics, UC Merced

Jor P. Richard

June 3<sup>rd</sup>, 2013

John P. Richard, Professor of Chemistry, University at Buffalo

Г

GRADUATE PROGRAM REVIEW CYCLE					
Program	Est	Review Year	Program Chair		
Social Sciences (SS)	IGP 2005	2013-2014•	Paul Almeida		
Electrical Engineering and Computer Science (EECS)	IGP 2007	2013-2014	Stefano Carpin		
Mechanical Engineering (ME)	IGP 2007	2013-2014	Jian-Qiao Sun		
Physics (PHYS)	IGP 2007	2013-2014	Ajay Gopinathan		
Environmental Systems (ES)*	2007	2014-2015	Peggy O'Day		
Biological Engineering and Small Scale Technologies (BEST)	IGP 2007	2014-2015	Kara McCloskey		
No program(s) scheduled for review		2015-2016			
No program(s) scheduled for review		2016-2017			
No program(s) scheduled for review		2017-2018			
Psychological Sciences (PSY)*	2011	2018-2019	Linda Cameron		
Quantitative Systems Biology (QSB)*	2011	2018-2019	David Ardell		
Chemistry and Chemical Biology (CCB)*2	2012	2019-2020	Anne Kelley		
Cognitive and Information Sciences (CIS)*	2010	2019-2020	Rick Dale		
Applied Mathematics (AMGS)	2013**	2020-2021	Boaz Ilan		
Interdisciplinary Humanities (IH)	2014**	2020-2021	Ruth Mostern		
Political Sciences (POLI)*	2013	2020-2021	Jessica Trounstine		

Program was originally scheduled in AY 2012-2013

\* CCGA Approved

\*\* Pending WASC Approval

The CCGA review process is equivalent to and considered to be program review.

## UNIVERSITY OF CALIFORNIA ACADEMIC SENATE - Merced Division General Education Committee (in Undergraduate Council) REPORT: Filed August 2013

#### **General Education Committee, 2012-2013**

Henry Forman, SNS Kelvin Lwin, ENGR & UGC member Rose Scott, SSHA Wil Van Bruegel, SNS Jack Vevea, Interim Vice Provost and Dean of Undergraduate Education Anne Zanzucchi, SSHA & UGC member

#### \*Guest Contributors

Tom Hothem, Co-Coordinator of Core 1 Laura Martin, Coordinator of Institutional Assessment & Accreditation Liaison Officer

#### Menu

Executive Summary / Core 1 Unit Limit / Indirect GE Evidence / Direct GE Evidence / GE Assessment Models / AY 2013-2014 Priorities / Appendix

#### I. Executive Summary

The General Education subcommittee was appointed in January 2013 as a standing committee in Undergraduate Council; an ad hoc general education group last convened in 2011 to develop a summary report regarding the status of Core 100 (see Appendix A). At this time in our campus history, Core 1 is an institutional and interdisciplinary course, followed by a school-based distributed model, with Core 100 in suspended status. Since2011, a GE course is constituted when an instructor proposes a new course with indication of GE status and identification of three (or more) associated guiding principles; this course request is then reviewed by the school curriculum committee and approved by Undergraduate Council (see UGC's Procedures and Policies for Approving New Courses as Appendix H). Currently, guiding principles are not defined beyond the text of the principles themselves, leaving specific interpretation of the principle to individuals.

A notable detail is that systematic, program-based assessment of GE has not yet been planned and sustained our campus. The need to develop a GE assessment plan and program development process was self-identified in our <u>2011 Educational Effectiveness Report</u>, noted by the visiting team, and affirmed as an important priority in our <u>Commission Action Letter</u>. The GE committee, then, has attended to assessment as a basis to analyze and prioritize GE programming and curriculum. The upcoming WASC interim report and GE program review process also inform our focus, with the "meaning of the degree"<sup>1</sup> concept of accreditation being a potential framework for general education's

<sup>&</sup>lt;sup>1</sup> Please note the <u>WASC Accreditation Handbook</u> (taking effect on 1 July 2013), with Criteria for Review 2.2 "All degrees undergraduate and graduate—awarded by the institution are clearly defined in terms of entry-level requirements and levels of student achievement necessary for graduation that represent more than simply an accumulation of courses or credits. The institution has both a coherent philosophy, expressive of its mission, which guides the meaning of its degrees and processes that ensure the quality and integrity of its degrees."

programmatic potential and institution-wide learning outcomes. <u>At this stage in our campus'</u> development, we need to move beyond GE being a collection of courses to a coherent framework.

The following list provides a very brief summary of this year's GE committee projects that attended to our campus' mixture of integrative and distributed general education models.

A. Integrated Model: Core 1 / 100 -- Our first GE committee project was to assess the needs of Core 1, a course designed to provide a foundational general education curriculum to first-year students. As an initial step towards improving Core 1 curriculum and ensuring its first-year course design, our committee recommended a 60 unit cap with an ineligibility clause (see Appendix B). As an alternative to ineligibility, we proposed a registration hold prior to the 60 unit cap (see Appendix C); we anticipate that further discussion of these two options with Undergraduate Council will determine the best pathway to enact the 60 unit policy.

This history of Core 100 has informed our discussions about Core 1, particularly ongoing sustainability issues. To date, Core 1 has not been resourced to formally engage Senate faculty Core 1 curriculum or GE planning. Further, Merritt Writing Program Unit 18 lecturers staff all discussion sections, which is an intensive and localized responsibility. Further attention to how the MWP can train and mentor graduate students as Core 1 instructors will be another important planning consideration. Noted in the ERR, "the most obvious disadvantage of highly localized assessment is that it discourages individual programs from taking responsibility for learning beyond the disciplines" (2011, p. 10); thus <u>engaging Senate faculty and graduate students in the delivery of Core 1 and other GE curriculum needs institutional priority</u>.

- B. Distributed Model The GE committee and Coordinator of Institutional Assessment have collaborated with all UCM schools and Office of the Provost units to pilot GE surveys and focus groups. The intention was to focus on perceptions of student learning (at or near graduation) as distinguished at the school level, and their general experiences, including the role of the cocurriculum in their learning. In the absence of any kind of program design beyond the distributed model, students invited to focus groups with a focus on representing schools rather than particular majors<sup>2</sup>. This qualitative assessment data has been possible, thanks largely to Laura Martin's (Coordinator of Institutional Assessment) partnership with the CRTE's Students Assessing Teaching and Learning program and the Office of Institutional Planning and Analysis (report is available as Appendix D). Our report will briefly summarize school-based focus groups conducted during April 2013. UCM's AY 2013 senior survey data about GE will be summarized later this summer and added as an appendix item to this report. Further, GE data from the Graduating Senior Survey has very recently been circulated by Institutional Planning and Analysis; however, this data will need to be analyzed and reviewed by the GE committee. We anticipate this will be a fall project; the data will likely enrich our focus group information. Several potential outcomes could follow this data review: Will we continue to collect this data? Should questions be adjusted? Do we investigate a selection of outcomes periodically?
- **C.** General Conclusions From this process of identifying existing data and piloting GE survey/focus group assessment, we have learned the following: (1) engaging students in discussing general education has been very challenging, consequently, (2) coordinating GE surveys and focus

<sup>&</sup>lt;sup>2</sup> Alternatively, we would have had to find representative classes in each major, with a faculty willing to afford time to the interview, and thus run large numbers of interviews, including for native versus transfer students.

groups have been difficult and labor-intensive for multiple units. Classroom interviews may be a recommendable practice to supplement qualitative/indirect assessment; however, this approach will be very challenging without a coordinated GE review process and system. <u>Above all, we recommend a systematic assessment process to anticipate GE curriculum development priorities as well as identify GE program development needs</u>.

The following sections will further elaborate on what has been learned from our piloting school-based focus groups. In mapping the distributed model of GE, we will provide brief highlights from the GE inventory to underscore some long-term priorities. The concluding section will provide some considerations and recommendations for GE's future planning.

### II. Ensuring First-Year Outcomes: Core 1 – Unit Cap

This semester, the GE committee has recommended a 60 unit cap on Core 1 to ensure that its function as a first-year core course is properly incentivized and tracked. Core 1 offers an integrative learning model and is designed to provide first-year students with "core" knowledge and skills in general education. Despite Core 1's focus on the first-year college experience, the course's lower-division status is not reflected in recent years' enrollment patterns. In 2011, 28% of the enrolled students in Core 1 were juniors and seniors. These 2011 enrollment numbers represent the height of this issue thus far; nevertheless, the two-year average still runs high at approximately 20%. This pattern of enrollment suggests that students are delaying enrollment in this foundational course, causing unintended consequences for scheduling and significant pedagogical challenges. Further, students entering Core 1 in junior or senior year were most likely to repeat the course more than twice and request petitions, relative to sophomores and freshman students who rarely repeated and if so only once (see Appendix I). Juniors and seniors are displacing first-year student enrollment, as well as postponing (and in effect misaligning) a foundational learning experience. Via a revised course request form, we have recommended adding a 60 unit policy wherein students will be ineligible to continue at university unless Core 1 is completed during freshman or sophomore year (see Appendix B).

Concerns have been raised in committee and via enrollment council meetings that student success may not be well-supported with ineligibility-based policies. Our discussions with academic advisors from all schools suggest to us that a registration hold would present workload, training and implementation issues. Further, students would have the hold removed simply by registering and then could drop the course. <u>Our recommendation to UGC is to move forward with the CRF policy, with class restriction for</u> <u>juniors and seniors (requiring a waiver/petition process)</u>. In effect, this is the same approach to handling other time-sensitive and institutionally required courses, i.e. WRI 1: Academic Writing to satisfy the English Language Writing Requirement within the first year of college.

## III. Indirect Evidence of Student Learning -- GE Focus Group Report (SATAL)

The SATAL focus group report, since it was self-selective, provides insight into a population that is already invested in general education. Having information from an informed and engaged cohort is useful. In all three schools, students described research opportunities through academic and co-curricular units as a source of general education, particularly with decision-making, teamwork, and ethics. Co-curricular opportunities also seemed important with personal potential. Students seemed to have responded to GE outcomes with a halo effect, assuming progress generally in all areas. We might infer that without a clear reference point in the curriculum for a student to evaluate progress that reported gains are at this point impressionistic. Descriptions of GE programming seemed vague in places

and confusion was expressed about requirements, which suggests that GE programming is not transparent or clear to a highly engaged population. GE programming appears to need clarification.

Relative to graduating senior numbers, the n is small with 39 advanced, senior-level students participating from the three schools. We know that SATAL and school advisors went to extraordinary lengths to organize these sessions, so this illustrates the challenges of this assessment approach. It may also speak to a lack of investment on the part of students (one student reportedly declined to participate with "general education is boring"). To what extent is General Education planned and represented to our students as a *program* at our campus (beyond Core 1)? Are students invested in General Education, why or why not?

Although a piece in an assessment puzzle, self-reporting has its practical and theoretical limits. Nevertheless, we would endorse periodic classroom interviews or surveys as a potential means to address self-selection factors. As a committee, we have discussed some further assessment planning to include or address direct evidence of student learning. The following are summary points to some infrastructural issues that will complicate this form of assessment and reveal some areas for GE committee attention.

#### IV. Direct Evidence of Student Learning (an Ongoing Need and Priority)

At any institution, evaluating a distributed model of GE at the course-level is complicated as GE courses are often being delivered for other purposes (i.e. an introductory course for a major). At our campus in particular, coordinating assessment based on key GE courses may prove quite difficult unless we attend to some systematic details. Annual assessment reporting emphasizes major program development and assessment with respect to curriculum mapping, with understandably little reference to general education. Annual assessment and program review processes, at least currently, would not be a rich or reliable resource for GE assessment data. Alternatively, identifying a GE course would be elaborate and non-centralized, with the exception of Core 1 annual assessment reports. A course request form will indicate if a course is GE-related and a reader would need to review the attached syllabus to know which GE principles are addressed in the course. After a course is proposed, it is unclear the extent to which the outcomes relate to GE. Further, Banner does not include GE status of a course, so <u>identifying</u> <u>students, courses, and GE outcomes are presently labor-intensive and non-systematic</u>.

Our present circumstances present some challenges with evaluating what exists; however, we also need to remain mindful of what could be developed relative to long-term aspirations for GE programming. A suspended goal for our campus has been to identify a sustainable means to offer a GE capstone experience (i.e. Core 100). This was first offered as Core 100, a required integrative course focused on writing-intensive projects and team-building skills. That institutional requirement has been suspended with the intention that our campus will return to a meaningful discussion about our expectations for GE programming. This year, we have concentrated on all but Core 100 to map what we have with a distributed model. Our goal is to provide recommendations for a guided distributed model and capstone. Those recommendations are part and parcel in ensuring GE's academic integrity and effectiveness. To put it another way, it is difficult to recommend a culminating course, like Core 100, without a gauge on existing curriculum. Guidelines for what constitutes features of a GE program are also an ongoing need.

#### (A.) GE Approved Courses and Guiding Principles Inventory (or Curriculum Map)

To explore how to map the current distributed model, Jack Vevea and Anne Zanzucchi met with Laurie Herbrand (University Registrar) to discuss Banner options for identifying GE courses during June 2013. She confirmed that fields called "course attributes" are available that can reflect GE functions or outcomes. With some effort, the CRF and Banner system fields can be connected. The GE committee subsequently concluded that an inventory of the guiding principles and GE courses would be an important tool to analyze student contact with GE outcomes at an institutional level. After further discussion, the Registrar Office has offered to commit staff resources to translating approved GE courses and outcomes into Banner (with reporting function options). The Office of Undergraduate Education (via Jack Vevea) approved a temporary staff hire to create an inventory of GE approved courses and associated guiding principles. (Anne Zanzucchi supervises this staff member, who is a recent graduate and former student employee in the MWP.) The inventory project is ongoing; however, we can share some highlights from courses that were housed in the Course Request Form site and included guiding principles in the attached syllabus (n of close to 300 courses). German Gavilan (Assistant Dean, School of Engineering) very generously volunteered to create a dedicated GE page on the CRF site, located at https://eng.ucmerced.edu/crf/ge-search. From this page, our staff member has created an Excel-based inventory (see Appendix F). These are some key observations:

- (1) SSHA offers the bulk of GE courses. In the CRF system and with GPs identified in the attendant syllabus, there are approximately 275 SSHA-based GE courses. By comparison, NS has 3 and ENGR has 9. Although these numbers are not comprehensive, this is an indication of scale.
- (2) About 10% of SSHA GE courses are not in the CRF system and appear to be historical (pre-2008)
- (3) The modal number of principles addressed by a GE approved course is 3. This is consistent with Undergraduate Council's policy for approval as a GE course, which requires at least three GP be addressed.
- (4) The largest % of GE principles met is communication (88%), with self & society next (78%) and aesthetics after (67%)

From this initial information, it seems advisable that we provide guidelines to UGC to determine if courses meet certain principles. Considering communication, for example, we do not have any direct evidence of what kind of communication is taught, nor has guidance been provided to faculty in proposing these courses. Does communication mean oral, written, digital, graphical formats? What are the conditions for meeting a communication requirement, since in theory effective feedback process on writing or presentations would be time and labor-intensive? Communication is one example, and it appears to be an important priority to define.

This inventory does not account for enrollment or frequency of GE courses which is why having this infrastructure in Banner is so critical. Ongoing updates with the Registrar's Office about GE courses and principles will be important to sustaining a systematic means to analyze GE course offerings in a distributed model. Our CRF system, beginning this fall then, would benefit from containing similar fields so that this retroactive and labor-intensive process does not have to be replicated in the future. Faculty submitting GE courses to the CRF system should be required to indicate GE outcomes in a checkbox of guiding principles on the CRF request form as a field. In sum, actively maintaining the Banner system to

include GP fields will assist our campus in analyzing student GE curriculum, outcomes, and emphasis tracks<sup>3</sup>.

Beyond a course inventory, institutional course evaluations also give us somewhat of an avenue to identify the % of students taking the course for GE purposes; however, those have only recently been digitized only by SSHA and very few students complete these forms (Appraisal of Progress Form is Appendix E). Our committee will request sample data from this form; we are not optimistic, though, that this will be a transparent or reliable resource. Working on the Banner system approach is optimal; however, we will also consider further what might be learned from the course evaluation data to determine if it is a supplementary resource and ongoing institutional data priority.

\* Above all, a systematic approach to identifying and tracking GE outcomes is a key priority to manage and assess a distributed model of GE, with the intention of heading towards a guided distributed model and capstone for GE programming.

#### **Co-Curricular Planning**

It may be that academic programming tends to emphasize some guiding principles (i.e. communication, self & society, and aesthetics), with co-curricular programs playing an important role in sharing responsibilities or creating new emphases for institutional learning outcomes. For example, in school-based focus groups and the inventory, it appears that ethics has featured in some social sciences and sciences courses but generally does not have the same frequency as communication. Co-curricular leadership activities, mentioned briefly in focus group interviews, suggest that this outcome may be more frequently met in opportunities outside of the classroom, through applied learning opportunities. While this example is not fully substantiated as this point, the student feedback is suggestive of some interesting further inquiry.

Documenting the guiding principles outcomes of co-curricular activities may be challenging, because the current inventory is predicated on a semester-long course with associated guiding principles. Still, even the GE inventory has definitional questions as to what constitutes a communication outcome, for example, so no doubt all of these steps and processes are preliminary and thus have exploratory elements that benefit from discussion and collaboration. For the Educational Effectiveness Report (2011), Student Affairs staff members have mapped and summarized programming to illustrate generally how guiding principles are addressed, which is a very useful start with understanding emphases. Although the guiding principles in Student Affairs differ slightly in wording, it is very clear how these outcomes complement one another (see Appendix G for comparison chart). Emily Langdon (Student Affairs Assessment Coordinator) met with Anne Zanzucchi and Laura Martin during June 2013 to discuss the GE inventory and some possible ways to compare co-curricular and academic outcomes. Dr. Langdon suggested program review documents as a useful way to generate information, featuring Housing and Residential Life, Office of Student Life, and Recreation and Athletics in spring 2014. Notably, co-curricular responsibilities are described in academic program review documents, too, as major programs will offer student societies and other similar activities. A subset of GE committee members could partner with Dr. Langdon to discuss these program review documents to explore ways to summarize some intersections, possibly between academic and administrative program reviews or the

<sup>&</sup>lt;sup>3</sup> This interaction may prove complicated since the School of Engineering may need resources to upgrade their CRF system to account for fields. We are currently discussing this further with German Gavilan, Assistant Dean of ENGR, for further information on the planning process.

Student Affairs' program reviews and the GE inventory. During the early spring, the GE committee might also consider reading some selections from *How College Affects Students* (Pascarella and Terenzini) to situate how we might explore curricular and co-curricular learning opportunities in general education. We look forward to working with Dr. Langdon on this exploratory project in spring 2014, as general education reviews should involve an understanding of co-curricular intersections.

### Action Items and Timeline:

- July 2013 The GE committee requested that school advisors provide a list of approved GE courses and associated outcomes for the registrar's office. The CRF dedicated page for GE courses was published. The GE committee included Laurie Herbrand in our July meeting to discuss Banner and report processes.
- July 2013 The GE committee, represented by Laura Martin and Anne Zanzucchi, consulted with Emily Langdon (Assessment Coordinator) about the feasibility of a similar inventory for Student Affairs programming.
- August 2013 The Registrar's Office has offered to add and populate fields to these courses to indicate GE outcomes. Estimated time needed at this point is a month.
- September 2013 The GE committee will run basic reports on Banner data and prepare an inventory and analysis handout to discuss with ByLaw 55 units.
- September 2013 Review Graduating Senior Survey data, summarized in tables.
- Fall 2013 (a) GE committee members will share the GE inventory and basic analysis with ByLaw 55 units to discuss discipline-specific expectations about GE programming; (b) The GE committee will recommend the CRF system and curriculum approval process include GE outcome fields; (c) Institutional resources may need to be considered to upgrade the CRF system via the School of ENGR; and (d) the GE committee will offer recommendations about the need to define some Guiding Principles, with priority for defining communication.
- Spring 2014 Continue to partner with Dr. Langdon (Student Affairs) on co-curricular mapping.

## V. GE Program Assessment Models for Further Consideration

The foundation for General Education at UC Merced has been Core 1, which introduces students to the range of scholarly inquiry at the university all in the span of one semester-long, writing intensive, integrated curriculum. Core 1's sustained focus on intersections between qualitative and quantitative reasoning has been assessed annually by instructors who teach in the course and who have developed innovative approaches to blending the two forms of analysis. Core 1 assessment exercises have investigated all eight Guiding Principles of General Education at UCM, and found fruitful connections among them as expressed in course delivery and student work. Core 1 is a rich resource for General Education curricula and assessment across the university.

Beyond what can be applied from Core 1 assessment practices, the following summarizes potential pathways for assessing and developing GE programming at our campus. The three foci are based on existing but underdeveloped campus assessment models, with supplemental information about how more established campuses have assessed GE. \*The following are ordered in relation to one another (not rank order), with the idea that a hybrid of these recommendations might be considered. In other words, these recommendations are not necessarily mutually exclusive, though the models themselves are discrete.

- A. Evaluate GE courses and curriculum: Assessment could attend to assignments that are particularly effective for a course's given GE outcomes. This plan would require an ability to identify representative courses for upper and lower division courses within a variety of instructional formats (lecture and seminar), across all schools. Enrollment in the course could be 50% or above as GE credit-related (arbitrary #, this is an example) to qualify for interviews or review. A challenge with reviewing GE via courses is that students will enroll at various stages and patterns, e.g. it will be difficult to separate data by beginning and concluding GE curriculum/programming. Another consideration would be ways to eventually view courses in relationship to one another; the GE committee may want to attend to signature assignment recommendations to encourage connections and alignment<sup>4</sup>.
- B. Track students through GE curriculum: Another method of assessment would be track a cohort of students from beginning to concluding GE curriculum, organized with a focus on disciplinary knowledge and institutional learning outcomes<sup>5</sup>. Although this is an attractive research methodology, it is resource-intensive. For example, to ensure participation, participating students will likely need to be funded to account for reflective journals and interviews. Other resources would include either a faculty member or postdoctoral scholar with extensive training in qualitative research. Our current lack of structure for GE programming (with the exception of Core 1) may also complicate analysis.
- C. Provide an upper-division integrative course: An integrative model of GE remains a significant institutional priority<sup>6</sup> and serves as a practical exigency. One cannot underestimate the value of being able to locate one GE course as a means to engage Senate faculty in GE curriculum and assess student learning and perceptions especially given how robust Core 1 assessment has been historically for our campus. Although Core 100 has been suspended and is not an existing course at the moment, there are many advantages to considering a means to offer this course. We would urge a return to the priorities expressed in the 2011 GE committee report (see Appendix A).

We would recommend exploration of the following means to offer an integrative learning course or Core 100. Rather than requiring Core 100 of all students, it could be offered among distributed options; similar to how service learning is offered by the School of Engineering. Another highly recommendable and sustainable method would be to coordinate a "dispersed team model," with a requirement to have sections meet together for a signature assignment

<sup>&</sup>lt;sup>4</sup> For an excellent example from CSU Long Beach, see Maxfield, L. (2010) Assessment Is like a Box of Chocolates. In P. Maki's <u>Coming to Terms</u> with <u>Student Outcomes Assessment</u>. Stylus Publishing, 7-23.

<sup>&</sup>lt;sup>5</sup> University of Washington ran a GE study based on tracking approximately 400 undergraduates, as reported in Catharine Beyer's *Inside the Undergraduate Experience* (2007). Since there is no available digital format for this book, please find <u>Chapter 1</u> linked here as PDF attachment. <sup>6</sup> As noted in our Educational Effectiveness Report (2011), GE integrative learning is based on AAC&U priorities and our early campus history. Notably we are struggling to maintain this vision as, "our Educational Effectiveness analysis suggests that our students struggle with integrative learning beyond CORE 1." (p. 47). Also noted is that if "evidence [can be] readily and appropriately measurable against a national norm, we will discuss whether a GE assessment plan should use the <u>Integrative</u> <u>Learning VALUE Rubric</u>, whether we should use some other readily available instrument, or whether we should create our own. Regardless, to be true to our educational mission, the Vice Provost for Undergraduate Education and the GE Subcommittee of Undergraduate Council will need to find, assemble and evaluate a variety of data to answer the questions, 'How well are our students putting the pieces together?' and 'How well are our students, coming in with narrow career goals, developing deeper and broader understandings of what education is and can do for them?'" (p. 51).

(i.e. oral presentation, research posters, special lectures, etc.) and / or key lectures<sup>7</sup>. Efforts towards integrative learning should also account for connections with Core 1 and the Common Read program; this recommendation is consistent with those made in 2011 and 2009 by GE ad hoc committees (see Appendix A).

### VI. Priorities for AY 2013-2014 \* not in rank or chronological order

General Education programming generally:

- Our current distributed model for GE needs greater infrastructure to allow for curriculum alignment, GE program development, and assessment in support of these two activities and in turn ongoing attention to student learning. This alignment priority allows us to better connect and/or evaluate the broader GE curriculum to institutional learning priorities and Core 1 (as suggested, too, in the 2011 Educational Effectiveness Report). Consideration of assessment model recommendations by the permanent VPDUE and Undergraduate Council are requested.
- To engage Senate faculty in discipline-specific priorities and institutional learning outcomes, the GE committee plans to meet with Bylaw 55 units and school curriculum committees to discuss GE models and collect faculty recommendations. That report should inform assessment priorities, curriculum design, and long-term strategic planning.
- Core 100, or an equivalent course model, should be revisited both as an instructional priority and assessment mechanism.
- Based on focus groups, students need further clarification about GE requirements and programming. In addition to the catalog and advising, avenues to communicate GE expectations would benefit from further exploration. Even though our expectations are evolving, students need to understand how GE is defined as a curriculum and a program. Attending to post-graduate expectations may help to influence some curricular emphases in GE, particularly communication and teamwork. Nevertheless, we need to be mindful of the balance between employment prospects and liberal arts education, as self-actualization is as important as practical skills.

Core 1 specifically in which:

- Engagement of Senate faculty in Core 1 needs to be identified, resourced and sustained to ensure GE programming and sustainability of the course.
- Core 1 training of graduate students as GE instructors needs to be further explored. Further engagement from schools on how to assign GE responsibilities to graduate students is part of Core 1 sustainability and provides an innovative approach to graduate education as future faculty will very likely teach GE or interdisciplinary coursework.

<sup>&</sup>lt;sup>7</sup> See Seabury, M.B. & Barrett, K. (2000). <u>Creating and Maintaining Team-Taught Interdisciplinary General Education</u>. *New Directions for Adult and Continuing Education*, 87, 15-24.

Report on General Education at University of California, Merced

Prepared by: Jack Vevea, 2010-2011 Vice Provost for Undergraduate Education Jane Lawrence, Vice Chancellor for Student Affairs Michael Spivey, Associate Dean of SSHA Robert Ochsner, Director of the Center for Research in Teaching Excellence and Merritt Writing Program Gregg Camfield, Chair of Undergraduate Council Valerie Leppert, Associate Professor of Engineering Linda Cameron, 2011-2012 Acting Vice-Provost of Undergraduate Education

October 16, 2011

When UC Merced opened its doors to undergraduates, it had planned a robust and state-of-the art general education program worthy of the first new U.S. research university of the 21<sup>st</sup> century. Budget and organizational difficulties, however, have made it impossible for us to sustain the second of the program's signature pair of courses. After repeated failed efforts to find a solution to the issue, the Undergraduate Council this past semester voted to suspend the second half of the program as a graduation requirement and committed the faculty to consider alternatives. The Vice Provost for Undergraduate Education simultaneously applied to the American Association of Colleges and Universities (AAC&U) to have a team of faculty and administrators attend the 2011 Institute on General Education and Assessment to determine if there were cost effective alternative general education models that we could implement. We came out of the conference convinced that UC Merced should have a general education program that at least follows, but that should, ideally, lead in the development of best practices. This report reflects our findings.

#### **National and International Context**

General education requirements as a part of higher education are idiosyncratic to American higher education. Arguably, the presence of general education is one of the reasons our institutions of higher education are destinations for students from around the world and are considered by many to be the world's best, blending cutting edge research with a commitment to educating each undergraduate as, in Dewey's words, a "whole person." Ideally, higher education institutions should ensure that graduates learn not only disciplinary knowledge and skills, but also general knowledge and skills in communication, in the arts and sciences, in democratic practices, and in the capacity to thrive and to function ethically in our complex, multicultural society. Further, integration of many aspects of the curriculum and cocurriculum will re-enforce learning, and, for example, nurture creativity and teamwork so that graduates will be able to solve complex problems both by themselves and collaboratively.

The widely touted impact on employment outcomes that comes from higher education is in significant part a function of general education As studies show, most of the skills highly valued by employers are developed broadly in the undergraduate curriculum, with general education courses carrying much of the load.<sup>1</sup> Studies also show high correlations between higher education and civic engagement, with general education again having a significant impact.<sup>2</sup> Similarly, research shows strong associations

between higher education and social mobility (a matter of great concern for UC Merced with its high population of first generation college students and its striking ethnic diversity). For reasons such as these, many Asian universities are emulating U.S. general education practices to improve their educational outcomes.

Ironically, the 20<sup>th</sup> century menu system of general education has not proven to be very effective at having students achieve these educational goals. Traditional menu systems do not have a sequence that responds to students' developmental needs, do not demand that students integrate knowledge and skills across disciplines, and do not take advantage of the important co-curricular learning that is one of the defining characteristics of American higher education. Students who are well prepared for college, that is, whose familial and educational backgrounds have provided the kinds of structures students need to do the difficult work of integrating a collection of courses into a curriculum, have long been able to compensate for these weaknesses, but students who are identified as "at risk" are so because they lack the kind of social capital that prepares them to take advantage of the 20<sup>th</sup> century curriculum. Indeed, the failure of the university over the past generation to serve the ethnic and income mix that characterized the late 20<sup>th</sup> century American university is one of the reasons that we are now being held "accountable" for our educational practices. It is also the reason that the academy collectively has cultivated and studied a number of alternative approaches to general education, and research has begun to identify which of these alternatives are effective.<sup>3</sup> Using traditional measures of persistence and retention, we see that these newly identified "high impact" educational practices help all students, but that "at risk" students are helped more than others.<sup>4</sup> If we are committed not just to diversity in access to the university, but also to promoting success for all of our students, we must follow best practices in the curricular and co-curricular aspects of our general education program.

#### **General Education at UC Merced**

The founding faculty of UC Merced did a remarkable job of developing a plan for the delivery of general education using principles that have since emerged as standards for 21<sup>st</sup> century higher education. Indeed, both faculty members and participants from other universities at the recent AAC&U institute complimented UC Merced for having anticipated the new standards. The design for general education at UC Merced includes both a discipline-specific component (each school decides how upper division general education may best be addressed for its students) and a campus-wide component. The campus-wide part of the general education plan is the Core 1 – Core 100 sequence ("The World at Home: Planning for the Future in a Complex World"). This sequence seeks to embody UC Merced's *Eight Guiding Principles of General Education.*<sup>5</sup> In Core 1, students from all disciplines come together to hear lectures that deal from diverse academic perspectives with real world problems relevant to the San Joaquin Valley. The students then work collaboratively on these problems in smaller section meetings. The second step of the plan is to repeat that process in Core 100 during the junior year when students have had a chance to learn about their disciplines and can thus bring more disciplinary expertise to the interdisciplinary collaborative work.

The sequence has never been delivered as originally planned. The last time we offered Core 100, spring 2007, was before the original freshman class had progressed to junior status; Core 100 at that point was

thus an offering for transfer students. As such, it had value. Part of the original rationale for Core 100 was to provide to transfer students an interdisciplinary experience similar to Core 1. However, it never provided the intended upper division integrative experience for students who had taken Core 1.

When CORE 100 was no longer being offered, Undergraduate Council approved upper division writing courses to temporarily substitute until a solution could be found. The reasons for the unsustainability of Core 100 have been analyzed repeatedly. An ad hoc committee on general education chaired by Professor Peggy O'Day reported on this issue in May 2009; more recently, a subcommittee of Undergraduate Council chaired by Assistant Professor Benoît Dayrat revisited the question and reported in April 2011. Both reports point to problems with allocation of resources as the primary reason for the failure of Core 100. Faculty participation in both Core 1 and Core 100 has always been pro bono; faculty receive no teaching credit for their work on the Cores. Core 1 has proven sustainable only because it relies on lecturers for the management of sections in which the student work is assigned and evaluated.

#### **Structural Changes**

The UC Merced team that attended the AAC&U Institute came home with a strong conviction that it would be a serious mistake for our campus to revert to a less visionary form of general education Although the Core 1 – Core 100 sequence is not the only delivery mode that could implement modern ideas about sound general education (and we discuss a range of options below), any system of general education delivery will require resources, and thus will be likely to fail from the same causes that led to the failure of Core 100. For that reason, we propose a fundamental structural change to accommodate the continued delivery of general education. We believe that the resources for the campus-wide components of general education should be consolidated and allocated to a full-time Vice Provost and Dean for Undergraduate Education. At the current stage of campus development, it would be reasonable for this consolidation to occur under the jurisdiction of College One; as we grow, we may want to explore the question of expanding into a college system, with or without corresponding autonomous instructional budgets. Without such a change to separate and protect the funding of general education, we see little hope for developing and sustaining a functional system. A crucial part of any such plan must be the dedication of FTEs specifically for the task of teaching upper division general education. Depending on what model for delivery is ultimately chosen, this could be stipends for lecturers, or it could take the form of a commitment from each school for an appropriate level of participation by the faculty of that school.

#### **Specific Goals**

We believe that the following list contains components essential to the success of general education at UC Merced:

- consolidate campus-wide general education under the authority of a full time Vice Provost and Dean for Undergraduate Education;
- allocate a related instructional budget for general education administered by the office of the VPDUE;

- allocate resources for assessment comparable to those of the schools;
- establish a general education committee that includes the VPDUE as an ex officio member, but consists primarily of senate faculty and lecturers involved in delivery of general education;
- recognize and compensate faculty for their general education workload;
- continue the alignment of general education with the campus's institutional goals (the eight guiding principles);
- incorporate integrative learning in the general education plan (a WASC requirement);
- involve faculty directly in the assessment of general education (a WASC requirement).

#### **Range of Options**

The current model for delivery of the Core 1 component of lower division general education is working, partly because dedicated funds (funneled through the School of Social Sciences, Humanities and Arts) are available. We focus here, then, on a range of options for our future implementation of campus-wide upper division general education. We see these options as falling into three basic categories. We could:

- a) revive the Core 100 system;
- b) fall back to a more traditional menu system that distributes its general education across the schools, but with support from a budget dedicated to general education; or
- c) develop a hybrid thematic system that consolidates new and existing courses into the general education requirements.

*CORE 100 system.* The sequence of Core 1 and then Core 100 was used early on at UCM and achieved positive results, as well as positive reviews from members of the AAC&U for its focus on *inter* disciplinary (not merely *multi*-disciplinary) education. Unfortunately, with faculty not receiving course load credit for teaching Core 100, its support and infrastructure were not sufficient to maintain it. Reviving this system will require support for a full time managing director with authority over (the VPUE), as well as clear incentives for participation. UC Merced's use of this system early on has given us a strong reputation in the AAC&U community as a leader in general education. Reviving this system, with enough support to maintain it, would help us continue that strong reputation.

*Menu System.* The vast majority of American universities use a distributed model in which students are allowed to choose from a broad list of courses each of which addresses one or more principles of general education at the institution. This model is easily managed, but may not prepare students for a 21<sup>st</sup> century approach to learning. Although there are exceptions, such as introductory courses that already combine several disciplines (e.g., Environmental Systems, Cognitive Science), this traditional approach to general education tends not to encourage interdisciplinary connections between areas of education.

*Thematic (hybrid) Systems.* This middle category can combine various aspects of the core system and the menu system, producing a few different sub-versions. For example, one approach could involve an adaptation of the upper division core course on a smaller scale, similar to the 90X writing seminar courses that are currently offered by faculty. Another approach could provide a brief training session for senior undergraduates to serve as mentors in delivering an upper-division general education course component. Yet another approach could employ a large lecture delivery mode very similar to that used in the lower-division general education course. These three sub-versions of the thematic hybrid system are not necessarily mutually exclusive; for example, senior undergraduates could be included in a mentoring role for smaller-scale faculty-taught upper-division general education seminars.

It is crucial that the strengths and weaknesses of these options be reviewed in detail before developing a plan that chooses (or mixes and matches) among them. Although additional funding for general education will be necessary as the student body grows, it should not need to increase as a proportion of the overall instructional budget for any of these options. However, there will be a need for careful consideration of the policy for distributing the existing resources and incentives for maintaining any of these general education systems.

#### **Resource Implications**

The report of the 2009 Ad Hoc General Education Committee repeatedly stresses that adequate resources must be allocated for delivery of general education: "In order to deliver the Core courses (or other future general education courses) faculty must be given credit for teaching these courses (potentially on a proportional basis)" (p. 20). That recommendation implicitly addresses a practice at UC Merced since the campus opened in 2005 to deliver some of our signature forms of university general education through voluntary faculty effort as an instructional overload. The Freshman Seminar program and delivery of Core 1 lectures are two ongoing examples of university general education initiatives that depend on faculty goodwill.

We recognize that allocation of resources for university general education is a complicated issue. Among factors that warrant careful consideration, we include

- model of general education (e.g., distributed, core, thematic, other)
- instructional workload (e.g., by contact hour, by modality of instruction, by cost per unit)
- instructional staff (e.g., ladder faculty, graduate-teaching assistants, Unit-18 lecturers, undergraduate-student assistants)
- co-curricular support (e.g., mentoring, tutoring, learning communities, internships, lecture and film series)
- classroom space (e.g., availability and efficient use of large lecture rooms, small discussion rooms, or alternatives such as virtual chat rooms)
- administrative support (e.g., recruitment of speakers, travel arrangements, online postings)
- administrative planning (e.g., course scheduling, , budget management, planning sessions with instructors, assessment coordination /reporting/and follow-up actions).

-assessment (both at the course and at the program level). Note that resources for assessment will need to be allocated for general education regardless of whether it is delivered by the Schools or by College One.

Other considerations may apply depending on the type of general education course or program that has already been offered or that is planned for implementation. For instance, instructional technology support and related infrastructure costs could significantly affect an overall budget for hybrid or fully online versions of general education. Inadequate IT support at our campus can add hidden costs with negative pedagogical consequences for an otherwise solid general education program.

Similarly, long-term reliance on temporary instructional staff is another factor that should be realistically addressed. In particular, we have high demand for teaching assistants that cannot be supported by the slow growth of our graduate programs—currently just 6% of overall enrollment. The original plan for Core 1 called for teaching assistants to be assigned to staff writing-intensive discussion sections. Costs of training and supervising teaching assistants to teach writing were not addressed, and the need to assess general education learning outcomes in students' cumulative essays was not considered. Since 2005 Unit 18 lecturers have done all of the general education assessment work for Core 1, and they have staffed all Core 1 discussion sections.

However these workload costs may be determined, we emphatically endorse the general principle of allocating appropriate resources for successful delivery of general education Our campus experience in launching the Core curriculum leads us to recommend a basic shift in how resources allocations are justified. The traditional justification of resource expenditure focuses on instructional factors such as the number of FTEs needed, student credit hours generated, and related efficiencies in infrastructure costs for type of instruction delivered. These are undoubtedly important considerations, but they also privilege an approach to teaching that is defined mostly in terms of efficient instruction—or input. We propose instead that an equally important consideration for budgetary allocation be efficiencies that promote student learning—or result. In effect, we propose that general education models be funded because they can demonstrate efficiency and effectiveness. Our future reaccreditation by WASC will require this dual focus.

This dual focus must change any analysis of cost. The traditional menu model of general education appears to be the least expensive when measured by traditional head-count budgeting, in part because general education courses are usually piggy-backed on courses that also serve other needs, such as lower-division major requirements or pre-requisites. But the complexity of assessing widely distributed and uncoordinated general education classes raises the costs in ways that we cannot easily predict because such assessment has never, to our knowledge, been successfully accomplished. For it to work, each faculty member for each course that can be used for general education would need to submit an assessment plan and annual results, segregating those students who are taking the course for general education credit from those who are taking the course for some other reason. The ensuing logistical nightmare would cost not only in opportunity time for the faculty and the registrar, but also in good will. This is not to say that UCM should not shift to such a system, only that we should not turn to the conventional on the easy assumption that it is the cheapest approach to general education.

#### Summary

- Despite a plan that implements current thinking about best practices, campus-wide upper division general education has proven to be extremely problematic at UC Merced.
- Effective general education is critical for the success of our campus and our students.
- The reasons for the failure of upper division general education are primarily related to the model under which resources are allocated.
- A change in the model for funding of general education will help address the problems (consolidation under a Vice Provost and Dean for Undergraduate Education).
- We believe that a nearly resource-neutral process for redirecting funds to general education can be achieved.
- A committee (initially, a standing subcommittee of Undergraduate Council) including faculty, adjunct faculty, and the VPDUE should continue a discussion of the development of general education at UC Merced.
- Specifically, over the next five years, the VPDUE and general education committee will review options in order to establish a comprehensive general education program:
  - Year 1: Resolve the suspension of Core 100.
  - Years 2-3: Review the College One / college system, and address the distributed model of general education in the schools.
  - Years 4-5: Revisit general education as UC Merced enrolls more graduate students, e.g., to staff Core 1 discussion sections. Consider adding a capstone experience for the general education sequence.

We would very much welcome the opportunity to discuss these matters with members of the Undergraduate Council and Senate.

<sup>2</sup> U.S. Census Bureau data track voting rates by educational attainment.

<sup>&</sup>lt;sup>1</sup> AAC&U's surveys highlight the connection. See "How Should Colleges Prepare Students To Succeed In Today's Global Economy?" http://www.aacu.org/leap/documents/Re8097abcombined.pdf and "Raising The Bar: Employers' Views On College Learning In The Wake Of The Economic Downturn" http://www.aacu.org/leap/documents/2009 EmployerSurvey.pdf.

http://www.census.gov/hhes/www/socdemo/voting/publications/p20/2008/tables.html Further broken down by ethnic group, we see that for all ethnic groups, higher education correlates with high voting rates. But in the case of Asian Americans, who collectively have higher educational attainment than the norm, even those with advanced degrees do not vote at the national average (63.6% of all U.S. citizens voted in 2008 while Asian American citizens with advanced degrees voted at 61.9%. By contrast, 82.9% of all U.S. citizens with advanced degrees and 79.3% of Hispanics with advanced degrees voted in 2008.) Does the clustering of Asian Americans in technical fields in which general education constitutes a smaller portion of the curriculum have an impact on these voting rate differentials? Some research suggests as much. For instance, Jun Xu, in "Why do minorities participate less? The effects of immigration, education, and electoral process on Asian American voter registration and turnout" (Social Science Research, Volume 34, Issue 4, December 2005), writes, "A disproportionate number of Asian American students are concentrated in professional schools and natural science majors (Kao, 1995). Such selective behavior in education is attributable to Asian Americans' perceptions of the unfair opportunity structure and their judgment that economic success should precede political involvement (Kao, 1995; Sue and Okazaki, 1990). Wendy K. Tam Cho's "Naturalization, Socialization Participation: Immigrants and (Non-) Voting" The Journal of Politics (1999), 61: 1140-1155 puts it differently. She notes the variation in impact that education has on Asian-American voting and suggests that differential socialization may very well explain it. But she focuses more on social practices and course work in schools rather than on judgments about opportunities. While she concentrates on the kinds of

education foreign-born Asian-American voters receive, it seems plausible that differences in the kinds of education such voters receive in America is also part of the socialization process she describes.

<sup>3</sup> See "High-Impact Educational Practices: a Brief Overview" (http://www.aacu.org/leap/hip.cfm), which lists in particular (quoted directly from the web page):

#### **"First-Year Seminars and Experiences**

Many schools now build into the curriculum first-year seminars or other programs that bring small groups of students together with faculty or staff on a regular basis. The highest-quality first-year experiences place a strong emphasis on critical inquiry, frequent writing, information literacy, collaborative learning, and other skills that develop students' intellectual and practical competencies. First-year seminars can also involve students with cutting-edge questions in scholarship and with faculty members' own research.

#### **Common Intellectual Experiences**

The older idea of a "core" curriculum has evolved into a variety of modern forms, such as a set of required common courses or a vertically organized general education program that includes advanced integrative studies and/or required participation in a learning community. These programs often combine broad themes—e.g., technology and society, global interdependence—with a variety of curricular and co-curricular options for students.

#### **Learning Communities**

The key goals for learning communities are to encourage integration of learning across courses and to involve students with "big questions" that matter beyond the classroom. Students take two or more linked courses as a group and work closely with one another and with their professors. Many learning communities explore a common topic and/or common readings through the lenses of different disciplines. Some deliberately link "liberal arts" and "professional courses"; others feature service learning.

#### Writing-Intensive Courses

These courses emphasize writing at all levels of instruction and across the curriculum, including final-year projects. Students are encouraged to produce and revise various forms of writing for different audiences in different disciplines. The effectiveness of this repeated practice "across the curriculum" has led to parallel efforts in such areas as quantitative reasoning, oral communication, information literacy, and, on some campuses, ethical inquiry.

#### **Collaborative Assignments and Projects**

Collaborative learning combines two key goals: learning to work and solve problems in the company of others, and sharpening one's own understanding by listening seriously to the insights of others, especially those with different backgrounds and life experiences. Approaches range from study groups within a course, to team-based assignments and writing, to cooperative projects and research.

#### **Undergraduate Research**

Many colleges and universities are now providing research experiences for students in all disciplines. Undergraduate research, however, has been most prominently used in science disciplines. With strong support from the National Science Foundation and the research community, scientists are reshaping their courses to connect key concepts and questions with students' early and active involvement in systematic investigation and research. The goal is to involve students with actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions.

#### **Diversity/Global Learning**

Many colleges and universities now emphasize courses and programs that help students explore cultures, life experiences, and worldviews different from their own. These studies—which may address U.S. diversity, world cultures, or both—often explore "difficult differences" such as racial, ethnic, and gender inequality, or continuing struggles around the globe for human rights, freedom, and power. Frequently, intercultural studies are augmented by experiential learning in the community and/or by study abroad.

#### Service Learning, Community-Based Learning

In these programs, field-based "experiential learning" with community partners is an instructional strategy—and often a required part of the course. The idea is to give students direct experience with issues they are studying in the curriculum and with ongoing efforts to analyze and solve problems in the community. A key element in these programs is the opportunity students have to both apply what they are learning in real-world settings and reflect in a classroom setting on their service experiences. These programs model the idea that giving something back to the community is an important college outcome, and that working with community partners is good preparation for citizenship, work, and life.

#### Internships

Internships are another increasingly common form of experiential learning. The idea is to provide students with direct experience in a work setting—usually related to their career interests—and to give them the benefit of supervision and coaching from professionals in the field. If the internship is taken for course credit, students complete a project or paper that is approved by a faculty member.

#### **Capstone Courses and Projects**

Whether they're called "senior capstones" or some other name, these culminating experiences require students nearing the end of their college years to create a project of some sort that integrates and applies what they've learned. The project might be a research paper, a performance, a portfolio of "best work," or an exhibit of artwork. Capstones are offered both in departmental programs and, increasingly, in general education as well."

#### Chart of High-Impact Practices (pdf)

<sup>4</sup> Jayne E. Brownell and Lynn E. Swaner (2010) review the research on differential effectiveness of high impact practices for underserved student populations. Although some of the findings are ambiguous, the general pattern supports the idea that high-impact general education practices such as learning communities and integrated approaches have stronger positive outcomes (e.g., retention, graduation rates) for underserved students. (*Five High-Impact Practices: Research on Learning Outcomes, Completion, and Quality,* Association of American Colleges and Universities, Washington D.C.)

<sup>5</sup> The Eight Guiding Principles of General Education: *scientific literacy, decision-making, communication, self and society, ethics and responsibility, leadership and teamwork, aesthetic understanding and creativity and personal potential.* 

## **CORE 001: The World at Home**

<b>Course Title</b>	The World at Home
Abbreviated Course Title	Core One
Course Subject	CORE
<b>Course Number</b>	001
School Submitting Request	SSHA
Division	Lower Division
Effective Term	Fall 2013
Discontinuance Term	
Lower Unit Limit	4
Upper Unit Limit	
Prerequisites	
Prerequisites with a Concurrent Option	
Corequisites	
<b>Major Restrictions</b>	
<b>Class Level Restrictions</b>	
	This course provides foundation for UC

Merced's general education program with a strong emphasis on writing, quantitative reasoning, critical thinking, and **Course Description** understanding events in their historical and cultural contexts. Core 1 is designed to introduce students to UC Mercedâ S faculty, our research, and the academic fields in which we work. **TIE Code** T: Lecture plus Supplementary Activity **Reasons for Request** Other The original 2004 crf for Core One listed two units of lecture and two units of discussion sections. Since 2008 Core One **Brief Explanation of Change(s)** has been offered as one unit of lecture and three units of discussion sections. This revised crf reflects that change. Lecture: 1 contact, 0 non-contact Lab: 0 contact, 0 non-contact Seminar: 0 contact, 0 non-contact **Total Contact/Non-contact Hours Per Week** Discussion: 3 contact, 8 non-contact Tutorial: 0 contact, 0 non-contact Field: 0 contact, 0 non-contact Studio: 0 contact, 0 non-contact **Total Hours Per Week** 12 **Grading Options** Letter Grade Only **In Progress Grading Maximum Enrollment** 350 **Maximum Enrollment Reason** ----

<b>Cross-listing</b>			
Conjoined			
Cross-listed Schools			
Can this course be repeated?	No		
How many times?			
<b>Resource Requirements</b>	Classrooms for discussion sections (20 students maximum) with whiteboard, projector to which a laptop computer may be connected, and internet connection.		
Does this satisfy a General Education Requirement?	Yes		

Course Outline and/or Additional Documentation Core1\_SyllabusS2011.doc (126Kb)

## APPENDIX C

#### **Registration Hold Recommendation**

Core 1 Unit Cap 24 June 2013

The University of California, Merced places a registration hold on a student's registration for classes when conditions or obligations need to be met. At our campus, Core 1 is designed to provide a foundational general education curriculum to first-year students. Thus, it is priority to complete this course ideally in the first year and certainly by sophomore year.

To meet this foundational course requirement, undergraduates must enroll in Core 1 within 60 units. A registration hold will be applied at 45 units to those who have not enrolled in Core 1 to ensure completion by 60 units.

School advisors remove the registration hold, subject to Core 1 enrollment. If Core 1 is subsequently not completed, the registration hold will be reapplied.

General Education Summary Report Native Students Number of Participants: 8 Students April 12, 2013

## **1. Brainstorming Activity: Understanding the purpose of General Education**

Students had varying opinions about the primary purpose of general education requirements. They were considered 1) helpful because they introduce students to a variety of fields and topics (5 or 62.5%); 2) useful for preparing for students upper division courses (4 or 50%) and 3) distracting and boring (3 or 37.5%).

#### Illustrative Comments

"...I would have more time to learn more useful things if I didn't have to take classes like Core." "I think it is to make students more well-rounded. They often involve various topics and the topics are supposed to help student have a more general knowledge of other subjects outside of their major."

"I think that the GE courses in your major are supposed to prepare you for the upper division classes in your major. But I do think the other GE classes bore students because it is usually a waste of time."

"I think it is also a good way to open up other doors for students. If I hadn't had the GE requirements, I wouldn't have decided to double major in Psych. "

"Other than providing the stepping stones for upper division classes, GE is good for providing knowledge that you can bring into society and you can use that information to connect with people from other schools and universities."

"For Core, I felt that was a waste of time because I knew what I wanted to do. I could see Core useful for undeclared majors, but for people that are declared, it is a waste of time."

Self-Evaluation Sheet		
Part I: Demographic Information		
1. Class standing	N=8	%
Junior	1	13
Senior	6	75
Other: Sophomore	1	13
2. Expected graduation year	N=8	%
2013	4	50
2014	3	38
2015	1	13
3. Major	N=5	%
Human Biology	4	50
Chemistry	1	13
Biology	2	13
Physics and Applied Math	1	13
Human Biology and Psychology	1	13

2. Demographics and Self-Assessment of the Eight Guiding Principles

4. Completed GE requirements		
UC Merced Requirement	N=8	%
Core 1 – The World at Home	8	100
Writing 10 – College Reading and Composition	8	100
School of Natural Sciences -Requirements	N=8	%
One lower division elective in the Humanities and Arts	8	100
One lower division elective in the Social Sciences	8	100
One upper division elective from SSHA	7	88
One upper division elective emphasizing oral or written	Q	100
communication	0	100
Part II: Self-assessment of the Eight Guiding Principles of GE		
Relative to starting at UC Merced, students' proficiency with	ſ	
1. Scientific Literacy has become	N=8	%
Much stronger	3	38
Stronger	5	63
No change	0	0
Weaker	0	0
Much weaker	0	0
2. Decision Making has become	N=8	%
Much stronger	4	50
Stronger	4	50
No change	0	0
Weaker	0	0
Much weaker	0	0
3. Communication has become		%
Much stronger	5	63
Stronger	2	25
No change	1	13
Weaker		0
Much weaker	0	0
4. Self and Society has become	N=8	%
Much stronger	6	75
Stronger	1	13
No change	1	13
Weaker	0	0
Much weaker	0	0
5. Ethics and Responsibility has become	N=8	%
Much stronger	2	25
Stronger	6	75
No change	0	0
Weaker	0	0
Much weaker	0	0
6. Leadership and Teamwork has become	N=8	%
Much stronger	5	63

Stronger	3	38
No change	0	0
Wookor	0	0
weaker	0	0
Much weaker	0	0
7. Aesthetic Understanding and Creativity has become	N=8	%
Much stronger	1	13
Stronger	4	50
No change	3	38
Weaker	0	0
Much weaker	0	0
8. Development of Personal Potential has become		%
Much stronger	6	75
Stronger	2	25
No change	0	0
Weaker	0	0
Much weaker	0	0

### 3. Group Discussion focused on Self-Assessment.

# Self-assessment of the Eight Guiding Principles for which proficiency was rated as "Much stronger" or "Stronger":

## a. SNS GE classes contribution to the development of these abilities

Many of the students felt that they have seen improvement in their *scientific literacy* because of the labs and research involved in Natural Science courses. A few expressed that having the responsibility to choose appropriate classes has helped with decision making skills. Others believed that their proficiency in communication has improved from talking to professors to get pre-requisites waived, and also from asking questions and working with peers in classes.

## **Illustrative Comments**

"For *scientific literacy*, I picked much stronger because I have had to read a lot of research articles and having to read so many of them and having to summarize them in your own words..."

"...General education classes helped my decision making because I had to decide what classes to take and figure out how much I can handle."

"I also marked much stronger for *communication* because to gain the most knowledge in these classes you have to ask questions and work with your peers."

"The lab aspect of classes has helped improve my scientific literacy. For *leadership and teamwork*, it got a lot stronger because you have lab partners and group work."

"Talking to the professors to get into classes without the pre-req has improved my *communication*..."

## b. SNS GE major specific classes contribution to the development of these abilities

Many participants did not have anything to add to this section. However, some students offered differing perspectives. Some students believe that the courses in their major have helped develop many or all of the guiding principles. On the contrary, a few of the participants agreed

that college is a learning experience which causes students to grow in these areas regardless of the courses that are taken.

#### **Illustrative Comments**

"These classes contributed to everything on this list..."

"I disagree with some courses, not all courses benefit you. In the course of four years you're going to learn no matter what."

"Courses in human bio played a big role in playing *leadership*, *teamwork*, *personal potential*, etc, we've done a lot of group activities that require me to take initiative a lot more and I realized that there are a lot more intellectual people here. I've had to embrace my personal potential in order to survive."

#### c. Extra-curricular experience contribution to the development of these abilities

Students noted that extra-curricular activities have been extremely important in the development of the eight guiding principles. Students felt that extra-curricular opportunities have developed these abilities even more than courses have. Classes address only some of the guiding principles, while involvement in clubs and organizations addresses all of them. According the students, "extra-curriculars" have helped develop abilities such as *leadership and teamwork*, *communication*, *decision making*, *development of personal potential*, *aesthetic understanding and creativity*, and *ethics*. One student concluded that "extra-curriculars" do not contribute to the development of *scientific literacy*. The *self and society* principle was not mentioned.

#### **Illustrative Comments**

"...Extra-curriculars have really helped me develop my personal potential. I have been able to explore other interests that I have and be able to exceed in them. I can reach my full potential in clubs because I have the chance to be a leader."

"...The extra-curriculars have helped develop these more than the classes have. I am an officer in an organization and it has really helped with my *development of personal potential, leadership*, and *communication*. "

"Being an officer of several clubs, it definitely improved *leadership*, *communication*, *ethics*, *decision making*, and *development of personal potential*. By getting involved in these clubs, you have to take a leadership role and you have to take initiative."

"Most of these topics are addressed through extra-curricular activities, except maybe *scientific literacy*. As the officer of clubs, you get to work with people, make posters, and share your ideas a lot. I don't think all of these are covered in classes, but I think they are covered in extra-curricular activities."

"We step outside our boundaries and improve our communication and leadership abilities. We have to contact people outside of our campus and we have to write emails professionally in the way that we would have to outside of UC Merced."

#### d. Importance of developing these abilities

There was unanimous agreement that it is very important for students to improve in these areas during their time at UC Merced. However, students agreed that they have met some students who have not developed all of these abilities, for instance *communication*, which students emphasized as being very important. It was also mentioned that *ethics and responsibility* as well as *development of personal potential* are areas that are crucial for students to improve

while they are in college. Students added that they should be able to develop these skills during their time in classes rather than requiring extra-curricular experiences to do so.

## **Illustrative Comments**

"...It is very important. I put down stronger and much stronger in all of mine because I have definitely improved since high school. Unfortunately, during my time here I have met a lot of socially miss calibrated students. So I would say that communication is very important because it is a skill that you will need to have in the future..."

"...It is very important because people are coming to better themselves, and I think that people shouldn't have to look to extra-curriculars to gain these skills."

"...With *ethics and responsibility*, it is important that you manage time wisely and not procrastinate. I think that *development of personal potential* is very important also because it is important for everyone to be able to strive as hard as you because you want to be a good role model."

## 4. Self-assessment of the Eight Guiding Principles for which proficiency was rated as "No change", "Weaker" or "Much weaker":

## a. Causes for lack of growth in these areas:

None of the students rated a guiding principle as "Weaker" or "Much Weaker". A few students rated "No Change" on *aesthetic understanding and creativity* since they mentioned that courses in Natural Sciences are not specifically geared towards developing this principle. There was also the concern that GE courses are generally large classes; a factor that hinders the development of these principles. Nonetheless, there was a general consensus that students' abilities in these areas grow with time, making difficult to assess what makes them grow.

## **Illustrative Comments**

"...It's difficult to gauge because it is natural to grow in all these areas..."

"I marked no change for aesthetic understanding and creativity because I am a Natural Science student and I took classes that were most helpful to my major. So I haven't really taken any art courses or writing classes. So it is something I haven't been working on."

"Since the general ed courses are so big, when you are new it is kind of impossible to gain these principles. I think that is why we look to extra-curricular activities to improve."

## **b.** Importance of increasing students' proficiency in these areas

There was a general consensus that it is very important to increase students' proficiency in these areas during their time at UC Merced. Although most participants did not have any comments to add, they unanimously agreed that it is very important that Natural Science students further develop the eight guiding principles to be successful after college (8 or 100%).

## Illustrative Comments

"...It is important because it helps them become a more well-rounded person."

## c. Suggestions on how to increase student achievement of these principles

The majority of participants did not have any suggestions. However, one student noted that it would help increase student achievement of these principles if there was more

communication between students and professors, "there is not enough one-on-one time with the professors". After this idea was voiced, the other participants agreed unanimously.

#### **Illustrative Comments**

"Although I marked stronger or much stronger for all of the fields, I would say that there should be more office hours per instructor, and there should be more communication going on between students and professors. If there was a way to persuade students to attend office hours, I think it would improve all of these areas for students."

### 5. Elaboration

## **Reflection on the courses for "Additional GE Requirements" for SNS. a. Benefits from taking additional SNS GE Requirements:**

Students felt that GE classes were very beneficial in that they 1) provide a break from their more difficult science classes; 2) act as a GPA booster; and 3) are the foundation that prepares students for the more difficult courses. The students agreed unanimously that the GE courses tend to be easier than those that are major specific. For this reason, the GE courses give them a chance to balance their workload and grades. It was also mentioned that the GE courses have provided students the opportunity of meaningful conversations with people outside of UC Merced.

### **Illustrative Comments**

"...It is nice to take classes outside of your major once in a while to take a break from all of the science that you are learning. For example, when I took Psych 1, I was very interested and I decided to pursue a minor in it."

"...They are really good building blocks because each of the classes build on each other. Also, like it was said, I think it is a good break from the other classes and to boost your GPA." "I have been able to converse with colleagues from other universities because of the GE classes of my Bio major."

"...General education sets a good foundation for the rest of your education. I came in very intimidated as a freshman. But you have the teachers who help you do it, and they are really good at ego boosting. And then your extra-curricular activities and everything else you do help add to that. Plus they are a grade balancer."

#### b. Suggestions offered to make additional GE Requirements more beneficial:

Some of the suggested changes were 1) writing 116 should be taught by professors who are in the field themselves (8 or 100%). Students added that writing 116 is a very useful class, and that it should not be replaced with a Psych class anymore; 2) make additional GE requirements more beneficial to students; 3) reduce the required GE courses to three, rather than four (3 or 37.5%); 4) require basic GE courses before moving to upper division; and 5) provide a time frame with courses to guide students' progress (2 or 25%).

#### **Illustrative Comments**

"Instead of four GE, can we make it three GE?"

"There should be a set time frame. Like they should tell you when you should have completed each of the GE classes."

"Just to add to that, students should take the basic GE classes before they move on to upper division. Also, they say we are a small school, but it is really hard to get classes; so if they could hire more professors and make more lectures, discussions, and labs, it would really help."

"It is nice to have other options to replace the requirements that you need. But writing 116 was one of those classes that really hits on a lot of these principles. More science writing as your upper division and your writing communication requirement."

"I think it would be beneficial to have Writing 116 taught by scientists who are actually writing in the field."

"I think that the psych classes should not replace Writing 116 because it is not comparable."

## c. Impact of Additional GE Requirement on learning within a major:

The majority of participants agreed that GE courses within a major help prepare students for the upper division classes (7 or 87.5%). One student did not agree with this statement and mentioned that GE courses have little or no impact on learning within a major (1 or 12.5%).

## **Illustrative Comments**

"No impact. Except for the writing and the reading, that kind of helps us".

"I would disagree. In some of our GE that are not listed on here, like Chem 2 and Bio 1, there are things you learn that you use in your upper division classes. I think they are helpful because they are building blocks for what we do."

"Definitely those classes of GE did provide a really good framework for the upper division classes."

## 6. Parting Wisdom

## a. Advice for students in major/ school about how to get the most out of GE:

Some of the pieces of advice offered for future students were the following: 1) attend class; 2) do the homework; 3) attend office hours; 4) read the textbook; 5) take courses within the field of interest; 6) take 12 units or more non-science courses to keep a high GPA (7 or 87.5%).

**Illustrative Comments** 

"Go to lecture. Go to office hours."

"I agree that those are important, but I think we should encourage students to be taking classes that they are really genuinely interested in. Otherwise, why would you want to go to lecture and have the ability to branch out if you are not going to appreciate it."

"Do the homework."

"Take your education seriously. When you come to UCM you should be building on the eight guiding principles... I am hoping that the guiding principles that I have been able to improve here will help me when I go to medical school. So take it seriously and start building upon these skills."

"They should cap themselves at 12 units. I don't think you should be taking more than three classes because it is usually the first semester that students begin to destroy their GPA."

"I recommend students come and take 20 units because for my major in order to get to the upper division classes in physics, you really need a good understanding of the lower division classes. In physics, you have to take Physics 8, 9, and 10 which will take two years. So then by the time you have taken them, you are already behind."

"I think that taking 20 units will be too difficult for some students because they will not be learning the material as well as they need to."

"The one thing that is important, reading the books is good. Sometimes it explains the most important things that you may not get from the professors lecture. So my recommendation is that if you are struggling, you should always read."

## b. Other comments about general education experiences:

Students do not appreciate the benefits of classes like CORE at the time they are taking it, but they do later. From this class, students learn to interact with people outside their specific field. Students would benefit from more engaging and prepared instructors and TAs. They also felt that students would benefit from having discussion sessions in chemistry courses or longer discussion sessions in other courses with labs.

## **Illustrative Comments**

"I feel like we need a higher quality of Core teachers."

"I actually liked the Core class. I know that it is hard to appreciate it while you are taking it, but if you are paying attention and doing the assignments, you actually get a lot out of it. I went to every single Core Friday, and I learned a lot about things I would have never learned." "Yeah and those are all things that you can take and use to talk to other people outside of your

"Yeah and those are all things that you can take and use to talk to other people outside of your field."

"I feel like we should have better TAs as well. I had a bad experience with a physics class because the TA didn't really speak English and it was really hard to communicate. Especially with physics, it is something you need to learn step by step so they should have professors that can explain it to us."

"I have had teachers that have literally sat in the front of the class and tell you that they will be paid whether they are a good teacher or a bad teacher. And that shouldn't be allowed to the students who are fearful to be there and scared for the semester to come."

"There are a lot of professors who don't seem to care to teach, and it seems like they don't want to be there; they make it hard to learn."

"With Chem 2 and Chem 10, there is not discussion for those courses like there is for Bio. I think that would be useful (7 or 87.5%). Some people were saying that have three classes as a freshman would be good; I think that is okay, but I do think that four is okay as long as two of them are not in the sciences."

"I would also like to say that lab doesn't have enough time and students often leave early, so I think that having discussion would help a lot."

"There is also an extreme diversity in the difficulty levels of the teachers of the same class. So it isn't really fair."

"I think there should be a discussion for upper division chemistry classes and increase the credit to four units (7 or 87.5%)."

#### **APPENDIX E**

#### MEMO

To: Patti LiWang, Chair, Curriculum Committee, School of Natural Sciences Ariel Escobar, Chair, Curriculum Committee, School of Engineering Jan Wallander, Chair, Curriculum Committee, School of Social Sciences, Humanities and Arts

From: The Ad-hoc Committee on Course Evaluations Carolin Frank (GRC) Laura Martin (SACA) Nella Van Dyke (DIVCO, chair)

#### Date: 11/19/10

#### **Re: final course evaluations**

CC: Mark Aldenderfer, Dean, School of Social Sciences, Humanities and Arts Maria Pallavicini, Dean, School of Natural Sciences Dan Hirleman, Dean, School of Engineering Cristian Ricci, Chair, SSHA Mike Colvin, Chair, School of Natural Sciences Tom Harmon, Chair, School of Engineering Evan Heit, Senate Chair Susan Amussen, UGC Chair Chris Kello, GRC Chair

The Ad-hoc Committee on Course Evaluations once again appreciates the timely and helpful feedback on our proposal provided by the School Curriculum Committees and faculty chairs. All three schools approved the 14 uniform course evaluation questions. All three also approved the 8 questions for evaluating learning outcomes, although SSHA requested 2 additional questions and had suggestions for improving the instructions. We provide additional information on these in the pages that follow, along with the final evaluation questions. We leave it to the schools to implement the new evaluations in the manner they see fit (e.g., scantron, online, etc). We request that the new questions be used for the Spring 2011 course evaluations.

The Committee would again like to thank the three schools for their prompt and helpful attention to this project.

## **Objective 1: Establish Uniform Course Evaluation Questions**

All three schools approved the 14 questions for course evaluation. SSHA's faculty chair suggested some question re-wording which the Committee seriously considered. However, we chose to retain the original wording. The final set of questions, which will be used for student evaluations for every course on campus, are included in the following pages.

		Со	urse Evalua	tion Form			
Please print the	e name of	your instructo	or and the cou	urse title and n	umber.		
Instructor:							
Course title and	d number:						
Please indicate	how this	course fits in	with your aca	idemic prograr	n. It is:		
1 in my major	2 in my	yminor 3 a	a general educ	ation requireme	nt 4 an e	elective	5 other
Use the scale	e below t	o rate the f	ollowing sta	atements:			
Disagree			Agree nor			Agree	Not Appliaghte
1	2	3	4	5	6	7	N/A
							Score
1. This instructor	was effect	ive overall.					
2. The instructor'	s explanati	ons were clea	r.				
3. In this class, I	was treated	d with respect.					
4. Materials usec	l in this cou	ırse (text, read	lings, notes, we	ebsites, etc) we	re useful.		
5. Assigned work	k was valua	ble to my lear	ning.				
6. This class was	s well orgar	nized.					
7. I knew what w	as expecte	d of me in this	class.				
8. The instructor	<sup>.</sup> was well p	prepared for cla	ass.				
9. There was su	fficient time	e in class for q	uestions and d	iscussion.			
10. The instructo	r displayed	enthusiasm fo	or the subject n	natter.			
11. Methods of e	valuation ir	n this course w	vere fair.				
12. Feedback on	my work w	vas valuable to	my learning.				
13. The instructo	r was avail	able for consu	Itation outside	of class.			
14. I learned a gr	reat deal in	this course.					

## Please answer the following questions:

1. What do you like most about the course and instructor?

2. What could the instructor do to improve the course, if anything?

3. Other comments or suggestions.

#### **Objective 2: Establish Questions to Evaluate Student Learning Outcomes**

Natural Sciences and Engineering faculty approved the set of 8 learning outcome questions proposed by the Course Evaluation Committee in fall of 2010 as well as the proposed method for ensuring that it is clear which outcomes are relevant to a specific class. The SSHA Curriculum Committee approved the 8 questions but had a suggestion and a request. First, they suggested that in addition to instructors completing a form indicating which outcomes are relevant to their course, we include a recommendation that instructors tell their students which outcomes are relevant before they begin the evaluation. This will ensure that students know which questions to focus on and which to indicate were not applicable (N/A). We have modified the instructor form to include this suggestion.

SSHA requested that the final set of learning outcome questions include two questions from the previous version that we had cut: those regarding "gaining factual knowledge" and "understanding fundamental concepts and principles," for a total of 10 questions. In order to accommodate their request while addressing faculty concerns regarding questionnaire length, we have provided two versions of the student learning outcomes evaluation forms. One includes the 8 questions proposed by the Course Evaluation Committee in the fall of 2010, the other includes the 8 questions and the additional 2 requested by SSHA. Faculty in Natural Sciences and Engineering can choose which form they would prefer to use.
Version 1: 8 Learning Outcome Questions (schools must select which version to use)

#### Instructor Form:

Instructor:\_\_\_\_\_

Course title and number:\_\_\_\_\_

As part of course assessment students are being provided with a series of questions regarding learning objectives. They are asked to indicate the extent to which the course contributed to their progress on UCM's institutional learning objectives.

We recommend that you tell your class which learning outcomes are relevant to your course before they begin completing their evaluation form.

Please indicate which of the following are desired learning outcomes for your course by putting an X by each relevant objective. If the objective is not one that is applicable to your course, then leave it blank. Turn this form in to the office staff who handle course evaluations.

1. Learning to apply knowledge, concepts, principles, or theories to a specific situation or problem.
2. Learning to analyze and critically evaluate ideas, arguments or points of view.
3. Developing communication skills (oral or writing).
4. Learning to value diverse perspectives in both global and community contexts.
5. Following ethical practices in the profession or discipline.
6. Acquiring skills in working with others as a member of a team.
7. Gaining a broader appreciation of intellectual/cultural activity (music, science, literature, etc.)
8. Gaining skills that will help me realize my full potential.

#### **Student Form**

### Appraisal of Progress (Note: only to be included with primary instructor evaluation)

How much did this course contribute to your progress on the following UC Merced institutional learning objectives?

Use N/A if the learning objective was not specifically addressed in this course.

Not at all			Moderately			Very highly	Not Applicable
1	2	3	4	5	6	7	N/A

Statements	Score
1. Learning to apply knowledge, concepts, principles, or theories to a specific situation or problem.	
2. Learning to analyze and critically evaluate ideas, arguments or points of view.	
3. Developing communication skills (oral or writing).	
4. Learning to value diverse perspectives in both global and community contexts.	
5. Following ethical practices in the profession or discipline.	
6. Acquiring skills in working with others as a member of a team.	
7. Gaining a broader appreciation of intellectual/cultural activity (music, science, literature, etc.)	
8. Gaining skills that will help me realize my full potential.	

### Version 2 - 10 Learning Outcome Questions (Schools must select which version to use)

#### **Instructor Form:**

Instructor:

Course title and number:\_\_\_\_\_

As part of course assessment students are being provided with a series of questions regarding learning objectives. They are asked to indicate the extent to which the course contributed to their progress on UCM's institutional learning objectives.

We recommend that you tell your class which learning outcomes are relevant to your course before they begin completing their evaluation form.

Please indicate which of the following are desired learning outcomes for your course by putting an X by each relevant objective. If the objective is not one that is applicable to your course, then leave it blank. Turn this form in to the office staff who handle course evaluations.

1. Gaining factual knowledge.
2. Understanding fundamental concepts and principles.
3. Learning to apply knowledge, concepts, principles, or theories to a specific situation or problem.
4. Learning to analyze and critically evaluate ideas, arguments or points of view.
5. Developing communication skills (oral or writing).
6. Learning to value diverse perspectives in both global and community contexts.
7. Following ethical practices in the profession or discipline.
8. Acquiring skills in working with others as a member of a team.
9. Gaining a broader appreciation of intellectual/cultural activity (music, science, literature, etc.)
10. Gaining skills that will help me realize my full potential.

### Appraisal of Progress (Note: only to be included with primary instructor evaluation)

Instructor:		
Course title and number:_		

How much did this course contribute to your progress on the following UC Merced institutional learning objectives?

Use N/A if the learning objective was not specifically addressed in this course.

Not at all			Moderately			Very highly	Not Applicable
1	2	3	4	5	6	7	N/A

Statements	Score
1. Gaining factual knowledge.	
2. Understanding fundamental concepts and principles.	
3. Learning to apply knowledge, concepts, principles, or theories to a specific situation or problem.	
4. Learning to analyze and critically evaluate ideas, arguments or points of view.	
5. Developing communication skills (oral or writing).	
6. Learning to value diverse perspectives in both global and community contexts.	
7. Following ethical practices in the profession or discipline.	
8. Acquiring skills in working with others as a member of a team.	
9. Gaining a broader appreciation of intellectual/cultural activity (music, science, literature, etc.)	
10. Gaining skills that will help me realize my full potential.	

#### **APPENDIX F**

		GE Approved Course # and Title			Princ	iples of Ge
			P1:	P2:		P4: Self
			Scientific	Decision-	P3:	&
Course	Number	Title	Literacy	making	Communication	Society
ANTH	126	Anthropological Approaches to Gender	1	0	1	1
ANTH	112	Political Anthropology	1	0	1	1
ANTH	114	Social Memory	1	0	1	1
ANTH	116	Indigenous Activism in the Americas	1	0	1	1
ANTH	121	Ethnomedicine	1	0	1	1
ANTH	124	Ethnopsychology	1	0	1	1
ANTH	132	History of Archaeological Interpretation	1	0	1	0
ANTH	141	Writing Narrative for Archaeology	1	1	1	1
ANTH	144	Archaeology of Religion	1	0	1	1
ANTH	146	Topics in Small-scale Societies	1	1	1	1
ANTH	148	Topics in Complex Societies	1	1	1	1
ANTH	160	Human Origins	1	1	1	1
ANTH	162	Growth, Development, and Human Evolution	1	1	1	1
ANTH	169	Trends in Biological Anthropology	1	0	1	1
ANTH	174	Lithic Artifact Analysis	1	1	1	1
ANTH	190	Topics in Anthropology	1	1	1	1
ARTS	15	History of Western Art Music	1	0	1	1
ARTS	16	History of Popular Music	0	0	1	1
ARTS	20	Fundamentals of Two Dimensional Design	0	1	1	0
ARTS	21	Fundamentals of Three Dimensional Design	0	1	1	0
ARTS	23	Multimedia Studio	0	0	1	1
ARTS	026A	Fundamentals of Music	1	1	0	0
ARTS	027B	Introduction to Music Technology	1	1	0	0
ARTS	28	Meaning in Music	0	0	1	1
ARTS	29	Music, Dance, Gender, and Sexuality	0	0	1	1
ARTS	30	Introduction to Vocal Traditions	0	0	1	1
ARTS	042A	Introduction to Photographic Techniques and Practices	0	1	1	0
ARTS	060a	Introduction to African Ensemble - Music	0	0	1	1
ARTS	060b	Introduction to African Ensemble - Dance	0	0	1	1
ARTS	61	Introduction to World Music Ensemble-Asia	0	0	1	1

#### APPENDIX G

#### Alignment of Eight Guiding Principles and Student Affairs Learning Outcomes

#### **Eight Guiding Principles of General Education**

**Scientific Literacy**: To have a functional understanding of scientific, technological and quantitative information, and to know both how to interpret scientific information and effectively apply quantitative tools;

**Decision Making**: To appreciate the various and diverse factors bearing on decisions and the know-how to assemble, evaluate, interpret and use information effectively for critical analysis and problem solving;

**Communication**: To convey information to and communicate and interact effectively with multiple audiences, using advanced skills in written and other modes of communication;

**Self and Society**: To understand and value diverse perspective in both the global community contexts of modern society in order to work knowledgeably and effectively in an ethnically and culturally rich setting;

**Ethics and Responsibility**: To follow ethical practices in their professions and communities, and care for future generations through sustainable living and environmental and societal responsibility;

**Leadership and Teamwork**: To work effectively in both leadership and team roles, capably making connections and integrating their expertise with the expertise of others;

Aesthetic Understanding Creativity: to appreciate and be knowledgeable about human creative expression, including literature and the arts; and

**Development of Personal Potential**: To be responsible for achieving the full promise of their abilities, including psychological and physical well being.

#### **Student Affairs Learning Outcomes**

Improve confidence in their abilities (learning, social, critical thinking, creativity, problem solving and purposeful risk taking)

Develop a sense of civic responsibility and engagement

Demonstrate effective written, verbal and technological communication skills

Increase capacity for leadership and teamwork

Articulate a sense of self, identity and knowledge of their effects on others

Develop an understanding and appreciation of human differences

Develop skills for life long personal well-being and success

Table: The alignment of the Division of Student Affairs' Learning Outcomes and the Eight Guiding Principles.

	Eight Guiding Principles of General Education							
Division of Student Affairs' Learning Outcomes	Scientific Literacy	Decision Making	Communication	Self & Society	Ethics & Responsibility	Leadership & Teamwork	Aesthetic Understanding Creativity	Development of Personal Potential
Improve confidence in their abilities (critical thinking, creativity, problem solving)		х					x	
Demonstrate effective written, verbal and technological communication			x					
Articulate a sense of self, identify and knowledge of their effect on others				х				
Develop an understanding and appreciation of human difference				х				
Develop a sense of civic responsibility and engagement					х			
Increase capacity for leadership and teamwork						х		
Develop skills for life long personal well- being and success								х

#### **UNVERSITY OF CALIFORNIA**

#### UNDERGRADUATE COUNCIL (UGC)

#### PROCEDURES AND POLICIES FOR APPROVAL OF NEW UNDERGRADUATE COURSES AND UNDERGRADUATE COURSE CHANGES

#### I. General Policy:

According to the UCM Bylaws, Undergraduate Council (UGC) is charged on behalf of the Division to review and approve all new undergraduate courses and modifications to existing undergraduate courses, including withdrawal, conduct, credit valuation, description, and classification of existing courses. After an undergraduate course is approved by UGC, it is transmitted to the Registrar for inclusion in the electronic course system and the UCM Catalog. No undergraduate course can be offered for enrollment and no official change to an existing course can be made by the Registrar without UGC approval.

Approval of new undergraduate courses and course modifications are transmitted to UGC via the existing web-based system (<u>http://crf.ucmerced.edu</u>).

#### II. Procedure for CRF Submission:

- 1. Submission of CRFs to UGC for approval should adhere to the deadlines in the annual calendar prepared by UGC. Note that UGC will not consider CRFs for approval during winter break or during summer.
- 2. All CRFs must be approved by the Curriculum Committee (CC) of the School (or other faculty committee designated to review curricular matters) submitting the CRF, and be approved by the Dean of the School (or designee), before the CRF is submitted for UGC approval. It is the responsibility of the School CC to review course content, programmatic contribution, overlap with other courses, and resource implications within the context of the specific program in the School.
- 3. *New courses* should be indicated on the CRF and should be accompanied by a 1 to 2page course outline (*not* a full course syllabus) summarizing the course content and purpose, goals for student learning outcomes, how such goals connect to the program or degree objectives, and, for courses satisfying General Education, how the course addresses three or more of the Guiding Principles for General Education at UC Merced. The content of the course outline should also aid reviewers in understanding whether proper learning assessment tools are part of the course and include sufficient information on format, topics, and the types of readings (e.g., textbooks, novels, essays, journal articles, etc.) to adequately assess student workload and potential overlap with other existing or proposed courses. The course outline is intended to

give reviewers information about the general nature and subject of the course - actual details of the course (e.g., specific lecture topics or emphasis, readings, or student assignments) may vary with course delivery and instructor.

- 4. *Modifications to an existing course* should be indicated on the CRF. Instructors should indicate briefly in the explanation box the reason for the proposed change(s) (e.g., change in prerequisite, update of course description, reason for change in units, etc.). Revised courses should also include course learning outcomes.
- 5. Cross-listed courses are those undergraduate courses (numbered 1 to 199) that have different prefixes, names, and/or course numbers but are intended to be offered as the same course (i.e., same meeting time, requirements, units, and course description). Each course that is cross-listed with another course must have its own CRF that indicates the corresponding cross-listed course. Cross-listed courses must have the same course requirements, number of units, prerequisite courses, course description, and anticipated resources. If cross-listed courses originate within different Schools, each School CC must approve the course and the Dean of each School must approve the CRF.
- 6. *Conjoined courses* are those courses that are taught concurrently as both an advanced upper division undergraduate and an introductory graduate course. As per SR 762, undergraduate and graduate versions of conjoined courses "must have clearly differentiated and unique performance criteria, requirements, and goals." Each course that is conjoined with another course must have its own CRF that indicates the corresponding conjoined course. The graduate version of the course must be reviewed and approved by GRC.
- 7. Questions regarding the electronic system submittal should be addressed to <u>support@eng.ucmerced.edu</u>
- 8. Complete CRFs will be transmitted to UGC for review. The following criteria will be used by UGC in its review:
  - Are the standards of the proposed course consistent with the standards for other courses taught at UCM?
  - Is the level appropriate (lower division, upper division)? Are the prerequisites for the course consistent with the level?
  - Is the instructional format justified (lecture, lab, etc.)? Is the unit value for the course justified? Is there an appropriate workload for the number of units offered (governed by SR 760<sup>1</sup>)?

1 SR 760: The value of a course in units shall be reckoned at the rate of one unit for three hours' work per week per term on the part of a student, or the equivalent.

#### **UNVERSITY OF CALIFORNIA**

- If a course is listed for variable units, does the description specify how unit value will be assigned? Are requirements clearly delineated for unit value?
- Does the course appear to fit within the major or minor curriculum or subject area? If an interdisciplinary or cross-listed course, are the subject areas and/or content described?
- Does the course overlap with another course? Some units may offer courses with similar subject matter, but with different disciplinary perspectives; however, potential overlap with another course should be explained in the CRF or attached course outline.
- Is the course description for the Catalog correct and consistent with the information given in the CRF?
- Are the anticipated resources consistent with the course format and description?

Additional review criteria for cross-listed courses are:

- Do cross-listed courses have identical requirements, units, descriptions, prerequisites, and resource requirements?
- Cross-listed courses must be approved by all of the participating Schools and approved by the Dean of each participating School.

Additional review criteria for conjoined courses are:

- Do conjoined courses have sufficient overlap in course structure to facilitate concurrent instruction of both advanced undergraduates and graduate students?
- Are performance criteria, requirements, and goals of the undergraduate and graduate versions of the course clear and distinct?
- Conjoined courses must also be approved by the Graduate and Research Council.
- 9. If UGC requires further information or indicates that modification of the CRF is needed, the Senate Analyst, on behalf of UGC, will notify the School of the request. It is the responsibility of the School and/or the instructor responsible for the CRF to provide the requested information or modification to the CRF in a timely fashion.

Once a course is approved by UGC, the Senate Analyst will notify the Registrar. The Registrar will notify the originating School of approval and the course will be entered into the Catalog.

### Core 1 Completion Attempts

#### AY 2011-12 and AY 2012-13

(Students cited had not yet successfully completed Core 1 as of the semester noted.)

Data pulled from Banner via Cognos - 8/8/2013 - "Students who need to take Core 1" report

			Num	ber of atte					
	Average attempts per student	0x	1x	2x	Зx	4x	Total # of students	Traditional	Transfer (no IGETC)
Fall 2011									
Seniors	0.55	32	5	4	1	2	44	21	23
Juniors	0.51	33	19	5	0	0	57	57	0
Sophomores	0.69	52	41	14	2	0	109	108	1
Freshmen	0.27	149	44	5	0	0	198	198	0
Spring 2012									
Seniors	0.57	30	5	4	1	2	42	20	22
Juniors	0.50	34	19	5	0	0	58	58	0
Sophomores	0.67	44	25	12	1	1	83	83	0
Freshmen	0.38	60	26	4	0	0	90	90	0
Fall 2012									
Seniors	0.59	20	4	3	1	1	29	18	11
Juniors	0.55	31	16	5	1	0	53	53	0
Sophomores	0.20	235	41	8	0	0	284	284	0
Freshmen	0.18	294	58	3	0	0	355	355	0
Spring 2013									
Seniors	0.54	17	5	3	1	0	26	18	8
Juniors	0.52	31	16	4	1	0	52	52	0
Sophomores	0.18	229	33	8	0	0	270	270	0
Freshmen	0.18	211	42	1	0	0	254	254	0

analysis and report prepared by Linda Hart Tolley (Administrative Cfficer) in the Merritt Writing Program, August 2013

*Communication, Self and Society,* and *Aesthetics* are the three most frequently cited *Principles* in General Education-approved courses (Figure 1). However, enrollment patterns reveal that *Scientific Literacy, Decision Making,* and *Ethics* are three most commonly cited *Principles* in the courses students actually take to fulfill GE requirements (Figure 2).

**Figure 1 - Citation Frequency**. The frequency with which each Guiding Principle of General Education is cited in the course syllabi of General Education courses as of fall 2013.







#### **II. Summary Report**

#### I. Brainstorming Activity: Understanding the purpose of General Education (GE)

Participants noted that GE offers important foundation skills that students need to acquire before graduating. Not only does it help students discover their field of interests, but it also offers a foundation for upper division courses.

#### II. Demographics and Self-Assessment (See Self-Assessment Results for more details)

A total of 39 students participated of the seven focus group sessions offered to native and transfer students from the three schools. Students from the School of Natural Sciences (SNS) represented the largest group (26 or 62%) with 24 or 92% native students and 2 or 8% transfer students. A total of 16 or 62% native students from this cohort were from a writing 100. With regard to the participants' class standing, there were 10 or 26% seniors, 4 or 16% juniors and 2 or 8% sophomores.

The School of Social Sciences, Humanities and Arts (SSHA) was represented with 7 or 17% students. There were 6 or 60 % native students and 8 or 40% transfer students. This cohort consisted of 5 or 10% of seniors and 2 or 10% of juniors.

There were 6 or 14% students representing the School of Engineering (SoE). This cohort consisted of 5 or 83% native students and 1 or 17 % transfer student. While 5 or 83% were seniors, 1 or 8% was a sophomore in this group.

#### 3. Group Discussion focused on Self-Assessment.

# Self-assessment of the eight guiding principles for which proficiency was rated as "Much stronger" or "Stronger."

#### 3a) GE classes contribution to the development of these abilities.

Students from the three schools mentioned that GE coursework requirements have contributed to the development of select abilities: 1) *scientific literacy*, in particular, by completing lab write ups which require students to read and reference scientific articles, byparticipating in class research, and by taking Service Learning; 2) *leadership and team work*, through group assignments during discussion sections. Some students mentioned that the diversity in their classes helped them interact with different member of the student body; 3) *decision-making skills* by having the responsibility to choose the appropriate classes and taking writing 119; 4) *communication* skills by interacting with professors and peers. Although, students noted that attending college helped increase their proficiency with all eight guiding principles, their proficiency with *scientific literacy* and *communication* had improved considerably since beginning at UC Merced.

#### 3b) GE major specific classes' contribution to the development of these abilities.

Students agreed that the courses in their major have helped them develop all of the skills mentioned in the guiding principles, including *scientific literacy, communication, leadership, and teamwork*, and *development of personal potential* as the most mentioned abilities. Writing papers and completing homework assignments have contributed to their *scientific literacy* skills. Participation in group projects and studying for exams with peers improved their *communication teamwork* and *leadership skills*. A few students discussed how they were able to develop their *personal potential* and *communication* skills once they started to take GE major specific classes, and more challenging classes.

#### 3c) Extra-curricular experience contribution to the development of these abilities.

Extra curricular experience contributed to the development of *leadership and teamwork, communication, ethics and responsibility, and decision making,* among the most mentioned abilities. Several students discussed how working towards a goal, interacting with peers, and managing tasks and time provided the most improvement in these abilities. Students noted that extracurricular activities have improved their proficiency with the abilities in the guiding principles more than coursework.

#### 3d) Importance of developing these abilities.

Participants emphasized the importance of developing their proficiency with the eight guiding principles; however, students prioritize these guiding principles differently. While some students felt that *communication, leadership and teamwork,* and *decision-making* are the most important ones, others considered *self and society* and *aesthetic understanding and creativity* as relevant abilities to develop. However, a few students emphasized the importance of being proficient in writing. Above all, students noted the importance of developing every single ability mentioned in the eight guiding principle during their time at UC Merced.

#### 4. Self-assessment of the eight guiding principles for which proficiency was rated as "No change", "Weaker" or "Much weaker."

#### 4a) Causes for lack of growth in these areas.

GE courses did not significantly impact students' proficiency with some abilities in the guiding principles. Although some students noted that they came to UC Merced understanding the importance of becoming proficient with *ethics and responsibility*, they felt that it is not

prevalent in their GE courses. Students considered *ethics* as a very important principle; however, they did not feel that their GE courses significantly developed this proficiency. This lack of growth in *Ethics* was more frequently addressed among SoE students than SSHA students. While SSHA students mentioned they have developed proficiency with *ethics* by being involved in research and experiments, SoE students mentioned that the concept has not been emphasized much in their coursework.

SNS native students mentioned that their GE courses are not geared towards developing *aesthetic understanding and creativity*. SNS students also discussed how large GE courses limited professor-student or peers' interaction, and thus, hindered students' proficiency with *communication, decision-making, leadership, and teamwork*. Students concluded that the abilities in the guiding principles develop through time, making it difficult to assess what triggered their development. However, extra-curricular activities compensated for what GE courses lacked.

#### 4b) Importance of increasing students' proficiency in these areas.

Participants emphasized that it is very important to increase their proficiency in all the areas described in the eight guiding principles, in particular for their success after college. While SNS students mentioned the importance of developing good *communication* skills, SSHA students noted the benefits of acquiring proficiency with *ethics* and *creativity*. Students understand the fact that it takes time for the university to grow in ways that could further increase student achievement in the areas mentioned in the guiding principles.

#### 4c) Suggestions on how to increase student achievement of these principles.

Students from different schools offered different suggestions: 1) SoE students mentioned that having writing and SSHA classes that are more applicable to their majors would help them improve on areas they felt they are lacking such as the *aesthetics* and *communication* abilities. The SoE transfer student mentioned that SSHA requirements are difficult to fulfill because of limited space, and he suggested making these courses available online. 2) SNS students mentioned that an open communication between professors and students could increase student achievement of these principles. Also, SNS participants suggested that having more group work activities during labs would help students develop some *leadership and teamwork* and *decision making* skills. 3) SSHA students suggested that the principle of *ethics* should be more

emphasized. There was unanimous agreement that it is very important to increase students' proficiency in all the areas described by the eight guiding principles.

#### 5. Elaboration

### Reflection on the courses for "Additional GE Requirements"

#### 5a) Benefits from taking additional GE Requirements.

Additional GE requirement courses helped students become better rounded by exposing them to concepts and ideas outside their majors. Moreover, the following benefits were discussed by participants from different schools: 1) For SNS students these additional GE requirements provide: a. a "GPA booster" since these courses tend to be easier than the major specific ones and give the students the opportunity to balance their workload and grades; b. a "buffer" and a foundation to prepare students for more difficult major courses; c. the opportunity to meet students outside of their majors and professionals outside UC Merced; 2) Some SSHA native students gained a better idea of their career path which helped to confirm whether they had chosen the right major or not, and also they developed their *personal potential* abilities by researching their interests. Some SSHA transfer students felt they benefited greatly from additional GE requirements because they had the option to do research instead of GE courses. However, some SoE students felt that they did not gain any valuable knowledge by taking GE courses because they had to take specific courses that they felt did not apply to their major. They noted that the GE requirements were neither flexible nor relevant to their major.

#### 5b) Suggestions offered to make additional GE Requirements more beneficial.

Students from different schools offered the following suggestions:

1) a. SoE native students would benefit from SSHA classes being more relevant to engineering, such as architecture or design oriented classes; b. Some engineering majors noted that the current GE courses offered are not equivalent to the experiences and opportunities offered by the Service Learning Program and mentioned their frustration at how hard it is to enroll in that program. Many students are in their senior year and have yet to take the course. To solve this issue, the SoE transfer student suggested that students should be allowed to use research experience to count for service learning.

2) NSN native students mentioned that a. since writing 116 is a relevant course, it should be taught by lecturers who are in the discipline, and it should not be replaced with a psychology course; b. students should be required to fulfill all of their GE requirements before moving on to upper division classes; c. the required GE courses should decrease to three; d. GE courses should be more applicable to a students' major; e. Core should be standardized across all the discussion classes to ensure fairness with the grading scale; f. in order to be more helpful to students, Teaching Assistants should receive more training before being allowed to lead discussion sections.

3) SSHA native students felt that the catalog should accurately describe GE classes and that there should be a more diverse class pool available to students. SSHA transfer students expressed their concern with the pre-requisite system. It should be easier for transfers to declare their minor or enroll in courses without having the necessary pre-requisite courses. For instance, students with a high GPA, or a written statement to support their request should be admitted to the class.

#### 5c) Impact of Additional GE Requirement on learning within a major.

While SoE native students mentioned that required GE courses helped them learn how to approach problems from different perspectives, NSN native students noted that the foundation they received in their GE requirement was useful to understand concepts and ideas for their upper division coursework. Few students mentioned that GE courses had little or no impact on their learning within the major.

#### 6a) Advice for students in major/ school about how to get the most out of GE.

Students discussed and offered the following pieces of advice: 1) It is important to take GE classes seriously and do well in them by attending lectures & discussions, going to office hours, getting to know the professors and peers, reading the textbook and doing homework. 2) Some students stressed the importance of studying to learn rather than studying for a grade and taking classes that are within their field of interest. 3) With regard to the amount of coursework that students should take per semester, while some felt that 20 units is appropriate to get through coursework in time to graduate in four years, others felt that students should take 12 units to avoid "hurting" their GPA. 4) Many students noted the importance of consulting with an advisor about what classes to take. 5) A few students considered that making time for themselves and staying physically active were important in order to be energized and focused. 6) Transfer

SATAL 6

students emphasized that incoming transfers should finish all of their GE requirements before coming to UC Merced.

#### 6b) Other comments about GE experiences.

Students stressed the importance of taking GE classes seriously and doing well in them in order to get good grades to "buffer" grades from their more challenging upper division classes. Among some of the comments shared by the students, SoE students addressed the difficulty of enrolling into the Service Learning Program. The SoE transfer student discussed the possibility of taking GE requirements online to free up time for research, and he noted that it would be beneficial for undergraduate students to engage with working in labs and doing research in order to become more competitive applicants in the future. NSN native students pointed out that students do not appreciate the benefits of classes such as Core at the time they take it, but they do later. From this class, students learn to interact with specialists outside their discipline. Participants agreed that students should explore their options early on and identify which upper division classes they may want to take later. Some students mentioned that there should be a more clear process to get into a class that is full.

The results from the focus group sessions offer some preliminary findings and a framework for future assessment efforts. Even though the transfer participants (7 or 17%) were much smaller in number than native participants (35 or 83%), they articulated similar responses regarding their proficiency with the guiding principles. Students' limited participation in the sessions, affects the reliability of the data representing this population.

#### **Student Affairs Periodic Program Review**

#### **Summary of Status**

	Year Review	
Department Name	Launched	Status of Review
Center for Career & Professional Advancement	June 2009	Completed, submitted to SACAP <sup>1</sup> June 2011
Bright Success Center	June 2009	Completed, submitted to SACAP June 2011
Students First Center	June 2009	Completed, submitted to SACAP June 2011
Office of the Registrar	June 2010	Completed, submitted to SACAP June 2012
Campus Store	June 2011	Self-study completed; Site Visit, Spring 2014
Housing & Residence Life	June 2011	Self-study completed; Site Visit, Spring 2014
Financial Aid & Scholarships	June 2012	Self-study & Site Visit completed; Dept Response in progress
Student Health Services	June 2012	Self-study in progress; applying for AAAHC*
Recreation & Athletics	June 2012	Self-study in progress
Office of Student Life	June 2013	Self-study in progress
Counseling & Psychological Services	June 2013	Postponed to Summer, 2014 due to key personnel change

\*Student Health Services is undergoing accreditation from the Accreditation Association for Ambulatory Health Care. The Health Center staff anticipates completing the process, including a self-study and site visit by an external team, by September 2014.

<sup>&</sup>lt;sup>1</sup>Senate-Administration Council on Assessment and Planning

## UNIVERSITY OF CALIFORNIA UCIVERSITY OF CALIFORNIA UCIVERSITY OF CALIFORNIA

#### MEMORANDUM

TO:	Senate-Administration Council on Assessment
FROM:	Jane Lawrence, Vice Chancellor for Student Affairs Emily Langdon, Coordinator of Assessment, Research and Evaluation
RE:	Initial Student Affairs Program Reviews
DATE:	July 28, 2011

We are pleased to provide a summary and analysis of the Division of Student Affairs' first three efforts at Program Review. In the summer of 2009, three departments, the Student Advising and Learning Center (SALC), the Career Services Center (CSC), and the Students First Center (SFC) were selected to pilot the Student Affairs Program Review policy. All of the units have successfully completed the process and their self-studies, external reviewer reports and departmental responses have been provided to SACA.

In addition, the leadership of the Division of Student Affairs based upon what we learned during these reviews and from the Undergraduate Academic Program Review policy, revised our Program Review policy and process. The significant changes to our policy include providing a standard set of questions to guide the external reviewer visit and report, conducting a comprehensive performance evaluation of the unit director during the self-study process, and shifting the final step from a complicated action planning (that might not be connected to any divisional strategic planning) to a departmental response. This provides the department an opportunity to prioritize and identify budget implications and feasibility of the recommendations. SACA received a copy of our updated policy last December.

This report to SACA is in three sections: (1) major issues identified through the Program Review process, (2) budget implications and (3) summary of actions taken to date. Prior to a discussion of these issues, we wanted to acknowledge that while Program Review was an additional unanticipated expectation, it also has turned out to be a very positive activity that left the staff in the units feeling proud of all they had accomplished over the last six years, pleased by the helpful feedback that they received throughout the process especially from the external reviewers—and anxious to continue their work on behalf of the students and faculty at UC Merced.

#### (1) Major Issues

One of the surprises was that there were so few surprises in the issues that emerged from the three Program Reviews. We had anticipated given the developmental stage of the campus and our services and the fact that many of our staff is new to their roles that we would hear from reviewers about all of the services that remain to be developed and all of the work that needs to be done. Instead, the reviewers found the three units to be staffed by well-trained professionals. "We were very impressed by the staff, administrators and the students and their zeal for UC Merced" (SALC); "The quality of the staff was notably impressive" (CSC); "Students felt the SFC staff was friendly, welcoming, knowledgeable, and eager to help" (SFC). In addition to positive feedback on the staff, the external reviewers reported very little lacking in the range of services offered. "The office and university as a whole are very impressive and there are many noteworthy things happening at UC Merced" (SALC). "In fact, if they made no changes in programming, the students of UC Merced would be well served due to the sense of excellence the campus feels about the programs offered (SALC)." The reviewers were able to identify problems that are NOT present within our Division that are common in higher education. "SAOs seem to have the appropriate access to the necessary screens in Banner. ... Access can sometimes be a territorial issue between departments but that does not appear to be happening at UC Merced" (SFC).

Obviously, one critical issue that emerged from the program review is **scalability** as our student population continues to grow. One of the hallmarks of Student Affairs at UC Merced has been our commitment to individualized service to students. All reviewers acknowledged the passion the staff in these units bring to their jobs. "University partners appreciate their humility, grace, work ethic..." (SALC), but also counseled that developing clear strategic plans, focus and better defined boundaries will be necessary to ensure that quality can be maintained as units grow. "As the student body grows and demands for [career] advising and counseling builds there will be adjustments that need to be made" (CSC).

In many cases, the reviewers' reports offered concrete suggestions as to where the next hire or commitment of resources will need to be added: "The CSC needs institutional support to build an entire internship/experiential learning functional unit. The current half-time position for this critical area is simply not enough and cannot sustain a viable and growing practice areas for long" (CSC). "Because Orientation is the foundation for student success and contributes to the retention and graduation of undergraduate students, summer Orientation programming must be the highest priority on campus during the period of time it is offered. It should not be competing with summer session classes or off-campus conferences for space or staffing needs" (SALC).

> "The unit has played the role within the division of program incubator, but as UC Merced begins to turn its attention to more organizationally mature issues, such as redefining its mission and scaling up services, the unit will need to better define its boundaries so that is can concentrate on

ensuring that all of its programs are consistently high quality" (SALC).

All three reports included a clear message that the departments would have to grow as the student body grows: "That projected growth in student numbers dictates expansion and change within the SALC programs" (SALC).

Another issue that emerged soon after the campus opened, but which has not been satisfactorily addressed and which was discussed at length in all three of the reviewers' reports was **space**. While it is a common issue, each unit has different and unique space challenges. The Student Advising and Learning Center not only does not have space for its staff, but it does not have enough space for tutoring. "The overwhelming need for space to house the SALC programs was the most prevalent need observed and message we heard from all constituencies" (SALC). As our student population increases, our number of hours of tutoring is decreasing even though demand is strong. We have nowhere to hold tutoring sessions. As the reviewers noted: "the lack of space stifles and limits the growth capabilities of SALC programs" (SALC).

The Career Services Center also has run out of space for career counseling staff who help our students with internships and full time career jobs; employers have no place to interview students when they come to campus. "There is a great and surprising deficiency in the lack of interview rooms for employer visits. That is a standard necessity in a modern career center. It is hard to even find a career center without such space" (CSC).

The SFC has no offices for private conversations with students and no partitions at their counter to allow for some semblance of confidentiality. "Students expressed concerns about privacy when they visit the SFC. Specifically, ... the counter space is too small, forcing students to stand next to each other as they discuss sensitive issues" (SFC). Regarding the inability to have confidential conversations, the SALC external reviewers cautioned: "This suggests some university liability risk for violation of federal education privacy laws" (SALC).

Again, not an emerging issue but an important one to the campus and these units and highlighted throughout the program review process is **information technology.** Given our tech-savvy students, we need our services available 365/24/7. We must have a robust web presence and we need over time to move toward e-advising, e-tutoring, e-orientation, virtual career fairs, ecareer counseling, career videos, pod casts and web-based services that are probably not invented yet! Even though we are exploring new and cutting edge technology to connect with and serve our students, it is troubling and embarrassing that since UC Merced opened, one of our challenges has been the inadequate telephone system in our enrollment management units. This was the first and strongest recommendation for improvement from the One Stop expert who reviewed the Students First Center.

Our websites need to be easy to use by students, faculty and in the case of Career Service by potential employers. Employers reported that the website "...could be made easier to navigate" (CSC). "The SALC staff and some academic partners recognize that the current webpage is haphazardly constructed and could be more accessible to students" (SALC). It takes resources to upgrade our webpages and then more resources to maintain them. "The CSC uses .. CatLink for jobs and internships. This is a top-of-the-line online system well-regarded in the field, ... [but] takes staffing resources and expertise to run well" (CSC).

Another theme that emerged from the Program Reviewers' reports was our departments' commitment to and ability to serve our **population of at-risk students**. Program Review provides a unique opportunity for experts from other higher education institutions to see our campus, experience our student body and review the services we provide, which all mentioned anecdotally were fascinating and even inspiring. The reviewers collected insights about UC Merced students.

"They [employers in Merced] mentioned a resiliency among the students that was a plus in new hires. They also commented upon the diversity of the campus." (CSC). "The employers also felt that there is a level of shyness, lack of preparedness, and less polish among the students they see" (CSC) and "compared to Fresno State the UC Merced students were more reticent" (CSC).

Given our student population and our mission, the Division of Student Affairs has focused programs and services to meet these needs. The Students First Center is challenged to maintain its service-orientation for students and their families; the Career Services Center must find more and better opportunities for employment for our graduating students and prepare them for the world of work; and our Student Advising and Learning Center must help the undeclared and demajored students find a place to be successful at UC Merced. One focused program that received kudos from the external reviewers was our Fiat Lux Scholars program which is funded by a FIPSE grant to support low income, first generation students.

The Fiat Lux program was touted as a huge success and we were encouraged to expand it to meet the demand. "Fiat Lux Scholars is a model program meeting the needs of first generation, low-income students from underrepresented background. ... All constituencies recommended the expansion of Fiat Lux to meet the personal needs and demands of UC Merced's unique campus population" (SALC) "Fiat Lux models success for students who need additional levels of support and personalized guidance to transition into the unfamiliar world environment of a large research university" (SALC).

Another SALC program that we were encouraged to expand and even reconceptualize was the Student Success course, USTU 10. "That group [academic affairs partners] believes that this course [USTU 10] fundamentally assists students in developing and building student success skills" (SALC). The reviewers went so far as to suggest that the University explore linking the course with the CORE 1 program as "a way to make USTU 10 'scalable' as the campus community grows and capitalize upon the successes of the CORE 1, USTU 10 and student peer mentors" (SALC).

#### (2) Budget Implications of Program Review

While the Division of Student Affairs is cognizant of the current economic challenges facing UC Merced, we were asked to include in this report the budgetary implications of the program review process since some recommendations cannot come to fruition without additional resources. We also acknowledge the need to work with the internal budgetary processes, and where appropriate, explore external revenue streams to fund these improvements and next steps.

It is not surprising that the Program Review reports yielded a number of suggestions with explicit budget implications. The space and staffing recommendations, which speak directly to our ability to scale and provide services, will require a commitment of resources and often extensive planning, and while we realize these are long-term implications, we do not want them to go unmentioned here. Our intention is, over the next few years, to submit budget requests to the campus and to the Student Fee Advisory Committee for additional staff so that we can maintain the quality of our services to faculty and students.

All three departments would benefit from improved web design and IT support. This indeed might be said of all of the departments in our Division, but it was a clear common institutional concern indentified by the external reviewers.

Our ability to build upon our successes and expand both the Fiat Lux Scholars Program and the USTU 10 course depends on additional staffing and funding. The intriguing suggestion to explore folding the student success course into the general education requirements entails a larger campus discussion and probably a champion who can promote the benefits among all the stakeholders.

#### (3) Actions Taken to Date

Each department has acted upon the recommendations in some form. In the Student First Center, as issues would come up during the self study process, the staff immediately put the suggestions/changes into place. One solid improvement, although implementation and installation has been challenging, is the new phone system for the Enrollment Management units (SFC, Admissions, Financial Aid, and the Registrar's Office) which increases our number of phone lines from 12 to 46, allows us to have pre-recorded messages for callers to listen to while they are on hold, provides the ability for us to monitor the number of calls waiting and alert staff to calls waiting for certain offices and to produce reports on volume by area, time of day, etc. When fully implemented it will provide dramatically improved customer service. In addition, the senior leadership of Student Affairs is currently addressing the need to "create a management structure for the SFC" by changing titles of two of our staff members to clearly reflect hierarchy, roles and responsibilities.

In the Student Advising and Learning Center, the recommendation for the "development of a Learning Center" (SALC) will move closer to fruition because of a \$2 million dollar gift (over 4 years) from the Bright family. The external reviewers recommended the "hiring of 2.5 FTE" to support programs and this gift will enable us to cover program operation expenses, hire more peer educators and free up funds for a .5 FTE.

Finally, Career Services immediately began to follow up on several of the recommendations of their reviewer. A strong recommendation was to build high level and strategic partnerships on and off campus. To date, Career Services staff has engaged actively with UC Merced's Board of Trustees resulting in job and internship opportunities for students and alumni. Career Services has stepped up its employer development by increasing UC Merced's corporate portfolio by adding more than 10 major recruiting relationships. The director, with assistance from University Relations, is in the process of putting together a Career Advisory Board. Members will be representatives from organizations, both public and private, who employ university graduates. Other recommendations in process include hiring a STEM career counselor. We need to develop career education programs and employer networking opportunities for undergraduate and graduate students in STEM fields. This position is funded by Student Services Fees and we hope to have a new counselor in place in fall 2011. Finally we need to fully utilize technology and are exploring webbased resume programs and on-line interviewing modules that can be easily utilized by our students.

As noted above, our Fiat Lux Scholars program for our most at-risk students received particular praise by the SALC external reviewers. Initial data analysis shows that our first group of Fiat Lux Scholars is being retained at a higher rate than even better prepared students. We started this program using funds from FIPSE that will run out in December 2011, but we are fortunate that the Student Fee Advisory Committee recognizes the importance of this program and has allocated Student Services Fees so that we'll be able to continue it and serve some additional students.

In summary, we are quite proud of all that the Division of Student Affairs has accomplished in the area of Program Review. We have improved our process and gained insight and external validation of these three departments. We are confident that our staff are professionals who strive to serve our students and fulfill our mission. Their commitment to providing excellent programs and services is undisputed. At the same time, it is clear that the issues of space and scalability, plus our need for consistent IT support and our high percentage of at-risk students make our challenges considerable. Please feel free to contact us if you need any additional information or have further questions about our initial Program Review process or outcomes.

CC: Keith Alley, Executive Vice Chancellor & Provost Charles Nies, Associate Vice Chancellor Fuji Collins, Assistant Vice Chancellor Kevin Browne, Assistant Vice Chancellor



#### University of California, Merced Program Review Departmental Response Career Services Center 2010-11 June 1, 2011

Author: Brian J. O'Bruba - Director, Career Services Center, UC Merced

External Reviewer: Mr. Carl Martellino - Director, Career Development Office, Pomona College

**Executive Sponsors**: Dr. Jane Lawrence, Vice Chancellor of Student Affairs, Dr. James "Fuji" Collins, Assistant Vice Chancellor of Health & Wellness and Emily Langdon, Assessment Coordinator, Student Affairs, UC Merced

#### INTRODUCTION

Despite the economic downturn and challenges facing the University, the staff of the UC Merced Career Services Center worked collaboratively and efficiently, upholding the core principles of the Division of Student Affairs and maintaining excellence in the delivery of career services. The Career Services Center continues to offer strong and diverse career development and employer services, programming, and events, all in the shadow of an evolving and constricted budget environment. We remain unwavering in our commitment to help UC Merced students achieve satisfying and rewarding careers. A primary goal of the Center, especially during these times of economic stress and uncertainty, is to ease their transition from the classroom to the working world.

The program review process has proven to be a meaningful and inclusive journey that has required each and every staff member to make informed, candid, and honest appraisal of integral functional areas with the Center. The value of the program review rests in the objectivity by which it was structured as we paired staff members who had a great deal of investment in an area with external members who could stand back, ask hard and incisive questions, and provide new ideas and fresh perspectives.

The information gathered during the program review process has directed the Center towards developing an action plan to be used in strategic planning, programmatic planning, analyzing the relevance and timing of our program offerings and revisiting the budgeting process. In addition, as a staff we are better able to access current and future resource needs and visualize how the Career Services Center as a unit contributes to the mission of the Division of Student Affairs and the institution as whole. This has been a growth exercise for the entire Center as we celebrate our achievements and accomplishments while at the same time consider areas we must improve and how we might reshape our priorities for the future.

#### **INITIAL IMPRESSIONS**

The Center was critically reviewed by a respected career services practitioner in higher education. The reviewer was Mr. Carl Martellino (Director, Career Development Office at Pomona College). Mr. Martellino spent January 21, 2011 on-campus meeting with faculty, staff,

students, employers, and campus partners to review the Career Services Center. In addition to meeting with these major constituencies, he took the time to examine various documents related to the Center.

The external reviewer report shared observations, recommendations and supplemental articles that spurred a series of in-depth and fruitful conversation among the staff, the director and senior leadership. While only a few of the reviewer's recommendations have immediate impact many others are suited for longer-term, and even larger-scale change and growth. As director, my sense is that we will return to these recommendations again, but we need to have the structural and financial support in place before any serious consideration can take place. The Career Services Center took to heart the observations and recommendations made by the external reviewer; we believe information obtained from both the self-study and the external review combined with the Career Services Center strategic plan and the current priorities for the University will help guide future planning efforts for the Center.

On the basis of this external review, the Careers Services Center can already claim to 'punch above its weight.' Time and time again throughout the final report, high praise and regard were given to the impactful work provided by the Career Services Center. The report showed the range of services as coherent and synergistic, with each adding value to the others. The Center is a strong and highly professional unit, of which the University should be proud. If the current direction is supported, and handled well, the Center has the capability to become recognized nationally as one of the premier career services operations and to make an even greater contribution to the development of UC Merced students and hence to the economic and social prosperity of the San Joaquin Valley, state of California, and even the world.

The guiding principles for our program review were rooted in the National Association of Colleges and Employers (NACE) Professional Standards for College and University Career Services. The external reviewer applauded the Center in meeting or exceeding the NACE standards in their entirety while giving special accolades to the analysis performed within the self-study. The reviewer wrote:

"Based on the National Association of Colleges and Employers (NACE) principles of professional standards the UC Merced Career Services Center meets and often exceeds the standards." (p. 1).

"The self-study does an excellent and painstakingly thorough job of going through the NACE guidelines and enumerates the strengths, weaknesses and areas of challenge and recommendation. Those strengths, weaknesses, challenges, and recommendations have been reviewed and are herein accepted and embraced as part of this external review." (p.1).

The external reviewer also praised the Career Services Center's leadership and staff and found them to be competent in their discipline and performing a good job with respect to the Center's mission. The reviewer wrote:

"The quality of the staff at the CSC was notably impressive." (p.1).

"The quality of a center's staff speaks clearly to the overall leadership and the importance that is placed on an operation." (p.1).

"The CSC director has shared a strong vision throughout the campus by engaging faculty, student groups, student working on-campus, and other to work toward the common goal of connecting students and opportunities." (p. 1)

The Center takes this report very seriously. We have already moved forward with implementing some of the recommendations at this point. The rest we will explore, focusing on what is in the best interest of student success.

#### FINAL RECOMMENDATIONS

On the basis of the comprehensive program review, it was recommended that the Career Services Center continue to progress and implement its planned growth strategies. In order to do so, such development needs to address five key recommendations (in no particular order):

- 1. Strategic Planning
- 2. Campus Outreach & Partnership Development
- 3. Employer Relations
- 4. Career Events, Counseling Services and Technology Resources
- 5. Assessment/Data Collection and Reporting

In consideration of these recommendations, the Career Services Center strategic plan and the current priorities for the University will help guide future planning efforts for the Center.

#### Strategic Planning

The first recommendation is for the Career Services Center to develop long-term goals, objectives, strategy or plans. Career Services Center clearly views itself as being not only a deliverer of career development services but also as having a campus-wide strategic leadership role in relation to the delivery of such services.

There is accordingly a strong case for Career Services to initiate discussions on the establishment of a campus-wide council or forum to bring together and to develop a career development culture at UC Merced. The membership of such a body and its relationship to the Center would need careful consideration. Its tasks might include a common definition of the career development competences that all students should be seeking to develop throughout their academic careers. More generally, it could provide a means through which the campus would be able to engage as a whole, alongside Career Services as its lead provider.

As director, I feel the Career Services Center is appropriately placed within the Division of Student Affairs. Student Affairs plays a huge role in developing the student that graduates from UC Merced each year. The scope and breadth of Student Affairs is so far-reaching that the Center has the potential for involvement in career guidance services across campus. Additionally, the Division of Student Affairs is widely regarded as being agile, competent, well-managed, collaborative, pragmatic and responsive. While continuing to value and uphold the core principles set by Student Affairs, the Career Services Center must similarly operate largely on a transversal basis to align with key stakeholders wherever they may lie within the structural frameworks to make sure that our offerings are central to the role, mission, priorities, and strategic goals of the Division of Student Affairs and the Health & Wellness unit. In addition, the Career Services Center is poised to have the immediate opportunity to incorporate program review recommendations in the Division of Student Affairs strategic planning process for 2013-2017.

The Career Services Center is faced with additional financial stress owing to the economic downturn that has impacted the national and local economies. During these constrained budget times, the Student Affairs administration has listened carefully and responsively to feedback from units under the Student Affairs umbrella, including the Career Services Center. Moving forward, particular attention needs to be paid to increasing staff size to keep pace with the growth and scale of the campus. If Career Services is viewed as a means of helping all students to manage their careers in a proactive way, so contributing to a dynamic economy and a dynamic society, then this requires a substantial scaling up of its operational capacity (notably the number of full-time staff).

#### Campus Outreach & Partnership Development

The second recommendation is to develop a plan for fostering clear relationships with main stakeholders. While Career Services potentially has a leadership role in its own right, it is likely to be more effective in this respect if it carries out this role in partnership with other key academic and non-academic units. Just as it is vital to the ongoing effectiveness of the Center to develop and maintain relationships with key constituents inside and outside of the institution, it is equally important to diligently assess and adapt our efforts to changing circumstances, needs and challenges.

The Career Services Center will work actively to identify new partnerships in an effort to establish a more visible campus role in student success, retention, and persistence. Strengthening relations with key campus stakeholders, to include but not limited to:

- Admissions/Enrollment Management
- Graduate Division & Graduate Student Association
- Division of Student Affairs
- Health & Wellness Unit
- Academic Schools and Programs

The Center will partner with deans, directors, faculty, parents, Alumni Affairs, University Relations and the Board of Trustees, to engage companies and individuals for job and internship opportunities.

If Career Services is to achieve the goal of helping all UC Merced students to make wellinformed work-in-life decisions throughout their lives, it cannot do this solely through its own services, but has to operate in significant part through the services of others. Without on-going, strong strategic relationships Career Services simply cannot be successful.

#### **Employer Relations**

The third recommendation is to foster and align partnerships with employers and human resource professionals in order to create an environment of expanded commitment to and between UC Merced and its key constituents. Considering the recent and significant changes and challenges the Center's Employer Relations staff has faced, there is a sense of pride in our ability to solidly meet the preponderance of NACE Standards, as well as our renewed

commitment to excel in all of them. To achieve this it will be important to address areas that need improvement and be open to new ways of operating. Particular attention needs to be put to strategically mapping a plan for engaging high quality and diverse employers within the San Joaquin Valley and from major metropolitan areas. This is now being given priority. Additional priorities include:

- Creating a hiring strategy to develop additional FTE's in support of employer relations goals and desired outcomes. The Assistant or Associate Director for Corporate Relations position would provide strategic direction, drive corporate engagement, and lead placement initiatives.
- Building a Career Services Advisory Board to providing advisement, leadership and oversight in the overall development of the Career Services Center.
- Reaching out to corporate entities to aid in their understanding of our programs and its functions via cold calls, site visits, and invitations to campus.
- Continually engaging networks that have an affinity connection with UC Merced (i.e. parents, board of trustees, vendors) in an effort to acquire opportunities for students and alumni. Attending numerous events in Merced and San Joaquin Valley to serve as an information resource and generate interest in the University and career services.
- Effectively allocating resources in support of employer relations priorities. Seeking to integrate employers whenever feasible and relevant into programming and networking opportunities.

As the primary department at UC Merced involved in issues of career, job search, employer relations, and the hiring process for students and alumni, the Career Services Center needs continued support to develop relationships and practices with employers that constitute the defining elements of who we are and what we do. As one of the nation's rising star universities, UC Merced is uniquely positioned to engage employers who are eager to hire our intelligent, high-achieving, and diverse students. However, raising brand awareness among regional and national employers requires commitment in both the short and long term.

#### Career Events, Counseling Services and Technology Resources

The fourth recommendation, closely linked to the second, is to increase significantly our current levels of awareness and service penetration. Additionally, the employability of students and alumni needs to be a priority. Student professional development and career education need to continue to be the focus of programming in the next several years.

Though UC Merced students are very diverse in terms of their interests, aspirations, and individual career development needs, at some point in their matriculation they will likely be faced with a call to action in terms of needing to find a job, internship, and/or post-graduation position. A main function of the Career Services Center is to offer effective programming, services and resources to all students in this regard. The shifting economy and technology can dramatically alter the nature of jobs, internships, and post-graduation resulting to changes to job search and hiring processes. To serve our students effectively into the future, it is important that we move forward as well, maintaining awareness of new developments and improving our programming accordingly.

The following are priorities:

- **Career Events** Re-engineer and expand annual career events and fairs. Increase career counseling efforts to assist students' preparedness on (1) the hiring process and interviewing, (2) articulation of skills and competencies, and (3) ability to adapt to the workplace. Fully research and implement "best practice" technology networks and systems to support all facets of our business: career development/learning, student and alumni job search strategies, placement, and analysis of data. The Center could help fill an unmet need by enhancing career services to Master's and Ph.D. students exploring careers outside of academia.
- **Counseling Services** The economy, particularly as it has impacted the job market for interns, new graduates and alumni, obviously impacts the counseling services staff. Increased student demand for support with a new level of urgency and expectation requires counselors to be focused on emerging opportunities, cognizant of changing employer needs, and equipped to teach students new job search practices and techniques. Create a hiring strategy to develop additional FTE's in support of career counseling goals and desired outcomes. Create new positions as Career Counseling Liaison for each academic school (School of Engineering, School of Natural Sciences, & School of Social Sciences, Humanities and Arts) as well as, for those planned in the future (School of Management & School of Medicine). A liaison would provide specialized career counseling, internship and job search assistance and workshops and classroom presentations. Each liaison would support both student and employer recruitment and student retention strategies. The Center is pleased to announce the addition of a STEM (Science, Technology, Engineering & Math) career counselor has been funded for FY 11. A search for this position is underway.
- **Technology Resources** Increasingly, technology is used in all aspects of the job search and hiring process. Employers use technology to gain visibility among potential employees, as well as in their recruitment practices. For example, increasing numbers of employers leverage social networking sites to learn more about their candidates and many use Internet-based communication tools to conduct virtual interviews. Our students are "wired", constantly connected online, and looking to these resources to meet many of their needs, including career development. The Career Services Center has done a solid job of keeping up to date in technology, but can enhance this area by delivering web-based programs and counseling, hosting virtual career fairs for more employer exposure, adding web-based career videos and biographies, facilitating offsite interviews and information sessions, and training students more thoroughly in using social networking sites in their job searches.

#### Assessment/Data Collection and Reporting

The fifth recommendation is for the Career Services Center to develop a stronger evidence base for its work. Progress toward remedying this has been slow, but over the past year, significantly advanced with the Student Affairs Division-wide assessment planning process.

Look for the Center to be deliberate, strategic, and successful in identifying opportunities to assess services and programs as well as the resulting learning outcomes. This involves the Center's continuous assessment of services, events, resources and program planning. In collaboration with various campus entities we will gather, research, and analyze data on students' perceptions, learning outcomes, usage, and satisfaction with the Center, as well as employers' assessment of our services and of our students' preparedness and presentation.

As the Center creates consistency and effectiveness in our data and analyses that are of value to the campus community, employers, parents, and prospective students it will fill a void in our portfolio of excellent service to UC Merced and external constituents.

#### CLOSING

In recognition of 5 years of successful work by the Career Services Center at UC Merced, it was important to reflect upon what had been accomplished in the past, take stock in what is currently being done in the present, and to formulate recommendations to help the strategically plan for the future. In the face of challenges present in the current fiscal situation, as director, I believe it is imperative that we not fall into a mode of managing decline in the way we serve our students and the University. It is critical that we continue to reevaluate our student service priorities and, consistent with current information and standards, modify appropriate initiatives and organizational structures to ensure that we maintain comprehensive and responsive services for our students.

It is with tremendous gratitude to all of those involved for taking the extended time to critically review and examine the work of the Career Services Center. The thorough examination of documents, interviews of many campus and off-campus stakeholders, along with the external reviewer provided a sound review for the Center that will assist us in contributing relevantly to the campus community for the next 5-7 years.

The Career Services Center staff thanks you for your attention.

#### ACKNOWLEDGMENTS

We note that our review process took place at an extraordinary time in UC Merced's history and we greatly appreciate both the forbearance of all who were involved and their willingness to engage the Career Services Center and the administration as a part of their duties. The Career Services Center staff wishes to thank all the individuals involved in the review process for the integrity they brought to this substantive endeavor.

We would like to express our sincere thanks to our Self-Study Review Team comprised of Jason Niemetz (Undergraduate Student & Student Fee Advisory Committee Representative), Mitch Ylarregui (Graduate Program Coordinator, School of Social Sciences, Arts and Humanities), Erin Webb (Assistant Registrar, Office of the Registrar), Lezly Juergenson (Career Counselor, Career Services Center) and Kelly Van Zandt (Associate Director, Career Services Center) for taking their task very seriously, and for providing feedback of genuine value to the Center. It is with tremendous gratitude to the following employers who met with the external reviewer and who so skillfully shared their perspective; Jenny Hemmer (E & J Gallo), Jackie Kennedy-Harris (Enterprise Holdings), Sarah Stillman (Target Corporation) & Staci Santa (Merced Multicultural Arts Center). We also wish to thank Emily Langdon (Coordinator for Assessment, Student Affairs) for her skill in organizing our program before, during and after the review.

#### **Student Affairs Annual Assessment**

Departments in the Division of Student Affairs annually submit assessment plans for review. Each plan is scored using our <u>rubric</u> by members of the Assessment Team. Scores from 2009-10 through 2012-13 are reported below.









- 1. Welcome and Agenda Overview –Jane Lawrence
- 2. Directors Introduce New Staff
- 3. Staff Recognition Leslie Santos
- 4. Special Guest Speaker Dr. Joseph Castro, Vice Provost, UCSF
- 5. Group Activity Rachael Martin
- 6. Assessment Update Emily Langdon

Introduce Emily. Assessment is now part of what we do. It is a way to demonstrate to others the quality and effectiveness of our work. We need every person in every unit to understand the basic principles of assessment and to be involved in helping their unit complete its assessment initiatives.

- 7. Staff Recognition Leslie Santos
- 8. VCSA Report Jane Lawrence

9. Campus Update - Keith Alley, Executive Vice Chancellor & Provost

- 10. Staff Recognition Jane Lawrence
- 11. Closing and Lunch

#### **Reminders:**

Move-In - August 20-21 Graduate and Research Orientation Week (GROW) - August 16-August 21 Welcome Week – August 22 - September 3 First Annual Wellness Fair – August 31 UC Leadership Conference – September 24 Family Weekend – October 2-3 Karl Rove Speech – October 2-3 Multi-Cultural Leadership Retreat – October 8-9 Preview Day – October 17 Final Week of Instruction; No activities – Begins December 1

#### **Campus Closures:**

Labor Day, September 6 Veterans Day, November 11 Thanksgiving, November 25-26

# UNIVERSITY OF CALIFORNIA UCINERATION OF CALIFORNIA

#### WELCOME TO THE ALL STUDENT AFFAIRS STAFF MEETING! Friday, August 12, 2011 AGENDA

Welcome and Agenda Overview, Jane Lawrence

Video: "Cooking with Outcomes", Laura Butler, Jason Souza, Brian O'Bruba

Directors Introduce New Staff

Staff Recognition, Jason Souza and Holly Mayo

Assessment Update, Emily Langdon

Campus Update, Chancellor Dorothy Leland

Discussion of the Student Response Team, Charles Nies and Fuji Collins

Staff Recognition, Jason and Holly

Student Affairs Speed Tabling, John Johnson

Closing, Brian O'Bruba

Annual Outstanding Lunch, Dining Commons

#### **Reminders:**

GROW	August 18-24
Student Move-In	August 21 (new students); August 23 (continuing)
New Student Bridge Crossing	August 22, 5:30
ASCEND Conference	August 23
Welcome Week	August 24-September 2
Wellness Fair	Date TBA
Labor Day Holiday	September 5
Women's Volleyball	September 22, 7PM (1 <sup>st</sup> ICA game!)
Leadership Conference	September 24
Social Justice Retreat	September 30-October 2
Family Weekend	October 14-16
Preview Day	October 15
Veteran's Day Holiday	November 11
International Education Week	November 14-18
Thanksgiving Holiday	November 24-25
Final Week of Instruction	No Activities - December 4
# UNIVERSITY OF CALIFORNIA UCINERCED

#### WELCOME TO THE ALL STUDENT AFFAIRS STAFF MEETING! Friday, August 17, 2012 AGENDA

Welcome and Agenda Overview, Jane Lawrence

Introduction of New Staff, Directors

Staff Recognition, Jason Souza and Holly Mayo

Campus Update, Interim Provost and Executive Vice Chancellor Sam Traina

UC Merced @ 10,000 Students, Charles Nies and Geneva Abiko

Special Student Population: Undocumented Students, Moderated by Fuji Collins

Staff Recognition, Jason and Holly

Customer Service 101, Lisa Perry

Closing Remarks, J. Michael Thompson

Annual Outstanding Lunch, Dining Commons

#### **Reminders:**

Grad Rsch & Orientation Week	August 14-22
Student Move-In	August 19 (new students); August 21 (continuing)
ASCEND Conference	August 21
Welcome Week	August 21-September 1
Ribbon Cutting Rec Expansion!	August 24
Women's Volleyball	August 24 (first ICA home game of the year)
Labor Day Holiday	September 3
Leadership Conference	September 22
You See Leaders Conference	September 29
Preview Day	October 13
Family Weekend	October 13-15
Social Justice Retreat	October 19-21
10 <sup>th</sup> Anniversary Celebration	October 25-27
Veteran's Day Holiday	November 12
International Education Week	November 12-16
Thanksgiving Holiday	November 22-23
Final Week of Instruction	December 3 - No Activities

## STUDENT AFFAIRS LEADERSHIP RETREAT

Summer 2012

## **Intentionally Preparing for our Future**

"The future depends on what we do in the present." Mahatma Gandhi

### Monday, June 18 California Room - Assistant, Associate and Directors, AVCs, VCSA 8:30 – 9:00 am Continental Breakfast and Welcome 9:00 – 10:30 am Trends and Future of Higher Education, Joanna Royce-Davis, Dean of Students, University of the Pacific 10:30 – 11:30 am Introduction of new participants and "Speed Pairing" 11:30-12:00 am What do we "know" about UCM in the next 5 years? J Michael Thompson and Charles Nies 12:00 – 12:45 pm Lunch 12:45 – 1:00 pm Strategic Plan 2007-12 Celebration! 1:00 – 1:30 pm What do we "know" about UCM in the next 5 years?, Fuji Collins and Jane Lawrence 1:30 - 2:00 pmIT Task Force Report/Update, J Michael Thompson 2:00 - 3:30 pmSmall Group Discussion Rotation • S = Strengths AND W = Worries • Opportunities = both current and future, AND Threats = internal/external & controllable and uncontrollable • Integration/Collaboration within and outside of SA Structure/Culture: What kind of culture do we want to • create in our Division? What structure supports that? 3:30 – 3:45 pm Break Reporting back from Small Groups 3:45 – 4:45 pm 4:45 – 5:00 pm Closure

12:00 – 1:15 pm	Lunch with Vice Chancellor of Development and Alumni Relations Kyle Hoffman, (role of fundraising in the coming years, grant writing, future campaigns, etc.)
1:30-2:15 pm	Chancellor Dorothy Leland, Campus Vision for the next 5 years
2:15-2:30 pm	Break
2:30-4:30 pm	Directors will identify the most important IDEAS and THEMES from presentations and the group will discuss how to create our next 5 year strategic plan
4:30-5:00 pm	Closure

### **Outcomes from Retreat**

- Participants will have a better understanding of the national trends impacting higher education, and how they influence our work at UC Merced.
- Participants will identify the opportunities our Division has in the next 5 years to move forward the Chancellor's vision for the campus.
- Participants will explore strengths, worries, threats and opportunities in order to better prepare for the coming academic term, the next strategic planning process and the period of growth to help UC Merced reach 10,000 students.
- Participants will identify opportunities for collaboration across our Division and at the University and increase our willingness to act on these opportunities.
- Participants will have new insights to share with their staff and to use as they undertake their own unit planning.
- Participants, as a result of attending the retreat, will realize that as a leader in Student Affairs and at UC Merced, we must continually acquire new skills and knowledge to help us lead our units during the next five years.
- Participants will gain a new appreciation for how our Division can, when we work creatively together, help move the goals of the campus forward.
- Participants, by the end of Tuesday, will have agreed upon some goals and themes and a process that will culminate in the creation of our 2013-2018 Student Affairs Strategic Plan at the SA January retreat.

# UNIVERSITY OF CALIFORNIA UCINERCED

#### WELCOME TO THE ALL STUDENT AFFAIRS STAFF MEETING! Friday, August 16, 2013 AGENDA

Welcome and Agenda Overview - Jane Lawrence

Introduction of New Staff - Directors

Staff Recognition - Holly Mayo and Mallisa Rainey

Introduction of Elizabeth Whitt - Vice Provost and Dean for Undergraduate Education

Strategic Plan Update – SASPPC 2.0

Break/Dessert

Food Pantry - Vernette Doty

2020 Project - Charles Nies

Program Assessment/Review - Emily Langdon

Special Populations – Foster Youth – Portia Mira

Staff Recognition - Holly Mayo and Mallisa Rainey

Vice Chancellor Award - Jane Lawrence

**Closing Remarks** 

#### **Reminders:**

Graduate and Research Orientation Week (GROW)AStudent Move-In<br/>(continuing)AASCEND ConferenceAWelcome WeekALabor Day HolidaySeLeadership ConferenceSePreview DayOFamily WeekendOSocial Justice RetreatOVeterans Day HolidayNInternational Education WeekNThanksgiving HolidayDFall Instruction EndsDFinal ExamsD

August 13-21 August 25 (new students), August 27 August 27 August 28 – September 6 September 2 September 28 October 19 October 18 -20 October 25 – 27 November 11 November 12 -16 November 28 – 29 December 13 December 14 - 20

SA Directors: SA All Staff Agenda