CAL POLY

Academic Senate
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Meeting of the Academic Senate
Tuesday, February 11 2014
UU 220, 3:10 to 5:00pm

I. **Minutes**: Approval of minutes for the January 14 2014 meeting (pp. 3-5).

II. **Communication(s) and Announcement(s)**:

III. **Reports**:
   A. Academic Senate Chair:
   B. President's Office:
   C. Provost:
   D. Vice President for Student Affairs:
   E. Statewide Senate:
   F. CFA:
   G. ASI:

IV. **Special Report:**
   [TIME CERTAIN 3;50] Report on Program Review and Programs Completing the Cycle in Academic Year 2012-2013 – Mary Pedersen, Associate Vice Provost Programs and Planning (pp. 6-23).

V. **Consent Agenda:**

Program Name or Course Number, Title	ASCC recommendation/Other	Academic Senate (AS)	Provost	Term Effective
AGB 411 Agribusiness Risk Management (4), 4 lectures (existing course being modified from 3 lectures/1 activity to 4 lectures)	Recommended for approval 1/9/14.	Placed on consent agenda for 2/11/14 meeting.		
GRC 204 Introduction to Contemporary Printing Management and Manufacturing (4), 4 lectures (existing course proposed to be offered online)	Recommended for approval 1/9/14.	Placed on consent agenda for 2/11/14 meeting.		
ECON 524 Computational Methods in Economics (4), 4 lectures	Reviewed 11/21/13; additional information requested from Economics area. Recommended for approval 1/9/14.	Placed on consent agenda for 2/11/14 meeting.		
ECON 526 Microeconomics (4), 4 lectures	Reviewed 11/21/13; additional information requested from Economics area. Recommended for approval 1/9/14.	Placed on consent agenda for 2/11/14 meeting.		
ECON 542 Labor Economics (4), 4 lectures	Reviewed 11/21/13; additional information requested from Economics area. Recommended for approval 1/9/14.	Placed on consent agenda for 2/11/14 meeting.		
ECON 544 Evidence-Based Decision Analysis (4), 4 lectures	Reviewed 11/21/13; additional information requested from Economics area. Recommended for approval 1/9/14.	Placed on consent agenda for 2/11/14 meeting.		

VI. **Business Item(s):**

A. **[TIME CERTAIN 4:00] Resolution on Proposal to Establish the Strawberry Sustainability Research and Education Center:** R. Fernflores, Philosophy Department, C. Kitts, Department Chair-Biological Sciences, J. Peterson, Horticulture and Crop Science Department, M. Shelton, Associate Dean CAFES, and A. Thulin, Interim Dean CAFES, second reading (pp. 24-40).

B. **[TIME CERTAIN 4:15] Resolution on Proposal to Establish the Center for Solutions Through Research in Diet and Exercise (STRIDE):** A. Nazmi, Food Science and Nutrition Department and Interim Director, STRIDE, K. Taylor, Kinesiology Department, and R. Fernflores, Philosophy Department, first reading (pp. 41-53).

C. **[TIME CERTAIN 4:30] Resolution on Cross-Disciplinary Studies Minors:** Schaffner, chair of the Curriculum Committee, second reading (pp. 54-58).

D. **Resolution on Inactivating and Reactivating Courses:** Schaffner, chair of the Curriculum Committee, second reading (pp. 59-61).

E. **Resolution Supporting ASI's Reaffirmation of Cal Poly San Luis Obispo's Commitment to the Quarter System:** R. Fernflores, Philosophy Department, first reading (pp. 62-66).

VII. **Discussion Item(s):**

VIII. **Adjournment:**

CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, California 93407
ACADEMIC SENATE

MINUTES OF THE
ACADEMIC SENATE MEETING
Tuesday, January 14 2014
UU220, 3:10 to 5:00pm

I. Minutes: The minutes of December 3 were approved as presented. The November 19 minutes were approved with the following suggestion:

Provost's Office: (Dicus) Everyone should have received a memo from Provost Enz Finken on the new implementation of PolyPlanner for student registration. This program will not guarantee that a student can get a seat in a particular class and ~~only provides minimal prerequisite checking.~~ because it can provide only minimal prerequisite checking, Cal Poly will not use the prerequisite capability.

II. Communication(s) and Announcement(s): none.

III. Reports:

A. **Academic Senate Chair:** (Rein) Bruno Giberti, Architecture Department, and Mary Pedersen, Associate Vice Provost Program and Planning, have been working on reviewing the WASC report for curricular changes. We are creating a task force to review the issues and make recommendations to this body for approval.

B. **President's Office:** (Kinsley) The Provost and the President are interested in increasing the public art displays around campus. We have recently installed a public art piece in front of the PAC. The art piece was donated by the Cohen Family. CAP continues getting upgraded, some items discussed this quarter will be dining policy, catering, alcohol policy, and community engagement policy. Please send your input to Matt Roberts. The President's Office is working with Rachel Fernflores to update university committees, the process to recommend people to committees, looking at the purpose of certain committees, and if there is a need of creating new committees. For more information, contact the President's Office.

C. **Provost:** (Enz Finken) We have received a grant in the amount of $250,000, which will be available July 1 for internal research and creative activates. The focus of this research will be for faculty led research involving students. We have a committee looking for proposals and making decisions on funding. If anyone has questions please contact Mary Pedersen, Associate Vice Provost Programs and Planning, and Cem Sunata, Registrar. The Center for Teaching, Learning, and Technology is joining the office of Academic Programs and Planning.
Enz Finken introduced Stan Nosek, Interim Vice President for Administration and Finance, who reported on budgets and housing. The Governor's budget includes $142.2 million for system increase of 5%. The CSU System asked for $238 million with 3 going to the compensation pool. The Chancellor has said that a high priority will be given to the compensation pool. Campus leadership has been making it a priority to look at the gaps in faculty and staff salaries. Chancellor discussed the importance of using new money to help current students rather than new students. The Chancellor is

asking for ideas on other ways to allocate funds to campuses besides enrollment growth. Some possibilities include retention, graduation rate, and unit load. He also mentioned there will be no increase on tuition. Cal Poly Corporation purchased four homes on three lots on the corner of Grand and Slack for $1.9 million.

D. **Vice President for Student Affairs**: Humphrey reported that:
- Fraternity and Sorority students have failed to create a party registration policy under the terms of the deferred recruitment compromise and, as a result, are currently on social event probation until a policy can be created.
- Nona Nickelsen has accepted a position in University Housing and Tessa Stevens has been appointed the new Director of Parent & Family Programs and University Commencement. Tessa will begin her role on January 21.
- The Campus Climate Survey is set to launch on February 19 and we want to encourage everyone on campus to take the survey and share his or her honest thoughts in responding.
- ASI will be beginning it's master planning process, and consistent with efforts for campus inclusion in all master planning processes, faculty and staff will be part of the consultation.
- Adrienne Miller, Director of Student Rights and Responsibilities, has accepted a position at Stanford and has left Cal Poly. Robert Griffin, a retired Cal Poly employee and a current hearing officer, is serving in an interim capacity. A national search will launch in the next few weeks.
- Keith Humphrey is chairing the consultative search committee for the Vice President for Administration and Finance. The committee will hold its first meeting this week.

E. **Statewide Senate**: (LoCascio) At its next meeting the State-Wide CSU will discuss engineering majors having 198 units and junior colleges offering bachelor's degrees.

F. **CFA Campus President**: (Thorncroft) The CFA President met with the Chancellor last week; not much to report yet. The Brown budget includes a 5% increase in state contribution and we will be receiving a 2.5% of that increase.

G. **ASI Representative**: (Colombini) Rose Float won the highest award ever, the Innovation Award. Six campuses on quarter systems have met and come up with a resolution to target diversity on campus. ASI will be holding a t-shirt exchange on February 6.

IV. **Special Reports**: Patricia Ponce, Student Ombuds, reported on Student Ombuds Services and Suicide Intervention. Presentation is available at:
http://academicsenate.wcms.calpoly.edu/sites/academicsenate.wcms.calpoly.edu/files/minutes/13-14_minutes/011414_student_ombuds_services.pdf

V. **Consent Agenda**: The following courses/programs were approved by consensus: EDUC 428 – Primary Grade (K-3) Literacy and Language Arts Instruction in Schools with Diverse Populations, EDUC 429 - Middle Grades (4-8) Literacy and Language Arts Instruction in Schools with Diverse Populations, and MATH 172 – Calculus for the Life Science Workshop II.

VI. **Business Item(s):**
A. **Resolution on Graduate Certificate Matriculated Student Requirements:** Schaffner, Chair of Academic Senate Curriculum Committee, presented the resolution, which states "upon achieving 50% of the units that are applied towards satisfaction of graduate certificate requirements, no further units will be counted towards he graduate certificate for non-matriculated students." M/S/P to approve resolution.

B. **Resolution on Inactivating and Reactivating Courses:** Schaffner, Chair of Academic Senate Curriculum Committee, presented a resolution stating that the Cal Poly catalog should provide accurate and timely listings of courses that students have the ability to take. While departments

are encouraged to formally delete courses that they are not currently being taught, we recognize that there are reasons to retain some courses on an inactive status. <u>Resolution will return as a second reading.</u>

C. **Resolution on Cross-Disciplinary Studies Minors:** Schaffner, Chair of Academic Senate Curriculum Committee, presented the resolution. A Cross-Disciplinary Studies Minor is the result of a partnership between two or more target major programs. It is defined as a set of curricular requirements comprised of a coherent group of courses tailored for each partner program such that all students from target majors develop depth in the partner discipline, focused study in their own discipline, as well as focused study in the mutual domain of the minor. <u>Resolution will return as a second reading.</u>

D. **Resolutions on Proposal to Establish the Strawberry Sustainability Research and Education Center:** Rachel Fernflores, Philosophy Department, and Mark Shelton, Associate Dean for CAFES, were contacted by the Strawberry Commission on February 2013 to develop a strawberry center at Cal Poly. <u>Resolution will return as a second reading.</u>

E. **Resolution Supporting ASI's Reaffirmation of Cal Poly San Luis Obispo's Commitment to the Quarter System:** Due to the lack of time, the resolution was not discussed.

VII.   Discussion Item(s): none.

VIII.   Adjournment 5:00 pm

Submitted by,

Melissa Rodriguez
Academic Senate Student Assistant

Summary of Program Review, Assessment Findings, and Improvement Actions
Academic Programs & Planning, Mary Pedersen
Program Reviews Completed in 2012-2013
February 11th, 2014

Twelve programs completed the Program Review Cycle during the 2012-13 AY. The following table lists the programs and the internal campus reviewer for each site visit.

Program	Internal Reviewer
Agricultural Science BS	John Soares, Journalism (CLA)
Architecture BArch	David Gillette, Liberal Arts & Engineering Studies (CLA)
Chemistry BS / Biochemistry BS	Bruno Giberti, Architecture (CAED) (CTL at the time of the site visit)
City & Regional Planning BS/ MCRP	Linda Vanasupa, Materials Engineering (CENG)
General Engineering BS	Rafael Jimenez-Flores, Dairy Science (CAFES)
Journalism BS	J. Scott Vernon, Agricultural Education & Communication (CAFES)
Liberal Arts & Engineering Studies BA	Elena Keeling, Biological Sciences (CSM)
Liberal Studies BS	Debra Valencia-Laver, Associate Dean (CLA)
Orfalea College of Business (Business Administration BS / MBA, Economics BS / MS, Industrial Technology BS, Accounting MS)	*No internal reviewer from outside the college*
Philosophy BA	James Harris, Electrical Engineering (CENG)
School of Education Teaching Credential Programs	Brian Tietje, (Associate Dean (OCOB) at the time of the site visit)
Theatre Arts BA	Stern Neill, Marketing (OCOB)

The following programs are currently in the process of Program Review.

- Agricultural & Environmental Plant Sciences BS
- Agricultural Systems Management BS
- Animal Science BS
- Art & Design BFA
- Comparative Ethnic Studies BA
- Construction Management BS
- Dietetic Internship
- Engineering – Graduate programs
- Engineering – Undergraduate programs (with BRAE and ARCE)
- Environmental Management & Protection BS / Forestry & Natural Resources BS

- Fire Protection & Engineering MS
- General Education
- Landscape Architecture BLA
- Modern Languages & Literatures BA
- Music BA
- Nutrition BS
- Polymers & Coating Science MS

Examples of improvement actions taken based on findings of program review and assessment efforts

- Addition of writing assignments to major-level courses to improve students' writing abilities.
- Establishment of a new Curriculum & Assessment Committee.
- Implemented multiple changes to senior project development, advising, and assessment.
- Improve student experiences and learning gains in the two project-based core courses by continued integration of relevant literatures and the timely review, reflection, and assessment of each class project.
- Improve the student advising experience.
- Piloting a two-quarter long studio by a subset of the faculty to allow more time to develop designs in-depth on issues associated with the deficiencies.
- Adding a common hour of lecture to assure all lab sections [typically eight different sections] had similar information and tasking.
- Students have been encouraged to become much more involved in enterprise projects, internships, and work experiences that give them the desired knowledge, skills, and attitudes for subject matter competency.
- *Business Ethics Reinforcement* was developed and implemented by faculty during AY 2012-13.
- Faculty have been developing new intervention tools, e.g., *Stages of Diversity Awareness and Competency*, to further enhance student learning about diversity.
- Faculty have been developing new intervention tools, e.g., *Team Contract*, to further enhance student learning about teamwork.

Program Summary Reports

Summary reports for the programs that completed programs review in the 2012-13 AY are provided on the following pages. Each report provides:

1) Findings from the assessment of program (student) learning outcomes,

2) Improvement actions taken based on the findings, and

3) Any other significant findings from the program review.

1) BS Agricultural Science, College of Agriculture, Food and Environmental Sciences

Briefly summarize the findings from the student learning outcomes assessments and indicate if the desired levels of learning were achieved.

With the exception of the first phase of the review process, the department plans to tie our yearly program reviews to each phase of the university learning objective assessments. During the first phase, the department is in the process of evaluating the area of "demonstrates expertise in the scholarly discipline." In addition, the department is assessing the program learning objective relative to "Seamlessly, professionally integrate technology into their teaching and communication" during the 2013-2014 academic year.

A direct assessment (survey of credential completers- summative evaluation on student teacher) is being completed at the end of fall quarter, 2013, and again with another group at the end of the spring 2014 quarter. The summative evaluation, based on the Teacher Performance Expectations (TPEs), will serve as the defined rubric. The department used the "Advancement to Candidacy" interview to assess student technical readiness to begin student teaching. This was conducted as part of the AGED 303 course. Early findings indicate that students needed practical hands-on skills and knowledge primarily in the areas of animal science and agricultural mechanics. Results of the first evaluation of the TPE's have yet to be published.

As it relates to the integration of technology in teaching and communication, a review of the assessment rubric for assignments completed in AGED 410 indicated that students consistently performed very well on the three major assignments that evaluated their proficiency with technology (PowerPoint, WebQuest, and Technical Proposal Presentations).

Briefly describe the improvement actions take based on findings.

It has become evident that students need practical hands-on training to supplement their major specific coursework in order to be best prepared for the teaching profession. Most recently, students have been encouraged to become much more involved in enterprise projects, internships, and work experiences that give them the desired knowledge, skills, and attitudes for subject matter competency. As a result of the Advancement to Candidacy interviews, students received a personalized letter indicating the types of experiences each one needed to pursue to become well-qualified graduates of the major. Furthermore, students were strongly encouraged to supplement their degree program by enrolling in the ASCI 232 (one unit lab), and serving as a teaching lab assistant for BRAE 121 (Agricultural Mechanics) course. No improvements were deemed necessary as it related to student performance of integrating technology into their teaching and communication abilities.

Indicate any other significant findings from the program review.

It has been recommended to change the name of the major from Agricultural Science to an appropriate name that reflects the purpose and intent of the major (i.e. Agricultural Science and Teaching), and to establish a new minor in Agricultural Education. The plan is to have the new minor approved for the 2015-2017 catalog.

2) Bachelor of Architecture, College of Architecture and Environmental Design

Briefly summarize the findings from the program (student) learning outcomes assessments and indicate if the desired levels of learning were achieved

The on-campus Program Review was a continuation and follow-up to the comprehensive in-depth professional accreditation effort conducted 2010-11 by the National Architectural Accrediting Board, Inc. [NAAB]. That report, while highly favorable endorsing a full six-year accreditation term, drew attention to deficiencies in several student outcomes related to 'comprehensive design.' Specific areas referenced in their report included 'life safety' [representations of building egress as defined by building codes] and 'accessibility' [adequate representations of how interior and exterior space is designed to accommodate differently able occupants/participants on sites and in buildings], and 'environmental systems' [adequate representation of heating, cooling, ventilating, and air conditioning systems]. While these were noted as concerns and did not affect the 2011 approval, they must be addressed in future accreditation program review.

The NAAB focus is on outcomes via evidentiary review, and when a deficiency is noted it is a major concern for the program. While the comprehensive evaluation noted many outcomes achieved at a high level, several were not achieved, and the curriculum committee with program area coordinators took action beginning in 2011. The problem was identified and correction seen as a need to improve in only three components of the comprehensive building design criteria [building egress, accessibility and environmental controls systems] at the third year level of the curriculum, and re-evaluate based on resulting evidence.

Briefly describe the improvement actions take based on findings.

The faculty implemented a curricular review process and identified most effective level in the design studio curriculum to achieve the proper evidence in student work to demonstrate proficiency in these outcomes. This Action Plan implementation was discussed as part of the Program Review in 2012. Specifically, the Third Year Design Area was tasked with curricular revisions which included: 1) piloting a two-quarter long studio by a subset of the faculty to allow more time to develop designs in-depth on issues associated with the deficiencies; 2) changes in Architectural Practice [ARCH 241/242 and
Environmental Control Systems [ARCH 307] activities; and 3) adding a common hour of lecture to assure all lab sections [typically eight different sections] had similar information and tasking. The faculty
committed to an internal review of the findings in Spring 2012, which deemed this a successful experiment, resulting in all studio sections in Winter and Spring 2014 being linked across two quarters for development. In addition, these studio courses are linking content with the structural content through a coordination and collaboration with ARCE.

Indicate any other significant findings from the program review.

The on-campus Program Review was a continuation and follow-up to the comprehensive in-depth professional accreditation effort conducted 2010-11 by the National Architectural Accrediting Board, Inc. [NAAB]. That external review by a visiting team of architecture professionals, administrators, educators, alumni, and current students recommended the maximum possible term of a six-year accreditation and NAAB granted this and gave notice to President Armstrong in a letter dated July 25, 2011.

Other areas discussed in the Program Review were: contracting and now expanding student numbers in entry cohort groups. During 2007-10 typical freshman architecture freshman class was 180, and this had been reduced to 100 in 2011 due to college and department responses to State resource issues. These reductions have had a significant impact on contract faculty numbers, possible impact on tenure-track faculty retention as teaching areas were rebalanced, pedagogy, and curriculum. These cohort numbers combined with shifting campus international programs responsibilities and resource changes had a significant impact on our fourth year off-campus program offerings that required reassessment of demands and negotiated costs with providers. These off-campus programs have shown consistently in alumni and exit polls to be one of the highlights of the Cal Poly experience. These were deemed as institutional concerns as opposed to outcomes per se, and will be dealt with on a different management track as the cohorts continue to increase in size and re-stabilize.

In November 2013, *Design Intelligence* report ranked Cal Poly, San Luis Obispo's Bachelor of Architecture program number one overall in the country, based on extensive polling and interviews with professionals, alumni and deans nationwide. While the program has been recognized in rankings in the top seven since the rankings were developed, this is the first time the program has garnered this status. This is especially noteworthy as only three publicly supported programs were recognized in the top ten rankings. The 2014 *Design Intelligence* report also recognized architecture faculty member Brent Freeby as one of 'Thirty Most Admired Educators' in the U.S. They had similarly recognized faculty member Thomas Fowler in 2012.

The Association of Collegiate Schools of Architecture [ACSA] recognized Tom Fowler with the 2011 Distinguished Professor Award, given for sustained creative contributions to teaching. The Cal Poly Distinguished Teaching Award was bestowed upon faculty members Thomas DiSanto [2012] and Michael Lucas [2008]. The sustainability in the built environment series, EDES 406 and 408 with the Sustainable Environments Minor, an effort led by faculty in the Architecture Department with participation from other CAED faculty, received recognition by the US Green Building Council's California Central Coast Chapter in December 2013. The B. Arch. was ranked the number one program in the country and Sustainable Design and Practices was also ranked as one of the top qualities of our program in the 2014 *Design Intelligence* report as further recognition in this field of study.

3) BS Chemistry, BS Biochemistry, College of Science and Mathematics

Briefly summarize the findings and issues from program review and any recommendations or proposed actions.

More support needed for offering general chemistry courses. Temporary action to increase use of lecturers while maintaining static budget. Poly Planner will support better predictions data for student demand.

Develop a 5-year hiring plan that includes Polymers & Coatings faculty, change in department leadership, and pat-time pool. Discuss the role of lecturers. Include all department members in teaching general chemistry and expand the learning assistant program to support conversion of all general chemistry courses to studio format.

Work to provide increased assigned time to faculty by decreasing contact hours through use of studio classroom. Give assigned time for curriculum development, assessment, and governance plans.

Develop strategic plan for sabbatical release-time.

Curriculum: determine other chemistry courses to be taught in studio format. Evaluation potential to teach biochemistry in studio setting and the use of studio classrooms as high technology lecture rooms.

Reorganize general chemistry to better suit non-majors. Streamline course content to create one first-quarter general chemistry experience for all students. Determine predictive metrics for success in general chemistry.

Create a strategic assessment plan and then determine what aspects of program to assess. Student success: improve 4-year graduation rates and determine roadblocks to graduation. Increase success rates in general and organic chemistry by identifying predictors of success. Intervene for students in danger of failure.

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4) BS City & Regional Planning, MS City & Regional Planning, College of Architecture & Environmental Design

The BSCRP and MCRP Programs were re-accredited to December 31st, 2017 with possible extension to December 31st, 2019. Conditions of re-accreditation for both degrees need actions in the following three areas: 1. Student diversity with respect to African-American representation. 2. Student recruitment with respect to African-American representation. 3. Educational Outcomes (Assessment).

The University Internal Reviewer's Report spoke to the quality and diversity of the CRP department students and faculty. It favorably notes the strength of the social fabric of support within the department and, the size and national out-of-state draw of the graduate program.

Briefly summarize the findings and issues from program review and any recommendations or proposed actions.

1. Curriculum Assessment and Change. Introduction of three new courses, which are cutting-edge and reflect forward-looking practice. Modification of 17 CRP courses to deepen emphasis on theory; take a holistic look at natural and human systems interaction; strengthen the emphasis on current professional practice in public and private sectors; and deepen the laboratory experience.
2. Elective Courses for Graduate Students. Plan to offer more elective courses for graduate students. Need more access to courses in economics, business, real estate development, architecture and urban design and natural resources.
3. Scarcity of Space and other Resources. Department does not have a dedicated space for any of the studio courses. Support from CAED and University is needed to alleviate space needs that have adverse impact on the curriculum and learning environments for CRP students.
4. CRP Research Return and Entrepreneurship. Department would benefit from being allowed to use buy-out money beyond paying for replacement staff, to support faculty development, to provide student support, to offer enrichment electives and for travel and for professional development.
5. Actions Taken. The BSCRP students exhibited the qualities of a successful undergraduate education, and the graduate student group of some 50 students was very impressive in the quality of their holistic thinking. We are working on the issue of ordering of courses and prerequisites. The issue of GIS is being addressed through courses in this area being taught by our most recent faculty hire.
6. Assessment. Details of the CRP Department assessment, actions taken, and plans for refining our long-term assessment plan are in the April 31st, 2013 Progress Report to PAB.

5) BS General Engineering, College of Engineering

Briefly summarize the findings from the student learning outcomes assessments and indicate if the desired levels of learning were achieved

Reviewers confirmed that desired levels of learning were achieved, and provided specific feedback about the General Engineering Program:

- GENE serves a useful purpose for multiple missions
- GENE needs more formalized assessment processes
- GENE needs its own identity and resources, separate from Biomedical Engineering

Briefly describe the improvement actions take based on findings.

A multidisciplinary General Engineering Faculty Task Force was established in the Fall Quarter to address Program Review recommendations, and implement necessary program changes. One early change is to elevate the General Engineering Program out of the Biomedical & General Engineering Department and into a stand-alone program residing at the College level.

Indicate any other significant findings from the program review.

(The following is the summary statement from the program reviewers report).
We believe and assert that the General Engineering Program at Cal Poly SLO is a positive factor for the College of Engineering and for the University, and therefore deserves increased support. A number of factors supporting our recommendations have been cited above. Further evidence for this includes:

1. The application pool of incoming students seems abundant and the quality of these applicants is very high.
2. The application pool continues to be present even without extensive publicity.
3. Students demand better identification with a legitimate department in the College.
4. There is an evident demand from industry that focuses on flexible characteristics of Cal Poly engineers, such as teamwork, systems, and adaptability to innovate. These are the characteristics that will help keep pace with industry needs now and in the future.
5. The GE Program gave rise to the Biomedical Engineering major. Flexibility should be preserved for a similar opportunity in the future.

6) BA Journalism, College of Liberal Arts

Briefly summarize the findings and issues from program review and any recommendations or proposed actions.

Self-identified development initiatives: reform curriculum; increase number of full-time tenure track faculty; appoint permanent department chair, upgrade laboratories, undertake formal advancement program to generate endowments, discretional funds, and gifts in kind; mobilize industry and alumni to assist the department in an advisory capacity; develop strategic plan to address the next 5 years.

Progress towards development initiatives: three faculty were accepted into the Poynter Institute seminar on curriculum design. Four tenure-track faculty hired in 2011-12 and 2012-13 AY. A focus group of 30 external stakeholders was formed to act in an advisory role to the department in the

areas of program structure and direction. Three industry speakers were brought to campus during the 2010-2011 academic year to inspire intellectualism and critical thinking in classroom discussions.

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7) BA Liberal Arts and Engineering Studies, College of Liberal Arts and College of Engineering

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Briefly summarize the findings from the student learning outcomes assessments and indicate if the desired levels of learning were achieved.

As part of program review, the LAES Program surveyed student participants in the program's core project-based learning courses LAES 301: Project-Based Learning in Liberal Arts and Engineering Studies and LAES 302: Advanced Project-Based Learning in Liberal Arts and Engineering Studies

Student quantitative and qualitative survey responses (spring 2011 [n=14] & fall 2011 [n=7]) indicated that they believe their learning in these courses was enhanced by working on a focused project and in collaboration with other students in these courses. However, students indicated that course organization could be improved, including increased clarity in the definition of course expectations for students.

Twenty-seven LAES students also responded to a separate survey designed to evaluate how well the SLOs were met in the 1) LAES coursework (LAES 301, 302, 461, 462); 2) Engineering concentration; 3) Liberal Arts concentration. On a scale of 1 to 5, the average scores were as follows:
- LAES Core Courses: 4.59/5
- Engineering Concentration: 4.26/5
- Liberal Arts Concentration: 4.33/5

An additional survey focused on student study-abroad experiences. Twenty-one LAES students responded. Eighty-six percent of students surveyed indicated that the study abroad experience helped students meet the SLOs.

In fall 2012, the LAES Program also solicited survey responses from thirteen employers of LAES graduates; seven employers responded. Five indicated that the LAES student in their employ was able to think "critically and creatively in the process of solving techno-social problems, considering philosophical, aesthetic, and expressive concerns." Six of the seven agreed or somewhat agreed that their employed LAES student was able to "demonstrate ethical and professional responsibilities associated with the creation, use and integration of technology." All respondents indicated that the LAES student in their employ was able to serve as an "informed and responsible citizen in a global culture and seemed to remain involved with learning and helping society improve."

In addition, the LAES Program undertook assessment of student senior projects as part of program review. A successful senior project in LAES must include technical accomplishment, diligent execution, and effective communication. LAES Program Director David Gillette assessed the LAES senior project experience by employing the **WASC Rubric** for Assessing the Use of the Capstone Experience for Assessing Program Outcomes with the following results:

WASC Criterion	Rating
Relevant outcomes and lines of evidence identified	Emerging
Valid results	Initial
Reliable results	Initial
The results are used	Initial
The student experience	Emerging

Direct assessment by reviewers was also undertaken using the Cal Poly University Expository Writing Rubric (PDF) and the AAC&U Critical Thinking VALUE Rubric (PDF). On a scale of 0 to 4 (with 4 being superior attainment), the six senior projects assessed scored a mean of 2.83 on the University Expository Writing Rubric. The mean was 2.53 for the six senior projects assessed using the Critical Thinking VALUE Rubric (scale 1 to 4). The LAES self-study documents raised questions about whether these two rubrics are appropriate for the evaluation of LAES senior projects given the interdisciplinary nature and diversity of senior projects undertaken in the program.

The external program review team also indicated that, "program assessment has been adequate to evaluate the students' level of achievement" of the SLOs. However, the external report notes that the LAES Program faces multiple challenges in systemic data gathering to understand student progress and performance in the program (including the admissions policy focused on internal transfers and interdisciplinary aspects of the program), and that, "additional evaluation of the senior project experience would also be beneficial."

Briefly describe the improvement actions taken based on the findings

The LAES Program is implementing multiple improvement actions based on the above findings. These include the establishment of the **LAES Curriculum & Assessment Committee**. Members for the 2013-14 academic year include:
- Michael Haungs, LAES Co-Director and faculty in Computer Science
- Jane Lehr, LAES interim Co-Director and faculty in Ethnic Studies and Women's & Gender Studies
- Elizabeth Lowham, Director of the Center for Expressive Technologies and faculty in Political Science
- Liz Schlemer, faculty in Industrial & Manufacturing Engineering

The LAES Program is exploring the addition of a faculty member from Electrical Engineering to the LAES Curriculum & Assessment Committee so that all LAES engineering concentrations are represented, as well as the additional of a faculty member focused on the arts and/or communications components of the Liberal Arts disciplines.

The LAES Program has also implemented multiple changes to senior project development, advising, and assessment. In addition, external reviewers have been integrated into the senior project review process. Members of the LAES Curriculum & Assessment Committee now evaluate each senior project. Efforts are underway to integrate industry partners into the evaluation and review of student senior projects throughout the senior project process. Lastly, as part of Cal Poly's attention to ongoing program evaluation of Critical Thinking (2013-15) and Written Communication (2014-16), the LAES Program is revisiting the rubrics that will be employed to evaluate these aspects of the senior project in order to improve our understanding of student attainment of SLOs and preparation for completion of senior projects in LAES.

The LAES program is also focused on improving **student experiences and learning gains in the two project-based core courses** (LAES 301 and LAES 302). (At the same time, we recognize that the non-traditional nature of these courses and the inclusion of multiple interdisciplinary projects can be challenging – as well as immensely rewarding – for both students and instructors.) Efforts to improve these courses include the continued integration of relevant literatures (e.g., materials on design processes, teamwork, and research on technological development) and the integration of processes for the timely review, reflection, and assessment of each class project and for the course as a whole.

Lastly, we continue to work to improve the **student advising experience**. We have worked with college-based student academic advisors to improve degree flowcharts and integrated mandatory quarterly advising sessions as part of efforts to centralize advising. However, given the ability of individual students to design their major within the LAES Program, intensive one-on-one advising remains a large component of our advising model. We are exploring the possibility of identifying additional faculty members who can serve as "lead advisors" in specific program areas (e.g., a faculty member with expertise in Electrical Engineering [Power] concentration).

Briefly summarize the findings from the student learning outcomes assessments and indicate if the desired levels of learning were achieved.

To further support student achievement of SLOs, external peer reviewers identified the need to establish "additional flexibility within the engineering tracks which are currently highly specified," as well as ongoing review of existing Engineering and Liberal Arts concentrations to ensure use and effectiveness for students and the development, as necessary, of additional concentrations. Potential areas of development identified by the external reviewers include: audio engineering, sustainability, technology and global development, and art and technology.

As part of its discussion of program growth (to the current program target of 50 majors or beyond), the external program review team also indicated that the administrative staff position associated with the program must be converted to a full-time position (from its 80% status) given the unique requirements of the LAES program administrative coordinator's role, including: 1) support for the creative events and activities (e.g., campus-wide video installations, participation in theater productions) that requires fairly intensive administrative efforts; 2) support for student international experiences; 3) support for student internships, corporate donations, and general liaison with partnering enterprises; and 4) assistance with student advising. The LAES Co-Directors strongly agree with this recommendation.

Additional opportunities for improvement identified by the external peer reviewers include: 1) increasing laboratory/project space (including a space dedicated to audio recording); 2) creating a guaranteed stable, core budget for regular renewal of equipment essential to the program; and 3) improving interdisciplinary support. We are excited to report that additional lab/workshop spaces have been allocated to the LAES Program in Cal Poly Building 4 (controlled by the College of Engineering) and will be fully functional by Spring 2014. LAES, in coordination with the Center for Expressive Technologies, is currently working with college and university advancement to develop funding streams to support equipment purchases, in-kind donations, project development, and overall program support, as well as reviewing grant opportunities.

Regarding the improvement of support for interdisciplinary programs such as LAES, the external peer review team indicated that the university needs to "more broadly consider the value of interdisciplinary programs such as LAES in achieving the 'right mix' between traditional disciplinary enrollments and enrollment in new and emerging technology-based occupations ... [and] expand its emphasis on interdisciplinary programs ...to become an even stronger comprehensive polytechnic." LAES faculty, staff, students, and alumni remain engaged, active and enthusiastic participants in these efforts across the university – including in the development of new interdisciplinary and cross-college minors focused on interactive entertainment/ gaming and the intersections of science, technology, and society.

8) BS Liberal Studies, College of Science and Mathematics

Briefly summarize the findings from the student learning outcomes assessments and indicate if the desired levels of learning were achieved.

Signature courses were identified for each of the new fall 2013 Student Learning Outcomes that better reflect our program. Special emphasis has been placed in a couple of areas aligned to the University's assessment program: Critical Thinking and Writing. Our selected courses to study student work are: EDUC 428: Primary Grade (K-3) Literacy and Language Arts Instruction in Schools with Diverse Populations (for critical thinking) and LS 461: Senior Project Seminar (for writing). Additional courses writing assignments will be collected in the future and a chart with progression will be created.

Areas of focus also include "the ability to integrate the content of one discipline ..." and new courses were proposed and approved to focus work at the senior level: LS 410: Subject Matter Seminar and LS 412: Advanced Visual Arts in the Elementary Classroom. The anchoring subject matters are science, social studies/history and the arts. The first course will be taught in the spring 2014. Depth of content in the subject matter was increased in our 2013-15 curriculum by adding a concentration. Students now have a choice of 8 concentrations aligned to careers in K-12 education: Biology, Child Development, English, History/Social Sciences, Mathematics, Physical Sciences, Spanish and Teaching English as a Second Language.

Briefly describe the improvement actions taken based on the findings

Our collection of student assessments this year is focusing on "critical thinking" and senior level "writing." While all our students pass the "Graduation Writing Requirement" before senior project, we have reports from the senior project and credential program that a small percentage of students are substandard in their writing skills. Analysis of the progression of writing assignments will be done for all the courses that our students take as they advance through our major. Liberal Studies sophomore courses LS 211: Visual Arts in the Elementary Classroom and LS 260: Children's Literature will add additional assignments to improve student-writing abilities. Analysis of upper division courses will inform us if an additional course or assessments are need to be added and its context. For example, writing in the content area such as science to improve technical writing.

Indicate any other significant findings from the program review.

We increased the depth of some areas of the curriculum by adding rigor to the student's choice of subject area studies. The emphasis went from4 courses to a 5-course concentration. For example, the math concentration now includes three quarters of Calculus and one quarter of Methods of Proof to get access to one upper-division course. Many of our students are following this pathway, which will give them enough units for an Introductory Subject Matter Authorization in Mathematics when they graduate. We are supporting them by adding tutoring when they get to Methods of Proof in Mathematics. Students are being successful following this path that is mainly taken by other STEM majors.

We also added Engineering activities to our general science courses to better correlate with the recent adoption of the Next Generation Science Standards (NGSS). This work is being supported by a Bechtel grant that includes faculty from Liberal Studies, the Sciences and Engineering.

Increasing our student diversity is also one of our goals. We continue to focus on securing scholarship funds to attract outstanding underrepresented applicants. We strive to attract and increase more students of target demographics that represent California better, and we are actively involved on their retention and graduation.

9a) BS Business Administration, Orfalea College of Business

Briefly summarize the findings from the student learning outcomes assessments and indicate if the desired levels of learning were achieved.

The college set a minimum threshold of 90% as an acceptable percentage for students who meet or exceed expectations for each learning objective of the BSBA. Overall, the desired levels of learning were achieved with a few exceptions in which the minimum threshold was not met. For example, 89% of students met or exceeded expectations for LO 2.1; 87% of students met or exceeded expectations for LO 3.1; 87% of students met or exceeded expectations for LO 4.3. For the remaining BSBA learning objectives, more than 90% of the students assessed met or exceeded expectations. For example, the percentage of students who met or exceeded LO 3.2; was 95%; for LO 4.1 was 98%, and for LO 4.2 was 91%.

Briefly describe the improvement actions taken based on findings.

LO 2.1: An intervention tool, *Business Ethics Reinforcement,* was developed and implemented by faculty during AY 2012-13. In addition, it was felt that rubric scoring should be calibrated so that all faculty members understand what is being measured. This "norming" process is deemed necessary so that scores are accurate and consistent across the faculty teaching courses in which business ethics is a central theme.

LO 3.1: Faculty have been developing new intervention tools, e.g., *Stages of Diversity Awareness and Competency*, to further enhance student learning about diversity. Faculty will continue to refine this learning objective during AY 2013-14, which will include faculty discussions with Robin Parent, CTLTs recently hired Inclusive Excellence specialist.

LO 4.3: Faculty have been developing new intervention tools, e.g., *Team Contract*, to further enhance student learning about teamwork. The Team Contract highlights responsibilities, time commitments, etc., upfront before a team activity is initiated.

Note: The findings for all six programs in OCOB have been consolidated into one summary at end.

9b) BS Industrial Technology, Orfalea College of Business

Briefly summarize the findings from the student learning outcomes assessments and indicate if the desired levels of learning were achieved.

The college set a minimum threshold of 90% as an acceptable percentage for students who meet or exceed expectations for each learning objective of the BSIT. Overall, the desired levels of learning were achieved with only one exception, namely LO 2.3, in which the minimum threshold was not met.

Briefly describe the improvement actions based on the findings.

LO 2.3: The IT faculty think the current method of assessing this learning objective is faulty and are currently exploring solutions for improving the assessment of this learning objective.

9c) BS Economics, Orfalea College of Business

Briefly summarize the findings from the student learning outcomes assessment and indicate whether the student learning outcomes assessments were achieved.

The Economics area set its own threshold for determining whether or not students meet, exceed, or do not meet expectations for each of the learning objectives for the economics degree program. The assessment is related to senior project report scores and an ETS major field test in economics. A mean score on the test at or below the mean score of all students taking the ETS exam was gauged as "does not meet expectations".

For all of the learning objectives except two, namely LO 1.3 and LO 2.4, students did not meet learning objective expectations. For example, the percentage of students taking the test who did not meet learning expectations was 54% for LO 1.1, 68% for LO 1.2, 60% for LO 2.1, 20% for LO 2.2, 20% for LO 2.3, 10% for LO 3.1, and 20% for LO 3.2. The ETS does not provide individual student scores for international issues (LO 1.4), therefore percentages could not be reported. However, the mean score for this portion of the ETS exam was below the mean score for all students taking the exam.

Based on a thorough analysis of assessment results, the Economics faculty has concluded that the vast majority of poor performers, students who performed below expectations on both the senior project report and the ETS exam, were non-economics concentration students. This is believed to be a consequence of non-economics concentration students not having taken a sufficient number of economics courses at Cal Poly by the time they complete the senior project and take the ETS exam.

Briefly describe the improvement actions taken based on the findings.

To address this disparity, the Economics area has taken the following actions: (1) wrote a manual to be distributed by the OCOB advising center and the Economics area that contains detailed information and recommendations for students considering concentrating in Economics; (2) conducts an annual orientation meeting to promote the study of economics among technically minded majors in the university; (3) recommended Math 141 become a requirement for the major; and (4) recommended Econ 417 as a pre-requisite for the Economics senior project class.

9d) Masters of Business Administration, Orfalea College of Business

Briefly summarize the findings from the student learning outcome assessments and indicate if the desired levels of learning were achieved.

The college set a minimum threshold of 90% as an acceptable percentage for students who meet or exceed expectations for each learning objective of the MBA. There was quite a bit of variation in the achievement of desired levels of learning for the MBA. For certain learning objectives, the percentage of students meeting or exceeding expectations was quite high. For example, on the positive side, for LO 1.1 the students scored in the 95th percentile; for LO 1.2, 97% of the students met or exceeded expectations; for LO 3.1, 100% of the students met or exceeded expectations; for LO 5.1, 99% of the students met or exceeded expectations; Whereas for some learning objectives the minimum threshold was not met. For example, for LO 1.3, 75% of the students met or exceeded expectations; for LO 2.1, 85% of the students met or exceeded expectations; for LO 4.1, 89% of the

students met or exceeded expectations; for LO 4.2, 78% of the students met or exceeded expectations.

Briefly describe the improvement actions taken based on the findings.

- LO 1.3: Faculty teaching classes in which this learning objective is emphasized will place greater emphasis on multivariate analysis and internal rate of return in lecture and lab problems as well as develop an assignment that helps students relate numbers to business relevance.
- LO 2.1: To address assessment data reporting issues (only one class reported on this LO), assessment instructions will be provided to faculty prior to the start of each quarter and reminders will be communicated toward the end of the quarter.
- LO 4.1: Based on the assessment data, no curricular changes are warranted at this time; however, it should be noted that *written communication* will be the college-wide focal area for curricular improvement during AY 2013-14. This effort was initiated during Fall Conference, 2013.

9e) MS Accounting (Taxation Specialization), Orfalea College of Business

Briefly summarize the findings from the student learning outcomes assessment and indicate if the desired levels of learning were achieved.

The college set a minimum threshold of 90% as an acceptable percentage for students who meet or exceed expectations for each learning objective of the MS Accounting, Taxation. The students met the minimum threshold for each learning objective except for LO 1.3. For example, the percentage of students who met or exceeded expectations for LO 1.1 was 95%; for LO 1.2 was 91%; for LO 2.1 was 94%, for LO 3.1 was 96% and for LO 3.2 was 100%; whereas for LO 1.3 the percentage was 87%.

Briefly describe the improvement actions taken based on the findings.
LO 1.3: Instructors indicated that students tended to select single facts among many without looking at facts holistically, which resulted in students proposing incomplete or incorrect solutions. Thus more problem solving opportunities will be provided to permit students to approach problems and solutions from an integrated, holistic perspective.

9) MS Accounting (Financial Accounting Concentration), Orfalea College of Business

Briefly summarize the findings from the student learning outcomes assessment and indicate if the desired levels of learning were achieved.

The college set a minimum threshold of 90% as an acceptable percentage for students who meet or exceed expectations for each learning objective of the MS Accounting, Financial Accounting. The two learning objectives for which students met the minimum threshold were LO 2.1 and LO 6.2, at 96% and 100%, respectively. For the other learning objectives, except for LO 4.1 (for which no data were reported this year), students did not meet the minimum threshold of 90%. For example, the percentage of students who met or exceeded expectations for LO 1.1 was 80%; for LO 3.1 was 86%; for LO 5.1 was 85%, and for LO 6.1 was 81%.

Briefly describe the improvement actions taken based on the findings.

- LO 1.1: Faculty think rubric scoring should be calibrated so that all faculty members understand what is being measured. This "norming" process is necessary so that scores are accurate and consistent across all faculty involved with this learning objective.
- LO 3.1: Faculty will introduce cases in which problems are more complex than those in the textbook and that will provide students with the opportunity to use databases to search for data to solve problems.
- LO 5.1: Faculty will modify assignments to include a discussion of auditors' reporting choices and the consequences that reporting choices might have on various constituents.
- LO 6.1: Given the absence of comparison data, the subcommittee determined that no specific curricular changes are warranted at this time; however, written communication will be the college-wide focal area for curricular improvement during AY 2013-14.

Indicate any other significant findings from the program review.

Note: The findings for all six programs in OCOB have been consolidated into one summary.

Overall, the six programs evaluated are doing a good job of achieving assurance of learning and, in instances in which there are shortcomings, faculty are aware of and addressing the weaknesses revealed through the assessment process. There are specific areas, underscored in the improvement actions, that require further scrutiny as well as modifications to both course content and assessment data collection processes. In response to some of the shortcomings discovered and to continually improve assurance of learning efforts, the OCOB has (1) developed intervention tools, (2) engaged faculty in both a half-day workshop for assessment discussions during fall convocation and an assessment workshop held at the PAC during fall quarter, (3) brought in experts in the field of assessing student learning to conduct workshops, and (4) assigned a faculty member to the role of Faculty Director of Curricular Innovation and Assessment to champion and coordinate our assurance of learning efforts.

The intervention tools created for all faculty to use and customize, as need be, include tools to improve learning in writing, ethics, teamwork, and diversity. The college has decided to select one of the areas needing improvement to focus on each academic year. Written communication will be the college-wide focus area for curricular improvement during AY 2013-2014.

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10) BA Philosophy, College of Liberal Arts

Briefly summarize the findings from the student learning outcomes assessments and indicate if the desired levels of learning were achieved

Results from rubric scoring of completed senior projects and from the senior exam have indicated satisfactory achievement of outcomes 3-6 for several years. However, results from the senior exam indicated substandard achievement in formal logic and nearly complete ignorance regarding basic critical thinking skills specified in all of the CSU Executive Orders regarding GE Area A.3.

Briefly describe the improvement actions take based on findings.

As a result, we increased the formal logic requirement in the major from one to two courses and started re-teaching an annual section of PHIL 126 (Critical Thinking) for PHIL majors. Results have shown continuous improvement in both critical thinking and formal logic since we implemented these changes.

Indicate any other significant findings from the program review.

External reviewers have consistently praised us for maintaining a no-nonsense program that is solidly focused on the central core of traditional (and tough) philosophical analysis. They also noted the need for us to do a better job of getting the word out about the quality of our program and the success of our alumni in graduate school, professional school (e.g., law school) and in business. We redesigned our web site and are taking a more active role in recruiting students from outside and, also, internal transfers from other Cal Poly programs. We intend to continue our efforts to get better information about our graduates and to develop greater depth in the emphasis areas likely to draw the most attention, enrollment and support (e.g., theoretical and applied ethics). We aim to do this without sacrificing excellence in the traditional core of philosophy that currently makes our program stand out.

11) School of Education, College of Sciences and Mathematics

The School of Education has designed an assessment system that provides regular and comprehensive information on candidate performance, program effectiveness, and unit operations. Assessments reflect the conceptual framework, which are aligned with state and professional standards. Through the assessment system, we are able to monitor and reflect on how well we are accomplishing our goals and to make improvements as needed.

For candidate performance, each program has (1) developed a series of transition points with multiple assessments that evaluate how well each candidate meets expected outcomes and dispositions, (2) taken steps to ensure its assessments are fair, accurate, consistent, and free from bias, and (3) implemented procedures to assist candidates who do not meet expectations. Each program also evaluates its effectiveness through multiple sources, including an analysis of overall candidate performance; information from candidates, graduates, employers, and advisory boards; and external reviews by the University and California Commission on Teacher Credentialing. In addition, the SOE evaluates the quality of its unit operations through faculty and staff assessments (performance and productivity), review of resources (budget, facilities, and technology support), and review of services (advising and other processes).

Generally, candidate assessments are reviewed quarterly, program assessments are reviewed annually, and unit operations are reviewed at varying intervals , depending on the assessment (e.g., annual for faculty and staff evaluations, monthly for resources and services review). At each level, outcomes are shared with relevant stakeholders to support professional growth (e.g., candidate pedagogy, faculty performance) as well as program and unit improvement (e.g., curriculum, policies and processes).

Data for the Multiple Subject and Single Subject programs are stored in Tk20, the SOE's web-based system. Data for the Educational Leadership and Administration and Special Education programs are stored in Excel files, which are managed by the program coordinators. Other data reporting relevant to the programs and the unit (e.g., AACTE, Title II) is coordinated by the instructional technology director.

The unit undergoes internal and external evaluation of its programs and operations. Program effectiveness is evaluated internally through multiple sources, including an analysis of candidate performance; information from candidates, graduates, graduates' employers, and advisory boards. Unit operations are evaluated internally through faculty and staff assessments (performance and productivity), review of resources (budget, facilities, and technology support), and review of services (advising and other processes). In addition, the unit participates in external reviews by the University Annual Program Review process and the California Commission on Teacher Credentialing review process.

12) BS Theatre Arts, College of Liberal Arts

Briefly summarize the findings from the student learning outcomes assessments and indicate if the desired levels of learning were achieved

During the 2013/14 AY, Theatre Faculty chose to focus on PLO 6: Writing Proficiency. They observed an obvious dip in Writing Proficiency as a measure of student learning between 2010/11 and 2011/12 based on data gathered for these years utilizing the University Expository Writing Rubric (UEWR) as a basis. (See below)

	Awareness and articulation of intent	Demonstrated evidence in support of purpose	Delivery of content in terms of style/voice	Delivery of content in terms of mechanics	Contextualization & informed evaluation of material
AY12/13	2.51	2.53	2.67	3.24	2.32
AY11/12	2.90	2.85	2.68	3.43	2.58

However, with only 2 years of data and fewer than 20 students each year as basis for analysis, it was not clear the data demonstrated an actual drop in performance or if the first year's data was in some way skewed. Additional efforts were made during Winter and Spring 2013 to ensure students' understanding of performance expectations based on the UEWR. This was initiated in (C3 and C4) courses where writing is a key component of instruction. These efforts are intended to improve student writing in courses leading up to TH 461 Senior Projects, where students must write fifty-page research paper. The University Expository Writing Rubric is used in the grading of these papers. The results for 2013/14, which show a clear improvement in four of the five areas measured, can be seen below.

AY13/14	2.61	2.57	2.73	3.07	2.52

Briefly describe the improvement actions take based on findings.

Incremental improvements were noted in most areas with the exception of Mechanics. Based on these results, it does appear that data gathered during the 2010/2011 Academic Year is most likely an outlier to the norm. As we assess this data from this class in the future we will continue to look at the AY 2010/11 data to validate this conclusion. Since it does appear, based on the results listed above, that student performance is somewhat improved, we will continue to apply the measures initiated last year in all (C3 and C4) courses. A larger aggregate of data is still needed to validate any conclusions. (2-3 years)

Indicate any other significant findings from the program review.

We continue work on all areas of our Program Review Action Plan. We have the following objectives for AY 2012/14:

A. We have completed an evaluation of available instructional spaces and initiated efforts to optimize their usage. 1. We are installing sprung floor in Room 212 our main classroom/laboratory. 2. We are changing room usage as a result and shifting lecture based courses into university classroom spaces whenever practical. 3. We have reviewed all possible options regarding additional access to Spanos Theatre and the Pavilion in the PAC as instructional space. 4. We are in the process of refurbishing the Theatre Department Scene Shop.

B. A significant variety updates, changes and new course proposals have been put forward by Theatre Department for the 2015/17 curriculum for the upcoming 2015/17 catalogue sequence.

C. The Theatre Program in the process of publishing a map of courses indicating their alignment with Program Learning Objectives (similar to the ULO course coverage map on page 35 of the self-study)on the Department Web Page. www.http://cla.calpoly.edu/thtrdanc.html

D. We have begun outreach to Theatre alumni as a first step in building an effective advisory board. Graduates were invited on campus during Fall Quarter to speak with graduating seniors in TH 461 Senior projects. The focus of the discussion was career paths post-graduation. There will be a larger gathering of graduates from the Theatre Program during the Spring Quarter to initiate the building of an Advisory Board.

Adopted:

ACADEMIC SENATE
of
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, CA

AS-___-14

RESOLUTION ON PROPOSAL TO ESTABLISH THE STRAWBERRY
SUSTAINABILITY RESEARCH AND EDUCATION CENTER

1   RESOLVED: That the Academic Senate of Cal Poly endorse the attached proposal for the
2   establishment of the Strawberry Sustainability Research Education Center.

Proposed by: Chris Kitts, John Peterson, and Mark
Shelton,
Date: January 2, 2014

CAL POLY
SAN LUIS OBISPO

Proposal to Establish the Strawberry Sustainability Research and Education Center

California Polytechnic State University

Submitted by: Dr. John Peterson, Dr. Chris Kitts and Dr. Mark Shelton

January 2, 2014

THE VISION

Cal Poly and the California Strawberry Commission (CSC) aspire to contribute to ensuring the future growth and success of the California strawberry industry by forming a long term and robust partnership focused on innovation and applied research. The Strawberry Sustainability Research and Education Center (Center) represents the mechanism that will be used to achieve this vision. The Center will be the only one of a kind and its activities will reflect the tradition of Cal Poly's *Learn by Doing* philosophy.

A Name that Reflects the Vision

The name, **Strawberry Sustainability Research and Education Center**, is a direct reflection of the Center's vision. The Center will exemplify Cal Poly's leadership in education, research, policy formation, and information exchange centered on sustainability.

In 2004, President Warren Baker signed the Talloires Declaration, elevating Cal Poly's commitment to sustainability and environmental literacy in teaching, theory, and practice. Faculty, staff, and students are today better prepared with the knowledge and abilities to integrate concerns for ecology, social equity, and economics within the concept of social and natural resource systems and the built environment.

Cal Poly has established itself as an award-winning leader in sustainability, in both academics and facilities. The University's comprehensive and polytechnic programs, many of which include curriculum about issues in sustainability, and its many multidisciplinary collaborations aim at producing exceptional research and sustainable solutions to real word problems. The Center will become a cornerstone among many sustainability related initiatives at Cal Poly.

CALIFORNIA'S STRAWBERRY INDUSTRY

Leading the Nation

California is one of only five agricultural regions in the world boasting a Mediterranean growing climate. As a result, our annual agricultural production exceeds $43 billion in farm gate value, making California the world's fifth largest supplier of food. California produces more agricultural commodities than any other state, including leading the nation as the largest fruit producing state.

Among California's top 20 commodities, strawberries maintain a strong position at sixth, with over $1.9 Billion in annual value. The California strawberry industry also maintains a significant presence in the global marketplace and is 14th among California's top exports, with a value of $336 million.

California's climate lends itself to the longest growing season, allowing for strawberries to be harvested nearly every month. 90% of the U.S. strawberry production occurs along a 500-mile stretch from San Diego to San Francisco. Additionally, Monterey, Ventura, Santa Barbara, Santa Cruz and San Luis Obispo counties' top producing commodity is strawberries, surpassing wine grapes and lettuce.
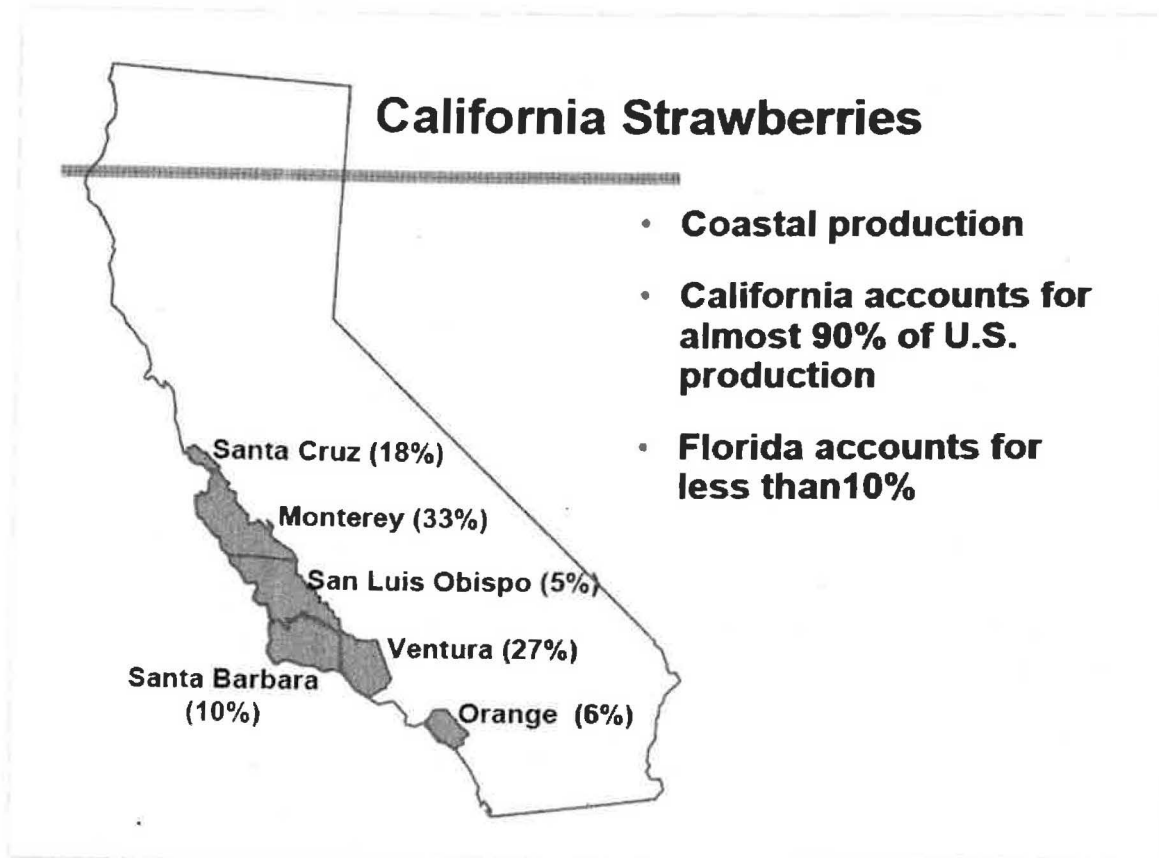

Figure 1. California Strawberries[1]

Emerging Trends, Needs & Challenges

The California strawberry industry is facing complex and evolving challenges related to water use, water runoff, pesticide regulation and the loss of certain fumigants. These challenges present an opportunity for the industry to examine existing production methods, conduct research, and adopt the highest standards of sustainable management practices.

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[1] Carter, C.A. (2007). *The Red Edge: California's Strawberry Industry* [PowerPoint slides]. Retrieved from http://agecon.ucdavis.edu/extension/presentations/files/carter/carter_strawberries_nov8_2007.pdf. Note that percentages in the graphic total 99%. Our research suggests the remaining 1% would capture other production in California that is outside of the coastal belt.

The elevated consciousness of sustainability creates a space to lead applied research that will allow for strawberry producers to emerge as model environmental and socially responsible stewards. For example, the recent phase out of methyl bromide fumigation in most agricultural production, due to its stratospheric ozone-depleting nature, has dramatic negative effects on some crop yields, including strawberries. Strawberry plants are extremely sensitive to diseases within the soil and methyl bromide fumigation helps to insure a healthy plant. The fumigant phase out regulations are likely to significantly reduce strawberry quality and quantity, resulting in higher production costs. The need to identify alternative and effective production methods and business decision strategies is timely.

In addition to environmental regulations, California farmers have also been faced with rising water and pumping costs. The agriculture industry, and especially the strawberry sector, is at a critical point to identify technologies that enhance water use efficiency and minimize runoff without reducing crop yield.

Applied research related to fumigant alternatives, effective irrigation technologies and practices, and proactive engagement in evaluating environmental policies, is needed to ensure the success of the California strawberry industry, especially in Cal Poly's backyard along the Central Coast.

ROBUST PARTNERSHIP

"This partnership is an important step forward in our desire to strengthen ties with key California industries so that our students can learn, do and succeed."

– President Jeffrey D. Armstrong

In the Heart of the Strawberry Production Belt

Cal Poly University is located in the heart of the strawberry production belt on the California Coast. In San Luis Obispo County alone, the strawberry crop had a farm gate value of $200 million. Cal Poly recently signed an agreement with the California Strawberry Commission (CSC) in which the CSC committed to providing over $1 million in support over the next three years to support the establishment of the Center (see Appendix A). The three year plan is designed to meet immediate needs and opportunities. This vote of confidence by the CSC is a clear demonstration that the strawberry industry fully recognizes the potential of Cal Poly to conduct applied research on the problems facing the industry. The CSC represents 95 percent of the strawberry producers in California, including 400 growers, shippers, and processors.

Higher Education and Industry Aligned

The partnership between Cal Poly and the CSC will transform the way industry and higher education work together to advance student learning and success and to address the needs of the California strawberry industry. The need for a long-term partnership is a high priority of the CSC because Cal Poly's principles, values, and strategic imperatives align with the educative, applied research, and solution driven interests of the CSC. The partnership will serve as a model for others who may also want to join this collaborative effort. Applied research and innovation across the polytechnic disciplines coupled with access to real world issues will allow us to achieve our collective vision of establishing a world---class center focused on providing educational experiences for Cal Poly students, research opportunities for faculty and students, and ensuring the future growth and success of the strawberry industry.

CSC representatives and several Cal Poly faculty members have already had several meetings to discuss the vision for the partnership and how it could develop. CSC representatives appreciate our faculty member's high work-load, which can make embarking on new projects difficult. CSC has identified some grant opportunities to which our faculty can submit proposals and it has offered to have some of their experts on hand on campus to grow the relationship between them and our faculty. The relationship is on-going and developing, which includes Cal Poly faculty member visits to strawberry production sites in California, several of which have already occurred.

OVERVIEW OF THE CENTER

Poised for Success

The Center will be a comprehensive, interdisciplinary effort to enhance applied research to support industry needs and to advance student learning. Cal Poly and the CSC are co-creators of this unique Center. Integrating this network of industry leaders and policy makers with Cal Poly faculty leaders and students to conduct applied research based on real industry problems represents the next generation of Cal Poly's commitment to Learn by Doing.

Historically, the CSC has pursued these types of partnerships through the research and extension system of the University of California. However, Cal Poly's emphasis on giving bright, talented students hands-on experiences and state-of-the-art educational opportunities, including partnering with faculty in applied research projects, is well suited to meet the practical needs of the strawberry industry. The partnership between Cal Poly and the CSC requires a different way of thinking about industry and university partnerships, one that is less about the traditional approach of funding primarily PhD-level research projects, and instead, is about investing in applied research to inform the industry.

Leading Interdisciplinary Innovation

A full-time Director committed to meaningful industry research, the teaching and learning experience, and interdisciplinary innovation will lead the Center. Faculty and students from across campus, including the College Agriculture, Food & Environmental Sciences (CAFES), College of Engineering (CENG) and College of Science & Mathematics (COSAM) will work alongside members of the CSC on real industry problems. The Orfalea College of Business (OCOB), College of Architecture & Environmental Design (CAED), and the College of Liberal Arts (CLA) will collaborate with faculty and students from other disciplines on projects when appropriate, representing Cal Poly's true comprehensive polytechnic philosophy.

Guided by University Learning Objectives

The Center's work in teaching, scholarship, and service will provide integrated real world opportunities to bring to life Cal Poly's learning objectives where all students should be able to:

1. Think critically and creatively
2. Communicate effectively
3. Demonstrate expertise in a scholarly discipline and understand that discipline in relation to the larger world or the arts, sciences and technology
4. Work productively as individuals and in groups
5. Use their knowledge and skills to make a positive contribution to society
6. Make reasoned decisions based on an understanding of ethics, a respect for diversity, and an awareness of issues relating to sustainability
7. Engage in lifelong learning

Guided by Sustainability Learning Objectives

In addition to the University Learning Objectives, Cal Poly has also adopted Sustainability Learning Objectives which are central to the vision and success of the Center.

Cal Poly defines sustainability as the ability of the natural and social systems to survive and thrive together to meet current and future needs. In order to consider sustainability when making reasoned decisions, all graduating students should be able to:

1. Define and apply sustainability principles within their academic programs
2. Define and apply sustainability principles within their academic programs
3. Explain how natural, economic, and social systems interact to foster or prevent sustainability
4. Analyze and explain local, national, and global sustainability using a multidisciplinary approach
5. Consider sustainability principles while developing personal and professional values

COLLABORATIONS, PROJECTS & ACTIVITIES

"Faculty and undergraduate students from every corner of campus, including hydrologists, entomologists, plant scientists, engineers, packaging scientists and marketers, to name a few, will each have a hand in this important work for one of the nation's leading industries."

President Jeffrey D. Armstrong

Meaningful Collaborations

The Center will accomplish its interdisciplinary work through creative collaborations with other centers, institutes and units university-wide. Potential collaborations include, but are not limited to:

- Irrigation Training and Research Center
- Cal Poly Packaging Research Consortium
- California Institute for the Study of Specialty Crops
- CAFES Center for Sustainability
- Coastal Resources Institute
- Brock Center for Agricultural Communications
- Cal Poly Center for Innovation and Entrepreneurship
- Global Waste Research Institute
- Center for Applications in Biotechnology
- The Institute for Advanced Technology and Public Policy
- Center for Solutions through Translational Research in Diet and Exercise

Existing Projects

In 2009, the Cal Poly Irrigation Training and Research Center began a multi-year analysis of the current irrigation practices of strawberry growers on the Central Coast of California. Specifically, the project examines the impacts of salinity on young strawberry transplants and the current practice of sprinkler use during the establishment of transplants for salinity control in areas where drip irrigation is available. The overall goal of the project is to study current practices to determine any conditions where growers can minimize or eliminate sprinklers use on strawberries, thereby conserving water, saving pumping costs and reducing runoff.

Potential Projects & Activities

Potential projects speak to the immediate needs and opportunities facing the California strawberry industry. Cal Poly also intends to remain flexible in the pursuit of projects and responsive to emerging industry issues. Potential projects include:

- Reduce the chemical inputs for soil sterilization, fertilization, weed control, and pest management

- Reduce the energy inputs in productions, handling, storage, and transportation
- Improve soil quality and health in the production system for succeeding crops
- Resistance screening
- Packaging study to increase shelf life of strawberries
- Evaluate environmental regulations
- Active engagement in advocacy and policy making
- Innovative approaches related to trade agreements and tariffs
- Agricultural market analysis and strategic business plan development
- Examine biochemical composition, cancer prevention, cardiovascular health, metabolism regulation, brain aging and other health properties of berry fruits
- Agricultural education and community outreach programming

Cal Poly faculty members have identified some potential projects on which they and their students could partner with the Center. Potential projects for partnership include:

In the Biology Department, Chris Kitts reports that faculty and grant project staff are currently working with BioWish Technologies Inc. whose product (a consortium of microorganisms) shows some interesting anti-fungal properties. They are examining the BioWish product's capacity to inhibit growth in pathogens of interest to the strawberry industry. Should these experiments provide encouraging results the next step would be to partner with the Strawberry Research Center to field test formulations on strawberries, either in soil, on the fruit or on growth substrates.

In the Mechanical Engineering Department John Ridgely identified several potential senior projects, including:

- Improved blades for the bug vacuums in the fields.
- Improved design for the calyx removal tool for farmworkers
- Bathroom improvements (hand washing, etc.)
- Improved picking cart design for field workers

Also from the Mechanical Engineering Department, Saeed Nicu identified some potential robotics projects:

- Work on component parts of a larger idea of robotic strawberry picking. These can include the development of expertise, routine, understanding, possibilities of finding ready-to-pick strawberries with vision systems, development of robotic arms that may eventually be used in picking, the development of a platform to be used, etc.
- The development of a complete robotic strawberry-picking device. This includes all the necessary components of such a device, including the vision system, robot arms, the platform, testing, etc. This would be a huge multi-millon dollar project that would be years in the development.

From the Horticulture and Crop Science Department Wyatt Brown has identified several

potential post-harvest areas of focus. At present, discussions with the CSC have tended to be field oriented, however, should that change to include post-harvest concerns and foci, Cal Poly faculty can assist with several different types of projects, such as:

- Bioactive packaging and antimicrobial - evaluation and modeling
- Biodegradable polymers characterization and development
- Package closure testing
- Determination of produce and flower respiration
- Evaluation of package barrier properties
- Heavy metals content analysis of plastics
- Modified atmosphere packaging and controlled atmosphere storage simulation
- Package burst testing
- Package or material storage under controlled temperature and relative humidity
- Plastic migrants determination
- Produce constituent analysis
- Shelf life and supply chain modeling
- Ultraviolet degradation of plastics
- Volatiles analysis

Finally, also from the Horticulture and Crop Science Department, Lauren Garner is currently supervising a graduate student, Ms. Mel Carter, whose work is directly relevant to the vision and mission of the Center and for which she is likely to receive some funding from the CSC. From Ms. Carter's thesis proposal:

"For my thesis, I would like to research the effectiveness of cover cropping systems along with Anaerobic Soil Disinfestation (ASD) to reduce the amount of soil-borne pathogens (specifically *Fusarium oxysporum, Verticillium dahliae,* and *Macrophomina phaseolina)* in soil used for strawberries."

THE INVESTMENT

$1 Million Donation Accepted
In February 2013, Cal Poly leadership signed an agreement accepting a $1 million donation, issued over a three---year period, from CSC, in order to create the Center. The CSC recognizes the importance of academic freedom and creativity if the Center is to be successful in its mission. The CSC recognizes, too, that the faculty at Cal Poly develop all curriculum, certainly in response to industry needs, but importantly, by using guiding principles of academic freedom.

Umbrella Research Agreement
Upon the formal establishment of the Center, a drafted executive order will allow for research contracts with specific deliverables to be funded by the CSC independent of the progress of other stated objectives of the Center, and on an as-needed basis.

Innovation & Research Fund

A fund to support student and faculty projects of joint interest to Cal Poly and the CSC will be established. Projects will be developed collaboratively with the Strawberry Sustainability Research and Education Center Council (Council) comprised of CSC members and Cal Poly faculty. Initial opportunities include projects related to robotics and water quality issues. Future growth of this fund is important to allow for additional multi-interest applied research projects.

Facilities & Equipment

Applied research projects will initially take place on existing plots located on land owned by local growers, with the planned goal of establishing a permanent research site on Cal Poly's campus to include strawberry test plots (acreage to be determined), in addition to laboratory and office space. The partnership also seeks to include access to equipment for applied research.

Director's Fundraising Leadership

In addition to teaching and leading applied research, the Center Director's time will be allocated to include obtaining external funding to support the applied research and educational mission of the Center. External funding will be secured through the collaboration and cooperation of Cal Poly's University Advancement team and sought from the CSU System, as well as private, state and federal sources.

Initial Budget

ITEM	YEAR 1	YEAR 2	YEAR 3	SUBTOTAL
Center Director (Salary + Benefits	$150,000	$150,000	$150,00	$450,00
Center Technician	$75,000	$75,000	$75,000	$225,000
Center Operations	$25,000	$25,000	$25,000	$75,000
Sponsored research contracts – projects TBD	$75,000	$75,000	$75,000	$225,000
Innovation & Research – seed funding for faculty/student projects	$25,000	N/A	$25,00	$50,000
Total	$350,000	$325,000	$350,000	$1,025,000

Construct permanent research/facility	TBD	$500,000 --- $900,000 (TBD)	N/A	$500,000 --- $900,000 (TBD)

ORGANIZATIONAL STRUCTURE, STAFFING & GOVERNANCE

Center Director & Role Responsibilities
The Center Director's Role is guided by Cal Poly's teacher-scholar model, which emphasizes engaging in dynamic teaching and scholarship to create vibrant learning experiences.

In accordance with the partnership plan (see Appendix A) a search for a full-time Center Director was launched in early Fall 2013 for an initial three-year term, which is the length of the current agreement between Cal Poly and the CSC. It is preferable that the position be filled with an individual who has at least 5 years of research program leadership (i.e. mid-career) in an applied agricultural field. The Center Director will seek direction and support from a standing Strawberry Sustainability Research and Education Center Council.

Responsibilities of the Director may include:

- Develop and coordinate initiatives and activities of the center in cooperation with industry partners, the Strawberry Sustainability Research and Education Center Council, and Dean of CAFES
- Spearhead the development of mutually beneficial partnerships with industry, agencies, key national forums and other institutions
- In cooperation with the Council, develop specific measurable goals and objectives in general and, in particular, the use of resources committed to the Center
- Work to secure involvement of industry experts who can deliver specialty courses
- Uphold the highest principles of academic freedom
- In collaboration with faculty, develop strategic directions for curriculum development relating to addressing relevant real---world needs and challenges of the strawberry industry
- Work with industry partners to secure student internship positions
- Prolific grant writing and actively seeking external funding support including equipment, contracts, and faculty endowments
- Seek sponsored research projects in collaboration with faculty and industry partners
- Be aware and supportive of the development of entrepreneurial opportunities within the strawberry industry
- Participate in and represent Cal Poly in key professional meetings

Center Technician

In 2014, a Center Technician search and hiring process will be completed in consultation with the Center Director.

Strawberry Sustainability Research and Education Center Council

The Council serves as a critical champion of the Strawberry Sustainability Research and Education Center and will include 3 Cal Poly faculty and 2 CSC/industry representatives. The Council supports the center's growth and development and advises the Director on complex or specialized matters as well as general research, project and programmatic goals, and direction. Members of the Council share their gifts in service to the vision of the Center by providing: their professional expertise; their diverse knowledge of constituent and stakeholder perspectives; their connections to local, national or international resources, colleagues or peers; and their philanthropic support or other forms of needed assistance. Members shall also be firmly committed to improving the learning experience of Cal Poly students and promoting strategic linkages to the California strawberry industry.

Strawberry Sustainability Research and Education Center Organizational Chart
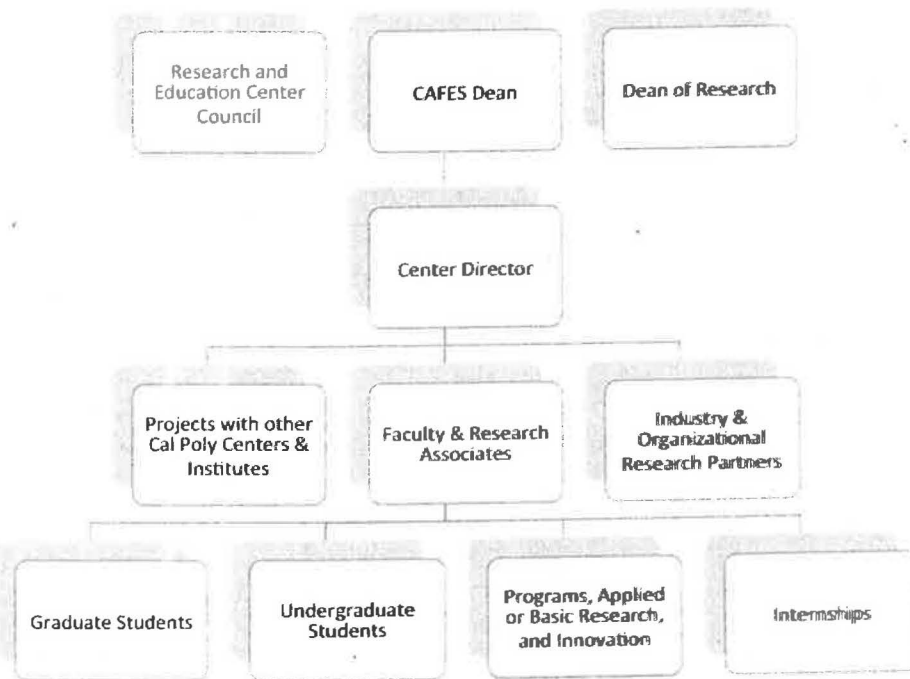
ASSESMENT

California State University System

As required by the California State University system, the Strawberry Sustainability Research and Education Center will be reviewed regularly in accordance with Cal Poly center and program review policies, practices, and timelines.

Partnership Satisfaction & Sustainability

Assessment of the Center is tied to its mission. Therefore, the primary assessment question

will be: how is the center utilizing applied research to further advance the mission of Cal Poly and CAFES and meet the needs of the California strawberry industry? The Council will meet regularly and play an important role in establishing goals and evaluating accomplishments. Furthermore, the Council will determine a mechanism to ensure sustainability, such as a rolling multi-year contract or agreement, which will extend beyond the first three years and allow for a true long-term partnership.

Faculty Engagement

The quality and outcomes of center activities will be reported in program review. Faculty involved with the center will develop performance metrics for student engagement that measures output and outcomes (learning achievements). In addition, faculty will develop appropriate metrics for their activities within the center, such as the number of grants developed, workshops held, industry involvement, contracts secured, donations, and student projects.

Plant Sciences Inc.

PSI

Advancing Agriculture through Science

342 Green Valley Road
Watsonville, California USA 95076

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Fax 831.728.4967

www.plantsciences.com

November 26, 2013

Academic Senate
California Polytechnic State University
Building 38; Room 143
San Luis Obispo, CA 93405

RE: Strawberry Sustainability Research and Education Center

Dear Academic Senate:

I am writing in support of the valuable partnership recently established between the California Strawberry Commission and California Polytechnic State University, resulting in the formation of the *Strawberry Sustainability Research and Education Center*. As a Cal Poly graduate in Crop Science, now serving as the President and CEO of Plant Sciences, Inc., I can attest first-hand to the vitally important role that Cal Poly plays in equipping young people for service and contribution to the California agricultural sector in general, and specifically the California strawberry industry.

I understand the role of the *Research and Education Center* will be primarily to fund faculty and student research, with the aim of providing solutions to many of the production and harvest challenges we face as an industry. In my opinion, the California strawberry industry has never been stronger (directly contributing 2.3 billion dollars annually to our state economy, while providing tens of thousands of jobs), yet has never been more vulnerable. We face constant challenges on numerous fronts; among the most pressing are: ever-increasing costs associated with growing the crop, ever-changing pest and disease complexes combined with fewer pest control options and increasing regulatory pressures, limited supplies of suitable water, and immigration policies that compromise both the employers and the laborers.

I am convinced that many solutions to our challenges will be provided by the curious and creative young people who will be well-equipped through the teaching and hands-on experience they will receive at Cal Poly, specifically with the support and encouragement of the staff and fellow students at the *Research and Education Center*. Hence, I fully commend your efforts and encourage your continued support of the *Strawberry Sustainability Research and Education Center*.

Sincerely,

Steven D. Nelson
President and CEO

Driscoll's

Driscoll Strawberry Associates, Inc.
1750 San Juan Road
Aromas, CA 95004
(831) 254-4073

January 29, 2014

Academic Senate
California Polytechnic State University
Building 38; Room 143
San Luis Obispo, CA 93405

RE: Strawberry Sustainability Research and Education Center

Dear Academic Senate:

I am writing in support of the recently established *Strawberry Sustainability Research* and *Education Center*. I believe this partnership between the California Polytechnic State University and the California Strawberry Commission will play a critical role in procuring and directing the funding and resources required to solve the critical issues impacting the future of California strawberry production. The protection of California's finite supply of natural resources including soil, water, and air while maintaining the strawberry industry's economic competiveness is a mutual vision shared by Driscoll's Strawberry Associates and the *Strawberry Sustainability Research and Education Center*. In addition, the complex interactions between the industry and labor necessitate new solutions to enhance this mutually beneficial relationship.

My colleagues and I at Driscoll's Strawberry Associates believe it is imperative to continue the further education and training of students so they may become the next generation of problem solvers and solution providers for the ever-changing, complex issues impacting the future of California agriculture. Thus, I applaud your efforts to support the establishment of the *Strawberry Sustainability Research and Education Center* and look forward to future collaborative educational and research activities with the California Polytechnic State University.

Sincerely,

Dan O. Chellemi, Ph.D.
Research Manager, Northern District

Adopted:

ACADEMIC SENATE
of
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, CA

AS-___-14

RESOLUTION ON PROPOSAL TO ESTABLISH THE CENTER FOR SOLUTIONS THROUGH RESEARCH IN DIET AND EXERCISE (STRIDE)

1
2
3

RESOLVED: That the Academic Senate of Cal Poly endorse the attached proposal for the establishment of the Center for Solutions Through Research in Diet and Exercise (STRIDE).

Proposed by: Aydin Nazmi and Kevin Taylor, Kinesiology Department
Date: January 22, 2014

CAL POLY
SAN LUIS OBISPO

Proposal to establish the Center for Solutions Through Research in Diet and Exercise (STRIDE)

California Polytechnic State University

Submitted by: Aydin Nazmi, Interim Director STRIDE and Assistant Professor, Food Science and Nutrition and Kevin Taylor, Kinesiology Department Chair and Professor, Kinesiology

Date: January 21, 2014

Background

Since 2007, Solutions through Research in Diet and Exercise (STRIDE) at California Polytechnic State University (Cal Poly) has served as a hub for new research partnerships as well as community, state, and national collaborations in obesity-related issues. Much remains to be done. The STRIDE Program is ready to increase its educational, grant, and philanthropic activities in order to create more opportunities for faculty and students at Cal Poly to participate in discovering solutions to obesity.

Nearly 70% of the United States adult population is overweight or obese. Childhood obesity has also become a major concern for public health and national human capital. Obesity is strongly associated with the onset and progression of heart disease, diabetes, hypertension, some cancers, and other debilitating diseases. Indeed, nutrition and physical inactivity related chronic diseases represent five of the top ten causes of death in the United States. Medical costs associated with obesity amount to a staggering $190 billion per year. These expenses significantly impact macroeconomic indicators and place a heavy burden on an already-stressed healthcare system. Moreover, the medical, economic, and social consequences of obesity inequitably impact racial/ethnic minorities and the poor. Public health strategies designed to curb obesity have been largely unsuccessful, as evidenced by the alarming and consistent increase in obesity rates across all age groups over the past three decades.[1]

Long-term solutions require collaboration across diverse disciplines to address the physical, social, and environmental factors associated with obesity. More and better interdisciplinary efforts to combat the obesity problem are urgently required. Further, the obesity epidemic has created an increased need in the healthcare industry for professionals with strong backgrounds in nutrition, health promotion, exercise science, and public health.

In spite of the long time success of the current STRIDE program, which is housed in the Kinesiology Department, there is a lack of such coordination in San Luis Obispo County and on the Cal Poly campus. A coherent nucleus is needed to facilitate cutting-edge research for faculty and experiential learning for students. The herein proposed Center for STRIDE will function as that nucleus.

STRIDE Mission Statement

To advance knowledge and practice in obesity prevention by:

- Conducting cutting-edge interdisciplinary research
- Fostering innovative collaborations among researchers, students, and communities
- Providing real-world learning experiences to develop the next generation of leaders

---

[1] Data sources: Institute of Medicine, National Center for Health Statistics, Centers for Disease Control and Prevention

> **STRIDE Values**
>
> *Innovative and Sustainable Solutions*
> We think and act creatively, knowing that sustainable improvements in education, policy, behavior, and environments are key to improving our nation's health.
>
> *Commitment to Community*
> We engage in community---based, participatory efforts to inspire our research, programs, and student leadership opportunities.
>
> *Quality and Excellence*
> Our team of experts excels at providing diverse communities with the highest quality solutions.
>
> *Health Equity*
> We identify and work to overcome disparities that prevent people from achieving sustained optimal health.

Scope of the proposed unit

The STRIDE program is the Cal Poly home for interdisciplinary research and learning related to obesity. It brings together faculty, students, and communities to create innovative solutions to complex problems. The obesity crisis requires experts from a diverse range of fields. STRIDE faculty and students represent Kinesiology, Nutrition, Landscape Architecture, Agricultural Economics, Business, City and Regional Planning, Journalism, Statistics, Computer Science, Graphic Communications, among other disciplines. Each team member brings a unique skillset with which to tackle the complex, multi-faceted problem of obesity. Together, the STRIDE team undertakes key research projects, plans innovative programs, and designs novel interventions. STRIDE harbors major research capacity, from study and survey design to program evaluation and data analysis. Thus, STRIDE is well positioned to undertake an increasing number of significant research projects and achieve high impact for scientific, local, and national communities.

In the five years since its inception, STRIDE has become a leading source for expertise. Several successful efforts have put STRIDE on the regional and national maps for research and innovation. STRIDE has

> **STRIDE: Hub for innovation**
>
> STRIDE serves as a local, regional, national hub for research, collaboration, and innovation in obesity prevention. Projects include faculty, students, and community organizations, serving to generate novel research, develop the next generation of leaders, and respond to unmet regional needs.

responded dynamically to the needs of the scientific and local communities. For example, the "Pink and Dude Chefs" nutrition education and culinary program for children, which exemplifies the mission of STRIDE, has been a resounding success. The program positively impacts faculty, students, the community, and Cal Poly in the following ways: 1) Generating research resulting publications and master's theses; 2)

Developing leadership skills of "Health Ambassadors", an innovative mechanism by which STRIDE students are trained in standardized research and program methods; and 3) Addressing an underserved population of middle-school students in a low-income, predominantly Hispanic area of the county. Due to the widespread success of Pink and Dude Chefs, STRIDE is currently in development of an online training series by which other communities may adopt and implement this program.

Through the STRIDE program, faculty members have embarked on several grant-supported projects, such as Dr. Phelan's $6.8m federally funded research from the National Institutes of Health (National Heart, Lung, and Blood Institute and the National Institutes of Diabetes and Digestive and Kidney Diseases). Dr. Phelan has two active studies at Cal Poly; the Healthy Beginning Study and the Fit Moms study. The purpose of the five-year Healthy Beginnings study ($3.4m, Clinicaltrials.gov: NCT01545934) is to determine the efficacy of a multi-component lifestyle intervention that incorporates a partial meal replacement program into a comprehensive and nutritionally sound behavioral program to promote healthy gestational weight gain in multiethnic obese women. This study is part of a larger consortium of studies that occurs at seven sites across the country.

The purpose of the five-year Fit Moms study ($3.4m), a clustered randomized trial, is to test the long-term efficacy of an Internet-based weight control program tailored for low-income postpartum mothers collaborating with the Women, Infants, and Children (WIC) program, which is a federally- funded community-based program providing nutritional support for low income multi-ethnic women.

Dr. Hagobian, a co-investigator with Dr. Phelan on the Healthy Beginnings study, is heavily involved with the multi-site intervention study (LIFE-Moms) to develop common protocols for measuring physical activity and disease risk factors. He was recently awarded an NIH grant for $3.2m to assess weight and health outcomes in fathers of the pregnant women in the Fit Moms study.

Other faculty members who have been involved in STRIDE projects include:

- Bob Clark (Kinesiology)
- Kellie Green Hall (Kinesiology)
- David Hey (Kinesiology)
- Kris Jankovitz, (Kinesiology)
- Veronika Lesiuk (Kinesiology)
- Kelly Main (City and Regional Planning)
- Lisa Nicholson and Arlene Grant-Holcomb (Food Science and Nutrition)
- Camille O'Bryant (Kinesiology)
- Jennifer Olmstead (Kinesiology)
- Christiane Schroeter (Agribusiness)
- Heather Smith, Karen McGaughy, and Soma Roy (Statistics)
- Heather Starnes (Kinesiology)
- Kevin Taylor (Kinesiology)

Additionally, the following faculty have engaged STRIDE as a client for student projects:

- Norm Borin (Marketing)
- Brady Teufel and Dan Eller (Journalism)
- Jonathon York (Entrprenuership)

The STRIDE model successfully combines faculty scholarship, student learning outcomes, and community needs. This mechanism is highly collaborative, generates innovation, and saves resources while building leadership capacity in Cal Poly students.

Relationship to the mission of Cal Poly

Cal Poly's mission is to "foster teaching, scholarship, and service in a learn-by-doing environment where students and faculty are partners in discovery." STRIDE's mission is to advance knowledge and practice in obesity prevention by conducting cutting-edge interdisciplinary research. Through STRIDE, innovative collaborations among researchers, students, and communities are fostered. STRIDE researchers develop projects that provide providing real-world learning experiences to develop the next generation of leaders. STRIDE offers a learn-by-doing environment whereby students mature professionally and personally. STRIDE projects help students apply and practice the knowledge they gain in the classroom. STRIDE students conduct applied research, manage and develop programs in their areas of expertise, and learn how to collaborate within complex organizational structures.

Moreover, STRIDE's innovative approach to student learning ensures that cross-disciplinary collaboration occurs at all levels of planning, program development, and research. Students develop in their areas of interest while engaging with peers from various academic backgrounds, fostering mutual respect and learning in team environments. Students working with STRIDE get extraordinary co-curricular experiences in academic settings and in culturally diverse communities. Importantly, STRIDE students learn to work within underserved populations, growing diversity awareness and cultivating social responsibility.
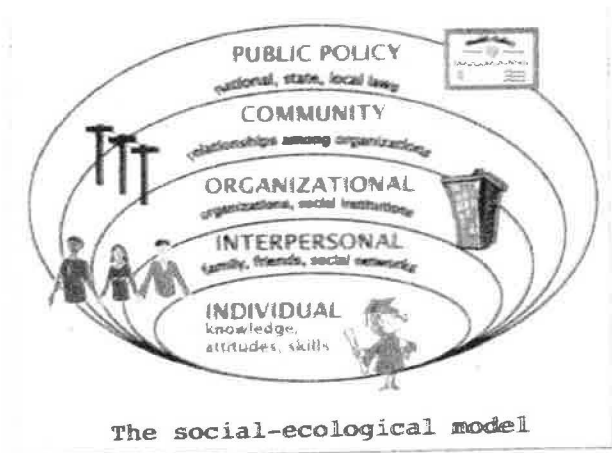
In addition to student outcomes, STRIDE fosters faculty scholarship by bringing together experts from a wide variety of backgrounds to focus on issues of shared concern, generating research projects, grant proposals, and a collegial collaborative environment. STRIDE faculty mentor students who gain disciplinary expertise and exposure to critical dynamics of organizational efforts. Serving both faculty and students, STRIDE develops the next generation of distinguished researchers and future strategic leaders.

Rationale for the proposed unit

No single unit within the University is comprehensively examining obesity- one of the most significant public health challenges of our time. The required activities cannot be supported successfully by a single department. Cal Poly has faculty dispersed across the University that are engaged through their areas of expertise in obesity and other public health issues, but until recently, there has been no concerted effort to bring them together. STRIDE serves that purpose. STRIDE is currently classified as a program within the Kinesiology Department and has operated as such since its inception. To better serve the needs of faculty and students from across disciplines, and to facilitate buy-in from a wider range of stakeholders, STRIDE must exist as an entity through which many partners can ally toward a shared vision.

Academic institutions are increasingly employing problem-based approaches, whereby teams from several fields pool know-how and resources for the common good and for a common goal. Cal Poly stands to benefit from this approach in terms of faculty scholarship and student learn-by-doing experiences. This approach takes into account the unmet needs of diverse communities, opening opportunities for both researchers and students. It has allowed STRIDE to establish important relationships within the community that are unmatched by any other unit on campus.

The social-ecological model

STRIDE employs the social-ecological model of obesity (Figure), which implicates a range of proximal and distal factors working in conjunction to determine risk. This model recognizes the importance of several layers of variables mediating individual behavior and strongly influencing individuals' opportunity structures. The health, social, and applied sciences are therefore all fundamental to the study of obesity. For example, body weight is considered a function of many influencing levels including agricultural policy, city planning, commodity economics, and lifestyle practices. Thus, layers of the model must be studied as a cohesive whole to understand the problem of obesity and to design effective interventions for populations. STRIDE's goal is to bring together experts working in each area of the social-ecological model to more thoroughly address the factors associated with obesity. As such, the house of STRIDE must be equitably welcoming to faculty and students across diverse scientific or academic backgrounds. To do so effectively requires status as a University entity committed to a collaborative and shared vision.

Fiscal sustainability

To be financially sustainable, STRIDE must pursue even more

In 2011-2012, STRIDE **engaged 423 Cal Poly students** from a diverse range of majors in **92 programs, projects, and events**. Together, we touched the lives of **7,300 community members**.

aggressively four main funding sources: research and grant funding, fee-for-service and consulting, philanthropic gifts, and broad-based institutional support.

Research and grant funding: External funding for obesity-related research and programs represents a significant proportion of total health science funding opportunities through both public and private mechanisms. Based on the wide range of collaborating faculty, STRIDE expects to capitalize on a diverse array of available research funds. National Institutes of Health, USDA, and NSF are prime contenders, for example. Collaborative external partnerships in research make STRIDE grant proposals more competitive and compelling to funders.

Since 2007, numerous faculty researchers across disciplines have received research funding based on STRIDE projects. As faculty researchers capture external funding for their research in conjunction with STRIDE, their projects will support STRIDE mechanisms designed to continue funding success. Development of research and grant funding mechanisms such as this will help overall fiscal sustainability.

Fee-for-service and consulting opportunities: STRIDE serves a unique role in the community as a resource for expertise in research, evaluation, and program design. STRIDE's fee-for-service and consulting services have increasingly been requested. From 2007 to 2012, these activities were valued at approximately $200,000. These efforts will represent a growing proportion of revenue. For example, a national non-profit has engaged STRIDE as an evaluation partner for programming across 15 states.

Philanthropic gifts: STRIDE enjoys support from a number of benefactors. The Maxwell Family Foundation contributed $250,000 to the founding of STRIDE and has gifted another $100,000 as of April 2013. The Webster Family Foundation continues to support STRIDE with gifts totaling $60,000 to date. In addition, STRIDE receives gifts from individuals, local organizations, and businesses. As STRIDE grows in size and stature, these opportunities will increase.

As the only University entity dedicated to researching and finding solutions to the obesity epidemic, STRIDE is highly marketable as part of a larger university advancement strategy and compelling to donors interested in supporting health and wellness.

Broad-based institutional support: STRIDE represents a significant value for Cal Poly through the opportunities provided for faculty research and student learning. To date, STRIDE has engaged faculty and students from all six colleges and more than 25 departments.

The scholarship and experience that this engagement provides furthers faculty professional development and supports student success all across campus. For this reason, ongoing support from a broad base of stakeholders is critical. To date, College Based Fees and State funds have supported STRIDE overhead (approximately $235,000 per academic year). Other funding, including philanthropic gifts, cover remaining costs

(approximately $30,000). It is expected that as funding from grants, fee-for-service and consulting, and gifts increase over time, the proportion of institutional support will decrease but still represent an important investment towards continued success and validation of STRIDE's importance to the University.

In sum, STRIDE is of significant value to Cal Poly and has demonstrated positive impacts on student and faculty success. As a Center, STRIDE will continue to move forward and grow in research, collaborations, and student leadership outcomes.

STRIDE Goals

Currently, faculty and staff have four main goals to achieve by 2017 for STRIDE, which will be realized through the establishment of the Center for STRIDE.

Goal 1: Increase human resources capacity and overall size of STRIDE

Objective 1.1: Increase number of core, student, and staff members

Core staff--- STRIDE currently has three permanent staff. We will grow this number to seven by 2017, adding a data steward by 2014, a budget analyst by 2016, a project coordinator by 2016, a policy analyst by 2016, and a manager by 2017. A grant writer/consultant will be contracted part---time on an as-needed basis.

Student and research staff--- STRIDE employs approximately 10-15 part-time student staff, mostly undergraduate, at any given time. We will grow our student team to include more graduate students engaged in STRIDE research, from three in 2013 to six by 2017, and at least one postdoctoral researcher will be aligned with STRIDE by 2017. We will also engage two faculty members to serve as research area leads by 2017.

The Director position--- Aligning with the University's commitment to interdisciplinary collaboration, STRIDE will serve as an example for the Cal Poly community. The goal is to have a permanent director in place (the current director is interim, with release time supported by the Colleges of Science and Math and Agriculture, Food, and Environmental Sciences.) The Director will have a permanent, 12-month appointment, with the responsibility of providing summer salary via grants/contracts.

Objective 1.2: Increase interdisciplinary faculty collaboration

STRIDE will engage Cal Poly faculty from all colleges in research, projects, and teaching related to its mission.

Seed funding initiative- The STRIDE seed funding initiative, which provides modest one-

time funding for faculty research, aims to increase collaboration and increase external funding by promoting collaborative grant applications.

Research groups- STRIDE will continue to grow as a hub of research activity for all Cal Poly faculty. For example, the FLASH Research Group, which includes faculty representing eight departments, originated in 2013 and is the first of several STRIDE-based research groups that will bring together faculty from across campus to build scholarly activity and to publish manuscripts. This group will grow and produce manuscripts collaboratively at the rate of at least three per year by 2017. Other research groups conducting research in the thematic areas of maternal/child health, biomechanics, and the built environment will be explored beginning in 2015.

University Centers and programs- STRIDE will partner with existing Cal Poly programs such as the CAFES Center for Sustainability, Liberal Arts and Engineering Studies (LAES), and SUSTAIN SLO to increase faculty collaboration and interdisciplinary scholarship. STRIDE will engage in at least one project with these programs by 2015-2017. STRIDE will also partner with ongoing efforts in the development of emerging programs such as the One-Health Initiative and the California Food and Nutrition Institute (CFNI).

Goal 2: Develop exceptional leaders by creating innovative opportunities for students

Objective 2.1: Develop student leaders through learn-by-doing and earn-by-doing opportunities

"Earn-by-doing"- STRIDE's paid student personnel teams in business administration, marketing, nutrition, physical activity, PR/media, and community engagement represent real-world experience for Cal Poly students. By 2014-15, STRIDE will garner support from each Cal Poly college to support student development and earn-by-doing activities relevant to students' fields of expertise.

Student teams- STRIDE will build new partnerships with academic departments and Cal Poly programs including Liberal Arts and Engineering Studies (LAES) and the CAFES Center for Sustainability to develop new opportunities for students to work together at solving society's most pressing problems related to health and well-being. At least two student teams will undertake new and collaborative projects each year. For more information on STRIDE student teams, please see:

http://stride.calpoly.edu/content/our-team

Objective 2.2: Create innovative opportunities for student engagement and collaboration

Learn-by-doing- STRIDE will continue to enhance connections to curriculum and offer educational experiences beyond the walls of the classroom. For example, through two service-learning courses (Health Ambassadors and Assessment Team; KINE 290)

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based in the Kinesiology Department, STRIDE offers innovative mechanisms by which to train student researchers and community outreach leaders. Beginning in 2014-15, STRIDE will collaborate with the Food Science and Nutrition Department to add a nutrition-specific FSN 290 as a complementary method for training student leaders.

A focus on students- STRIDE will partner with other departments and units including Student Affairs, University Housing, Health and Counseling Services, or Athletics to continue offering innovative and complementary learning opportunities for all Cal Poly students from several colleges in several thematic areas related to health and wellness.

Goal 3: Increase visibility on and off campus

Objective 3.1: Increase Cal Poly presence by expanding on-campus collaborations

University units--- STRIDE is building new partnerships with University Housing to promote healthy eating and active living in the context of campus life. Beginning in 2014-15, STRIDE will partner with the three 'healthy living' residence halls as a partner in promoting health and wellness for students. Student Affairs, Health and Counseling Services, and PULSE will also be explored as potential partners for aligning and expanding the range of STRIDE activities.

Academic/curricular integration- STRIDE has offered two service and learn-by-doing courses in the Kinesiology Department for six years, and will seek to grow these activities in partnership with other departments beginning in 2014-15. STRIDE will also be one of the key units associated with the new Cal Poly Public Health minor, to be proposed by 2017. The minor will be a cross-college effort attracting students from every college to areas of public health that align with Cal Poly faculty expertise.

Objective 3.2: Foster existing and develop new partners in the local/regional community

Community focused- STRIDE's research and outreach activities take place in the local community with partners such as schools, San Luis Obispo County Public Health Services, the Food Bank Coalition of San Luis Obispo County, HEAL (Healthy Eating Active Living) SLO, among many others. STRIDE will continue to work with community groups as key partners in developing new research and creating student leadership and outreach opportunities.

Objective 3.3: Be a leader in the emerging national collegiate health movement

National visibility- STRIDE will be a leader in emerging research and program areas dedicated to college and campus community health. For example, STRIDE will participate in the National Consortium for Building Healthy Academic Communities, http://healthyacademics.org/, and at least one FLASH research project manuscript

per year will be submitted to this consortium. By 2017, STRIDE will participate in a multi-site college health study. For more details on FLASH, please see http://stride.calpoly.edu/content/research/flash.

Goal 4: Increase revenue and funding

To be financially sustainable, STRIDE must pursue several funding sources, including research and grant funding, fee-for-service and consulting, philanthropic gifts, and broad-based institutional support for earn-by-doing opportunities for students.

Objective 4.1: Increase research/grant funding

Since 2007, numerous STRIDE faculty researchers across disciplines have received external funding. Currently, STRIDE faculty hold more than $10m in research grants. When STRIDE becomes a university center, indirect costs will be used to pilot new research projects and to stimulate new programs. By 2017, STRIDE will achieve $15m in research funding, bringing approximately $550,000 in indirect costs to the Center.

Objective 4.2: Increase fee-for-service and consulting opportunities

STRIDE serves a unique role in the community as a resource for expertise in research, evaluation, and program design. STRIDE's fee-for-service and consulting services are increasingly requested. From 2007-2012, these activities totaled approximately $200,000, and will grow going forward. For example, a national non-profit recently engaged STRIDE as an evaluation partner for programming across 15 US states. From 2013-2017, STRIDE will earn at least $170,000 from these endeavors.

Objective 4.3: Increase philanthropic support

As the only University entity dedicated to researching and finding solutions to the obesity epidemic, STRIDE is highly marketable as part of a larger University Advancement strategy and compelling to donors interested in supporting health and wellness. In partnership with college and University Advancement, STRIDE will likely comprise a key element of the Cal Poly Capital Campaign. Specific targets for fundraising include "earn-by-doing" opportunities, development of STRIDE's online training mechanism, and an endowed chair position. From 2014-2017, STRIDE anticipates a total of $350,000 in new philanthropic support.

Objective 4.4: Broaden and increase internal support
STRIDE furthers faculty scholarly activity and supports student excellence all across campus. For this reason, ongoing support from a broad base of stakeholders is critical. To date, College Based Fees and State funds, primarily from COSAM, have supported some STRIDE overhead. With the consent of the Academic Deans, we will garner minimal broad based support, primarily to support earn-by-doing opportunities for students, from all six Cal Poly colleges over the next three years. Further, as funding from grants, fee-for-service and consulting, and gifts increase over

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time, central campus support will represent a critical validation of STRIDE's importance to the University.

Adopted:

ACADEMIC SENATE
OF
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, California

AS-____-14

RESOLUTION ON
CROSS-DISCIPLINARY STUDIES MINORS

1 2 3	WHEREAS,	A minor is defined as a "coherent group of courses which stands alone and provides a student with broad knowledge of and competency in an area outside the student's major"; and
4 5 6	WHEREAS,	A concentration is defined as a "coherent and specialized course of study within a student's major degree program, which presupposes knowledge of the major discipline"; and
7 8	WHEREAS,	The "stands alone" group of courses requirement of minors is limiting when developing a specialized curriculum without hidden prerequisites; and
9 10 11	WHEREAS,	The "specialized course of study within a student's major" requirement of concentrations does not recognize in-depth study in disciplines outside of the major; and
12 13	WHEREAS,	CSU Executive Order 1071 delegates to presidents the authority to approve options, concentrations, special emphases, and minors; therefore be it
14 15	RESOLVED:	That the Academic Senate request that President Armstrong create the Cross-Disciplinary Studies Minor as defined in the attached document.

Proposed by: Academic Senate Curriculum Committee
Dated: October 24, 2013

CROSS-DISCIPLINARY STUDIES MINOR

DEFINITION

A cross-disciplinary studies minor (CDSM) is the result of a partnership between two or more target major programs. It is defined as a set of curricular requirements comprised of coherent groups of courses tailored for each partner program such that all students from target majors develop (1) depth in the partner discipline, (2) focused study in their own discipline, as well as (3) focused study in the mutual domain of the minor.

REQUIREMENTS

- The curricular requirements are the same for all students in the CDSM.

- The total number of units in the CDSM that cannot be covered by the requirements of the student's major shall not exceed 24 units.

- The CDSM curriculum shall require at least 12 units of coursework that cannot be covered by the requirements of the student's major.

- At least half of the units must be from upper division courses (300- or 400-level) and at least half of the units must be taken at Cal Poly.

- Not more than one-third of the courses in an CDSM can be graded Credit/No Credit (CR/NC), except for courses that have mandatory CR/NC grading.

- A minimum overall 2.0 GPA for all CDSM required coursework is needed for completion.

MAJORS/PARTNER MAJORS/CROSS-DISCIPLINARY MINORS

- The CDSM will be completed along with the requirements for the bachelor's degree.

- Each partner major department will have a CDSM faculty/staff advisor. Students who wish to complete a CDSM are to contact the CDSM advisor in their home department as early as possible and fill out the appropriate agreement form.

- Each CDSM will have a program coordinator who will be responsible for coordinating curriculum changes both within the minor as well as changes in the target majors that may affect the minor.

MINORS/GRADUATION

- The CDSM is formally declared when the student requests a graduation evaluation in the Evaluations Office; however, students should seek advisor approval early in their program to ensure timely graduation.

- The completion of the CDSM will be noted on the student's transcript, but will not be shown on the diploma. In no case will a diploma be awarded for the CDSM.

STAT minor units	STAT	Course	Core Units	CSC	CSC Minor Units
	required in the major	CSC 101: Fundamentals of CS I		required in the major	
	CS/STAT/MATH elective	CSC 102: Fundamentals of CS II	4	required in the major	
	CSC/STAT/MATH elective	CSC 103: Fundamentals of CS III	4	required in the major	
	required in the major	MATH 206/244: Linear Algebra/ Linear Analysis	4	support (Math) elective	
	required in the major (*)	STAT 312, 321 or 301/302 (Intro to Statistics)		required in the major (STAT 323/312)	
	required in the major (*)	STAT 325 Probability Theory	4	support (Math) elective	
	technical elective	CSC 365: Databases	4	technical elective	
	technical elective	CSC 369: Distributed Computations (Hadoop)	4	technical elective	
	Free elective	CSC 349: Algorithms	4	required in the major	
	required in major	STAT 330/ 331: SAS/R	4	technical elective (2c)	
	required in major	STAT 324: Applied Regression	4	technical elective (2c) (* TBA)	
	elective	STAT 419: Applied Multivariate analysis	4	Minor	4
	Free elective	CSC 466: Knowledge Discovery from Data	4	technical elective	
4	Minor	DATA 201: Introduction to Data Science	4	Minor	4
4	Minor	DATA 301: Data Science	4	Minor	4
2	Minor	DATA 350: Data Science Capstone I	2	Minor	2
2	Minor	DATA 450: Data Science Capstone II	2	Minor	2
8	Minor	CS Tech Electives		technical elective	
	400 electives	STAT Tech Electives		Minor	8
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MINORS
(http://www.academicprograms.calpoly.edu/content/academicpolicies/Policies-Undergrad/Minors)

Definition: A minor is defined as a coherent group of courses which stands alone and provides a student with broad knowledge of and competency in an area outside the student's major.

MAJORS/MINORS
- A major and a minor may not be taken in the same degree program (e.g., a student majoring in history may not complete a minor in history, whereas a student majoring in crop science may complete a minor in plant protection).
- The minor will be completed along with the requirements for the bachelor's degree. Courses in the minor may be used to satisfy major, support and general education requirements.

REQUIREMENTS
- Students who wish to complete a minor are to contact the department offering the academic minor as early as possible in the program and fill out the appropriate agreement form.
- A minor consists of 24 to 30 units with at least half of the units must be from upper-division courses (300- or 400-level) and at least half of the units must be taken at Cal Poly.
- Not more than one-third of the courses in a minor can be graded Credit/No Credit (CR/NC), except for courses which have mandatory CR/NC grading.
- A minimum overall 2.0 GPA is required for completion of the minor (French, German and Spanish language minors must have a 2.75 GPA).

MINORS/GRADUATION
- The minor is declared when the student requests a graduation evaluation in the Evaluations Office.
- The completion of the minor will be noted on the student's transcript but will not be shown on the diploma. In no case will a diploma be awarded for the minor.

CONCENTRATIONS

(http://www.academicprograms.calpoly.edu/content/academicpolicies/Policies-Undergrad/Concentrations)

Faculty have the option to include concentrations in the baccalaureate programs they develop. A concentration is intended to be a coherent and specialized course of study within a student's major degree program, which presupposes knowledge of the major discipline. The requirements for a concentration are stated in the catalog, and faculty have a commitment to deliver the approved curriculum as stated. Therefore, when advising individual students, faculty should attempt to follow the approved curriculum before considering substitutions.

Concentrations are noted on the student's transcript but are not shown on the diploma. The following requirements for establishing or revising a concentration become effective with the 2013-15 catalog cycle.

- A concentration is a block of at least five designated courses from one or more lists of designated courses or course areas.
- No single course should appear in every concentration; such courses should be included in the major.
- The courses for a concentration shall appear in the major course column.
- The number of concentration units shall not exceed 50% of the total major units.

Adopted:

ACADEMIC SENATE
OF
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, California

AS-____-14

RESOLUTION ON
INACTIVATING AND REACTIVATING COURSES

1 2	WHEREAS,	The Academic Senate is responsible for the approval and maintenance of all curricula at Cal Poly; and
3 4	WHEREAS,	Once approved by the Senate the only mechanism to remove a course from the catalog is for the owning department to propose discontinuance; and
5 6	WHEREAS,	Many courses that have not been taught in years (or have never been taught) appear in the catalog; and
7	WHEREAS,	The catalog is a tool we provide to current students to plan their academic careers; and
8 9	WHEREAS,	The catalog is visible to prospective students who may base their application or acceptance, on courses listed; and
10 11	WHEREAS,	An accurate up to date course inventory is crucial in forecasting course demand for degree applicable courses; therefore be it
12 13	RESOLVED:	That the Academic Senate endorse the attached Policy for Inactivating and Reactivating Courses; and, be it further
14 15 16	RESOLVED:	That the Academic Senate (via the administration by the Academic Senate Curriculum Committee and Registrar) begin implementing this policy for the 2015-17 catalog review cycle.

Proposed by: Academic Senate Curriculum Committee
Date: October 24 2013

BACKGROUND OF STALE COURSES AND THE POSITION OF THE ASCC

Prior to the 2013-15 catalog, there were 722 courses that had not been taught in more than 10 quarters, or possibly not ever taught. While not ordinarily burdensome, the normal process to remove courses from the catalog involves filling out course modification forms. Given the large number of courses that were identified as candidates for deletion, the Registrar (with agreement and support of the ASCC) provided departments with lists of these inactive courses with simple checkboxes to identify which courses to retain and delete during the 2013-15 catalog cycle. While some departments removed many inactive courses, others retained all or most of their stale courses. Currently there are over 571 courses (not counting new courses introduced in the current or previous catalog or courses that are selected topics/individual studies, etc.) that have not been offered in the past 2 years. Of those, there are 280 courses that have not been offered in the past six years.

It is the view of the ASCC that the Cal Poly catalog should provide accurate and timely listings of courses that students have the ability to take. The catalog is a resource used by current students for planning and prospective students for recruiting. Not offering the courses in the catalog with regularity is a disservice to our students. While we continue to encourage departments to formally delete courses that they have no intention of teaching, we recognize that there are reasons to retain some courses on an inactive status. The attached proposed policy for inactivating and reactivating courses provides these mechanisms.

POLICY FOR INACTIVATING AND REACTIVATING COURSES

Inactivation

Each catalog cycle the Registrar shall provide to each department a listing of courses that have not been offered for six (6) or more years (i.e., three catalog cycles). These courses will be flagged as inactive and the department will be notified of this status. Inactive courses will not appear in the subsequent Cal Poly catalog and will not be available for scheduling until reactivation.

Reactivation

If an inactive course is so old that it does not have any learning objectives on file with the A Registrar's office, a new course proposal and Senate approval will be required to reactivate the course. As class schedules are typically developed at least two quarters in advance, proposals should be submitted to the ASCC at least three regular academic quarters prior to the quarter the course is to be offered.

A request to reactivate a course should be made by department heads/chairs to the Registrar no less than two quarters prior to the desired quarter to begin reoffering the course (e.g., to offer an inactive course in Spring, contact the Registrar in the Fall quarter). If a course has learning objectives on file with the Registrar, the course may be reactivated provided there are no active courses with learning objectives similar to the inactive course and the respective associate dean acknowledges that sufficient resources to support the course are available or will be provided. Requests to reactivate courses will be reviewed by the Registrar with concurrence from the ASCC. If the learning objectives of the course to be reactivated overlap with those of existing courses, or other problems emerge, it may require more than two quarters to determine if the course may be reactivated and, if appropriate, reactivate the course.

Exemptions

Special problem courses (e.g., 200, 400), Special/Selected Topic shell courses (e.g., 270, 271, 470, 471), and internship/coop courses (e.g. 485, 495, 585, 595), will be exempt from automatic inactivation.

Adopted:

ACADEMIC SENATE
of
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, CA

AS-____-14

RESOLUTION ON SUPPORTING ASI'S REAFFIRMATION OF CAL POLY SAN LUIS OBISPO'S COMMITMENT TO THE QUARTER SYSTEM

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WHEREAS,   On December 4, 2013, the ASI Board of Directors unanimously approved ASI resolution #14-02, which reaffirms Cal Poly's commitment to remain on the quarter system; and

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WHEREAS,   The ASI Board of Directors reaffirmed its commitment on behalf of the students at Cal Poly on the basis of the active role that ASI government took in assisting the 2013 Semester Review Task Force by consulting professionally and productively with students about a possible conversion; and

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WHEREAS,   ASI also reaffirmed its commitment on the basis of the report from the 2013 Semester Review Task Force; and

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WHEREAS,   The Semester Review Task Force concluded that Cal Poly ought not to convert to the semester system due to several factors, including the estimated high financial cost of converting, the estimated high cost for faculty, staff, and student morale in converting, an inability to substantiate through research the purported benefits for student learning, and lost opportunity costs Cal Poly would suffer, particularly in areas such as student success and graduation rates; and

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WHEREAS,   ASI resolution #14-02 is consistent with AS-757-13 Resolution on the Semester Review Task Force Findings and worthy of faculty support; therefore be it

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RESOLVED: That the Academic Senate supports the ASI resolution #14-02 and joins the ASI Board of Directors in reaffirming the commitment to the quarter system; and be it futher

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RESOLVED: That a copy of this resolution be forwarded to Chancellor White.

Proposed by: Academic Senate Executive Committee
Date: January 2, 2014

asi STUDENT GOVERNMENT
MEMORANDUM

TO: **Dr. Jeffrey Armstrong**
        University President

FROM: Tatiana Prestininzi TP
        Chair of the Board 2013-14

DATE: December 17, 2013

COPIES: Chancellor White
        S. Rein
        K. Humphrey
        M. Maloney
        ASI Board of Directors
        M. Crawford

SUBJECT: ASI Board of Directors -Resolution #14-02 ASI Board of Directors'
Support   to Remain on the Quarter System

On December 4, 2013 the ASI Board of Directors held a special meeting and voted unanimously to approve Resolution #14-02 ASI Board of Directors' Support to Remain on the Quarter System. The ASI Board of Directors voiced their support through Resolution #14-02 and an attachment Reaffirming Cal Poly San Luis Obispo's (SLO) Commitment to the Quarter System.

The ASI Board of Directors took into account the actions taken by the 2012-2013 ASI Board of Directors, the Semester Review Task Force's report, and consulted with members of the Semester Review Task Force before drafting Resolution #14-02 ASI Board of Directors' Support to Remain on the Quarter System.

Please find attached the full language of the Resolution. Thank you for your support of the student voice and your commitment to the campus.

Attachment

Associated Students, Inc.
California Polytechnic State University
San Luis Obispo

Resolution #14-02

ASI BOARD OF DIRECTORS' SUPPORT TO REMAIN ON QUARTER SYSTEM

WHEREAS: Associated Students, Inc. (ASI) Board of Directors is the official voice of Cal Poly students, and

WHEREAS: In Fall Quarter of the 2012-2013 Academic Year, President Armstrong created the Semester Review Task Force to evaluate the impacts of a possible conversion to a semester system at Cal Poly, and

WHEREAS: ASI Student Government took an active role that included conducting a conversation-based survey with over 1,000 students that was submitted to the Semester Review Task Force, and

WHEREAS: The ASI Board of Directors elected to host a campuswide advisory vote, where students demonstrated their passion for the issue with 43.2% of students voting, which broke a Cal Poly record and resulted in 89.8% of students voting in favor of quarters, with overwhelming support for quarters within each academic college, and

WHEREAS: The ASI Board of Directors approved Resolution #13-03, ASI BOARD OF DIRECTORS' STANCE ON POTENTIAL SEMESTER CONVERSION, which details the process of arriving at the vote and strongly supports remaining on the quarter system, and

WHEREAS: In Fall Quarter of the 2013-2014 Academic Year, CSU Chancellor White asked for a single sheet of paper outlining Cal Poly's reasoning for support for remaining on the quarter system, and

WHEREAS: ASI Student Government members drafted REAFFIRMING CAL POLY SAN LUIS OBISPO'S (SLO) COMMITMENT TO THE QUARTER SYSTEM, explaining the primary benefits of the quarter system and the negative impacts of a Cal Poly semester conversion.

THEREFORE

BE IT

RESOLVED: That as the official voice of students, the ASI Board of Directors strongly supports REAFFIRMING CAL POLY SAN LUIS OBISPO'S (SLO) COMMITMENT TO THE QUARTER SYSTEM, and
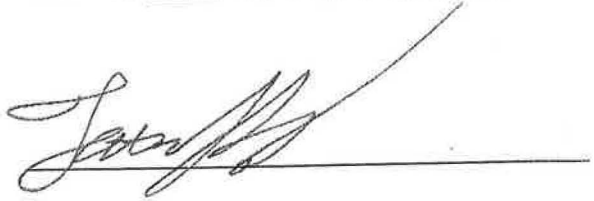
FURTHERMORE

BE IT

RESOLVED: This resolution will be sent to CSU Chancellor White, President Armstrong, and the Academic Senate to relay student support of remaining on the quarter system through the support of REAFFIRMING CAL POLY SAN LUIS OBISPO'S (SLO) COMMITMENT TO THE QUARTER SYSTEM.

Certified as the true and correct copy, in witness thereof, I have set my hand and Seal of the San Luis Obispo Cal Poly Associated Students, Inc. this ___12___ day of _December_, 2013.

ADOPTED at the regular meeting of the Board of Directors at San Luis Obispo Cal Poly Associated Students, Inc. this __4__ day of _December_ 2013.

Attest: _Katie Br_

ASI Secretary

Signed: _____

ASI Chair of the Board

Jason Colombini

Signed: _____

ASI President

Authored by:

Rachel Kramer, ASI Board of Directors, College of Architecture and Environmental Design

Sarah Griess, ASI Board of Directors, College of Engineering

Myra Lukens, ASI Board of Directors, College of Engineering

Connor Paquin, ASI Board of Directors, College of Engineering

Alexandra Spooner, ASI Board of Directors, College of Science and Mathematics

Zachary Antoyan, ASI Executive Cabinet

REAFFIRMING CAL POLY SAN LUIS OBISPO'S (SLO)
COMMITMENT TO THE QUARTER SYSTEM

As recommended by the Cal Poly SLO Presidential Semester Review Task Force (SRTF), Cal Poly SLO should not pursue a conversion from the quarter system to the semester system. The following outlines the primary reasons, as supported by the SRTF:

- Cal Poly SLO has the highest graduation rate out of the entire CSU system. The quarter calendar is a fundamental contributor to our success.

- On the quarter system at Cal Poly SLO, Hispanic and first generation students are not less likely than other students to graduate.

- The quarter system mirrors the fast pace of industry, which better prepares students for internships and careers. Quarter system classes challenge students to hone their time management skills by asking students to continuously produce quality work and study effectively.

- The quarter system offers students greater opportunities to take upper division electives inside and outside of their major. This allows students to obtain multiple majors or minors during the time of their degree program, something that is much more difficult on the semester system, and results in "whole-system thinkers," as mentioned in the Cal Poly SLO Strategic Plan.

- The quarter system offers the opportunity to take a broader spectrum of courses, which enhances interdisciplinary collaboration among students, a requirement for today's professionals. This aligns with the goals of the CSU system regarding preparing students for the workforce.

- CSU students that choose to take online classes are not bound by academic calendars. Therefore, students can take online classes on a different calendar system.

- Students transferring from a community college to Cal Poly SLO are made aware of the quarter system and are provided with numerous opportunities to succeed.

- Cal Poly SLO engineering, a nationally ranked program, uses the quarter calendar to provide classes that are broad engineering "core classes," allowing students to have a more comprehensive engineering expertise.

- Many programs unique to Cal Poly SLO benefit from the quarter system. For example, harvest seasons sync with quarter calendars, allowing students in the College of Agriculture, Food and Environmental Sciences to participate in "Learn by Doing."

- The quarter calendar provides greater opportunity for students to participate in specialty internships. An example is the late start in September, which allows students to work into the summer tourism industry and harvest season.

- Students who must take a leave of absence due to a serious illness, family crisis, financial problems, or other justifiable condition can stay on track more easily on the quarter calendar, as they have additional opportunities to retake the class before the academic year is over. Students that have difficulty getting into a class have more opportunities to enroll before the academic year is over.

- Since the quarter calendar is more flexible than the semester calendar, students who work and participate in clubs and/or athletics can take a lighter course load per quarter and remain on track to graduate.

Cal Poly SLO's uniqueness and specialties are made possible by the quarter system. A switch to the semester system would negatively impact Cal Poly SLO students. As a result, Cal Poly SLO should remain on the quarter system and not convert to the semester system.