



Meeting of the Academic Senate Executive Committee

Tuesday, October 4, 2016

Continuation of 09.27.16 meeting

01-409, 3:10 to 5:00pm

- I. **Minutes:** none.
- II. **Communication(s) and Announcement(s):** none.
- III. **Reports:** none.
- IV. **Business Item(s):**
 - A. **Appointment to Academic Senate committees for 2016-2018:** (pp. 2-3).
 - B. **Selection of Faculty Representative to Serve on the Faculty Trustee Recommending Committee:** (pp. 4-9).
 - C. **[TIME CERTAIN 3:45] Resolution on Proposal to Establish the Packaging Value Chain Center:** Jay Singh, Professor and Packaging Program Director (pp. 10-29).
 - D. **[TIME CERTAIN 4:00] Resolution on Proposed New Degree Program for Master of Science in Packaging Value Chain:** Jay Singh, Professor and Packaging Program Director (pp. 30-40).
 - E. **[TIME CERTAIN 4:15] Resolution on Scheduling Events During Final Examination Period:** Dustin Stegner, Chair Academic Senate Instruction Committee (p. 41).
 - F. **Resolution on the Reintroduction of AS-603-03/IC,CC,GEC [Resolution on Credit/No Credit Grading (CR/NC)]:** Gary Laver, Chair Academic Senate (pp. 42-43).
 - G. **Resolution on Retiring Obsolete Academic Senate Resolutions:** Gary Laver, Chair Academic Senate (pp. 44-45).
 - H. **Resolution on Bachelor of Science Degree Proposal in Health Science:** Kris Jankovitz, Professor Department of Kinesiology (pp. 46-92).
- V. **Discussion Item(s):**

Clarification of TERMS OF OFFICE bylaws of the Academic Senate II.B.1 (p. 93).
- VI. **Adjournment:**

09.29.16 (gg)

2016-2018 Academic Senate Committees Vacancies

COLLEGE OF ARCHTECTURE AND ENVIRONMENTAL DESIGN

Grants Review Committee (2016-2017)

Faculty Affairs Committee (2016-2017)

Research, Scholarship & Creative Activities Committee

COLLEGE OF ENGINEERING

Distinguished Teaching Awards Committee

Instruction Committee

COLLEGE OF LIBERAL ARTS

GE Governance Board (fall 2016)

Denise Isom, Ethnic Studies (8 years at Cal Poly), Tenured

As part of my responsibilities as the Interim Associate Director for OUDI, I attended GEGB meetings as a special guest and co-chaired the USCP task force, and as the Chair of the Ethnic Studies department, I attended a number of GE review meetings/discussions. Those experiences generated both insight and interest in the committee's work.

This year, as the university moves to institute the new Program Review theme of diversity and inclusivity, and as those issues figure more prominently in campus curricular efforts, my expertise in Ethnic Studies could help serve the GEGB's agenda and goals.

Instruction Committee

ORFALEA COLLEGE OF BUSINESS

Instruction Committee

PROFESSIONAL CONSULTATIVE SERVICES

Distinguished Teaching Awards Committee (2016-2017)

Grants Review Committee (2016-2017)

Research, Scholarship & Creative Activities Committee

CURRICULUM APPEALS COMMITTEE – 2 vacancies

James Mueller, Mathematics (36 years at Cal Poly), FERP

I have been involved in curriculum related issues for over 30 years.

I served as the chair of my departmental curriculum committee for over twenty years, and spent an equal amount of time as my department's representative on the CSM college curriculum committee. I also served for many years (at least three or four curriculum cycles) at the CSM representative to the University Curriculum Committee. In addition, I was on the committee that created GE 2001, and served as a member of the GE governing board and as the chair of the Area B/F GE subcommittee for about a decade.

I have served for four terms on the Curriculum Appeals Committee. My past performance on the committee demonstrates that I am a careful listener, and willing to objectively consider all viewpoints before reaching a decision. I also understand Cal Poly's General Education Program and the university curriculum process thoroughly. My primary objective in serving on this committee is to do what is in the best interest of our students' education.

I believe that my background qualifies me to serve on the Curriculum Appeals Committee.

Vacancies for 2016-2017 University Committee

ACADEMIC ASSESSMENT COUNCIL – 5 vacancies: CAED (2016-2019), CAFES (2016-2018), CENG (2016-2019), & OCOB (2016-2019)

ASI BOARD OF DIRECTORS - (2016-2017)

CAMPUS ADMINISTRATIVE POLICY (CAP) AD HOC COMMITTEE (2016-2018)

CAMPUS FEE ADVISORY COMMITTEE - (2016-2017)

CAMPUS SAFETY AND RISK MANAGEMENT COMMITTEE - (2016-2017)

DISABILITY ACCESS AND COMPLIANCE COMMITTEE - (2016-2018), 2 vacancies for Accommodation Review Board: (2016-2018) & (2016-2017)

HEALTH SERVICES OVERSIGHT COMMITTEE - (2016-2017)

INCLUSIVE EXCELLENCE COUNCIL - (2016-2019)

INTELLECTUAL PROPERTY REVIEW COMMITTEE – 3 vacancies: CAED (2016-2019), & CSM (2016-2019)

STUDENT SUCCESS FEE ALLOCATION ADVISORY COMMITTEE - (2016-2017)

SUSTAINABILITY ADVISORY COMMITTEE - (2016-2018)

UNIVERSITY UNION ADVISORY BOARD - (2016-2017)



Academic Senate CSU (ASCSU)
401 Golden Shore, Suite 139
Long Beach, CA 90802-4210

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Christine M. Miller, Chair

Tel 916-704-5812

Fax 562-951-4911

E-mail: cmiller@calstate.edu

September 27, 2016

Gary Laver, Academic Senate Chair
CPSU San Luis Obispo
Academic Senate
One Grand Ave.
San Luis Obispo, CA 93407

Chair Laver:

Pursuant to the guidelines regarding the Faculty Trustee Recommending Committee, your campus has been selected as one of two campuses (the other is CSU East Bay) which are to send one faculty representative to the Committee. Your Senate may choose the means of selection. However, the qualifications of the faculty representative to the committee shall be the same as for eligibility for election as a representative from your campus to the Academic Senate CSU (ASCSU).

The Faculty Trustee Recommending Committee is charged with screening the list of faculty trustee nominees, developing recommendations, and presenting four faculty trustee candidates for nomination to the Senate at the January 26-27, 2017 plenary meeting. For your review, a copy of the guidelines is enclosed.

The Faculty Trustee Recommending Committee will have a one-time meeting on Tuesday, January 24, 2017 (date is tentative) at the CSU Office of the Chancellor in Long Beach to review the nominating materials, which will be mailed the first week of January to the committee members. We would appreciate it if you would respond by Friday October 28, 2016 with the name of your campus faculty representative.

Should you have any questions, please do not hesitate to contact me by phone, 916-704-5812 or email, millercm@csus.edu. Thank you.

Sincerely,

Christine M. Miller, Chair
Academic Senate CSU



cc; Senators Manzar Foroohar and James G. LoCascio
CSU East Bay, Academic Senate Chair, Mark Karplus

Faculty Trustee Recommending Committee:

Senator Soni (Chair), CSU Long Beach
Senator Chong, CSU Northridge
Senator Ornatowski, San Diego State University
Senator Davis, CSU Monterey Bay
Senator Pasternack, Emeritus & Retired Faculty Association (ERFA)

CM/tb

Enclosure

DUTIES

- Faculty Trustee is a 12-month position involving full release from all campus responsibilities. Duties include attending all Board of Trustee, Trustee Committee, Senate Plenary, and Senate Executive Committee meetings. The Faculty Trustee serves a two-year term and normally visits several campuses during the term to meet with faculty and discuss Board of Trustee actions.

CRITERIA FOR NOMINEES FOR FACULTY TRUSTEE

- Candidates must be faculty members who are tenured at the California State University campus at which they teach currently and shall not hold any administrative positions other than department chair or equivalent.
- Candidates shall have demonstrated records of excellence in teaching, professional achievement, and university service.
- Candidates shall possess experience in academic governance in the California State University.
- The appointed faculty trustee shall not be a member of the Academic Senate of the California State University. Should the faculty trustee be a member of the Academic Senate CSU at the time of appointment, that person shall resign from the Senate.
- The Academic Senate CSU shall resolve questions as to definitions and eligibility.

PROCEDURES FOR SELECTING TRUSTEE NOMINEES

- These procedures shall be initiated at least one full academic term in advance of the time that Faculty Trustee nominations are to be made.
- Each campus senate shall develop procedures for selecting eligible nominees. As at least one option, the procedures shall allow for nominations by petition. Each such nomination shall require the signed concurrence of at least 10% of the full-time teaching faculty or 50 such faculty members, whichever is less. The campus senate or council shall forward the names of all eligible nominees to the Academic Senate CSU by a date to be determined by the Academic Senate CSU.
- From each nominee, the local senate chair shall forward (1) the completed cover sheet, (2) a current vita structured to the eligibility criteria, (3) a statement of no more than 500 words expressing his or her views of the position, and (4) a narrative of no more than 250 words giving evidence of teaching excellence.
- The Academic Senate CSU Faculty Trustee Recommending Committee shall be composed of seven non-candidate faculty members as follows:
 - a. Five members shall be elected by and from the Academic Senate CSU in the manner of election as the at-large Executive Committee positions. No campus shall have more than one representative.
 - b. Their local senates shall select two additional members. These members shall be selected from two campuses, chosen by lot from the Academic Senate CSU, and from those campuses not represented by the five previously selected campuses. The qualifications for these two faculty members shall be the same as eligibility for election to the Academic Senate CSU according to its constitution and bylaws.

Criteria For Nominees For Faculty Trustee (cont.)

The Academic Senate CSU shall elect these five members of the nominating committee at the September meeting of the Academic Senate CSU in the academic year in which the term of the present faculty trustee is to expire. The two additional members shall be selected in time to permit the committee to have its full composition by the succeeding (November) meeting of the Academic Senate CSU. The first member elected by the Academic Senate CSU shall serve as chair of the committee.

The committee shall determine its own procedures for selecting candidates for nomination.

- The Faculty Trustee Recommending Committee shall screen the original list of nominees and develop recommendations with supporting information.

The committee shall present four candidates to the Senate for nomination. The nominee recommendations of the committee shall be made available to the Academic Senate CSU at the January plenary session. The confidential files of these candidates shall be made available for review in the Senate office to members of the Academic Senate CSU at that time and at the plenary session in which the determination of the nominees is made. Unless otherwise determined by vote of the Academic Senate CSU, selection of nominees for the post of faculty trustee shall be made at the March meeting of the Academic Senate CSU immediately preceding the end of the tenure of the incumbent faculty trustee.

- All academic senators of the Academic Senate CSU are eligible to vote.
- The Academic Senate CSU, acting in executive session, chaired by the Chair, Faculty Trustee Recommending Committee, shall designate the final (two or more) nominees by secret ballot in the following manner, conducting as many votes as necessary:

The Senate shall be provided with ballots containing the names of all the forwarded candidates in alphabetical order.

Each senator may vote for as many candidates as he or she wishes in each voting round. Candidates become nominees in the voting round in which he or she obtains approval of at least two-thirds of the ballots of eligible voters. At the close of each voting round the names of nominated candidates shall be eliminated from further voting consideration.

Voting shall be continued by the procedures indicated above until at least a sufficient number of candidates (two) have been nominated to meet the legal requirements.

When that condition obtains, the Senate shall determine by majority vote whether it wishes to continue balloting. If the Senate chooses to continue, one further round of voting, one time, shall take place. Any candidate not nominated by these regular procedures is again eligible for nomination at this time. Any candidate receiving two-thirds of the votes of eligible voters in this round of voting is declared a nominee.

- The Chair of the Academic Senate CSU shall forward the names of the designated nominees to the Governor.

Approved Unanimously March 4, 1988, as part of *AS-1773-87/EX (Revised July 27, 2016)*

INFORMATION REQUIRED FOR FACULTY TRUSTEE NOMINATION

Submit this cover sheet

Name _____

Department and Campus _____

Campus address (include office) _____

Campus telephone number () _____

Home address _____

Home telephone number () _____

Names, addresses, and telephone numbers of five references

Please check the boxes below:

- ☐ I am a tenured, teaching faculty member with no administrative position other than department chair or equivalent.
- ☐ I intend to serve the full two-year term if appointed by the Governor.

Signature

Date

Each candidate for the position of faculty trustee must also submit:

- ▶ a vita or resume, which shall include, as a minimum, the information requested as follows:
 1. Academic education (list all colleges/universities, degrees, and years received)
 2. Employment Record
 - a. Academic
 - b. Other
 3. Academic honors, grants, and awards (include dates)
 4. Listing of professional achievements
 5. Service
 - a. Department
 - b. School/College
 - c. University
 - d. System-wide
 - e. Community
- ▶ a statement of 500 words or less which covers your experience in academic governance and why it prepares you to be a Faculty Trustee
- ▶ evidence of teaching excellence in narrative form, not to exceed 250 words

PLEASE SEND ONE COPY OF ALL MATERIALS TO:

California State University Office of the Chancellor
401 Golden Shore,
Academic Senate CSU, Suite 139
Long Beach, CA 90802-4210
Attn: Tracy Butler
(tbutler@calstate.edu if submitted electronically)

All materials must be received in the Academic Senate CSU office
no later than 5 pm, Friday, January 20, 2017. Materials received after
this time cannot be considered.

Adopted:

**ACADEMIC SENATE
Of
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, CA**

AS-__-16

**RESOLUTION ON PROPOSAL TO ESTABLISH
THE PACKAGING VALUE CHAIN CENTER**

- 1 RESOLVED: That the Academic Senate of Cal Poly endorse the attached proposal
2 for the establishment of the Packaging Value Chain Center.

Proposed by: Jay Singh, Professor and Packaging
Program Director
Date: August 2, 2016



CAL POLY
Packaging Program

Proposal to Establish the Packaging Value Chain Center

**California Polytechnic State University
San Luis Obispo, CA**

Submitted by: Jay Singh, Professor and Packaging Program Director
Industrial Technology Area
Orfalea College of Business

Date: April 13, 2016 (Revised August 17, 2016)

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This proposal is for the establishment of a Packaging Value Chain Center at Cal Poly. The primary intent of the proposed Center is to broaden the current fortes in packaging research at Cal Poly through a broader *process view* of the global packaging industry. The proposed *value chain* based approach will signify comprehensive research opportunities involving all activities performed by organizations in the packaging industry aimed at delivering a valuable product to the market.

BACKGROUND

A. The Discipline of Packaging Technology

Packaging is the technology that includes the process of design, evaluation, production of packages and subsequently enclosing or protecting products for distribution, storage, sale, and use. It can be described as a coordinated system of preparing goods for transport, warehousing, logistics, sale, and end use. Packaging contains, protects, preserves, transports, informs, and sells. In many countries it is fully integrated into government, business, institutional, industrial, and personal use¹.

In academia, *Packaging* as an interdisciplinary field involves business, design, technology, science, engineering, and the environmental disciplines. Packaging science and technology has become, more than ever, a key to business success because of dramatic economic and technological changes across a range of industrial sectors, particularly the globalization and outsourcing of some portion of nearly all value-added products. Additionally, the public policy environment, both domestic and international, is placing new demands on the packaging industry to improve its environmental footprint, reduce energy consumption, enhance recycling and contribute positively to global sustainability. Global packaging sales rose by 3% in real terms to \$797 billion in 2013 and are projected to grow at an annual rate of 4% to 2018 and reach \$975 billion.

B. Packaging Technology at Cal Poly



The Cal Poly Packaging Program has developed a national reputation as a significant source of packaging research and education. An increasing number of companies support packaging related research and development projects at Cal Poly, resulting in a growing portfolio of larger research projects funded by government and other third-party organizations. The Cal Poly Packaging Program, by most assessments, is considered among the top five university-based programs in the United States in Packaging Science and Technology. Located at the Orfalea College of Business, the program is offered as a Major (Industrial Technology with Packaging emphasis), a Concentration (Consumer Packaging Solutions) and a Minor. The program is also currently developing a MS in Packaging Value Chain (PVC) degree (and certificates) aimed at professionals with a targeted launch date of Fall 2017.

¹ Soroka (2009) *Fundamentals of Packaging Technology*, Institute of Packaging Professionals

C. Packaging Value Chain

The term packaging value chain refers to the network of interconnected businesses and their value creation processes, covering all stages of suppliers - from the point of origin of a packaging solution and all tiers of customers out to the point of consumption of the product and the ultimate end-of-life of the packaging. As the power of business customers grows with the increasing technology development, information ubiquity and globalization of markets, delivering customer *value* is becoming increasingly critical. From packaging being regarded merely as a logistical or materials issue, there has been a shift in the value-creating logic of the packaging industry.



Packaging continues to grow beyond being a support function that puts products in some type of container to a strategic business function aimed at creating value. As a business function, packaging spans the entire range of a packaged goods company's activities and brings the holistic agenda to the table. In doing so, it becomes the strategic enabler that helps other functions deliver benefits to the consumer. Strategically considered, packaging incorporates procurement, R&D, marketing, sales, sustainability and plays a role in defining margins and profitability. Following are some future trends and drivers for development of packaging supply chain models:

- Global growth of the middle class
- Network optimization
- Packaging Technologies – Materials and Design
- Modeling and simulation, product, package and supply chain
- Sustainability
- Transparency and risk mitigation

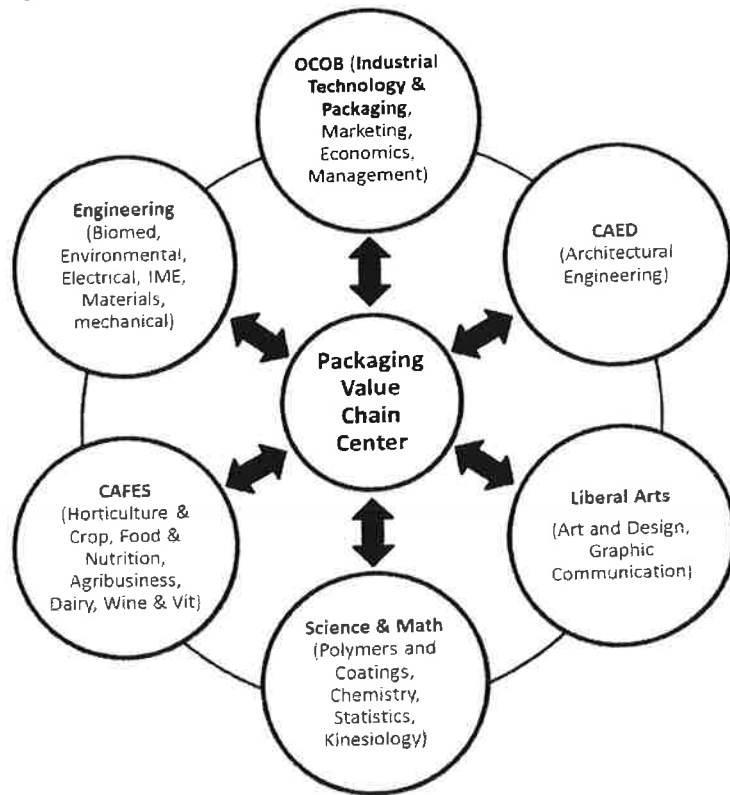
Shifting Production Systems

Current	Future
■ Linear	■ Circular
■ Global	■ "Glocal"
■ Mass	■ Niche & Custom
■ Big Batch	■ Small Batch
■ Big box	■ E-tail
■ Regional Brands	■ Global Brands
■ Global Brands	■ Regional Brands
■ Extractive	■ Biological
■ Brown	■ Green

The implication of the above mentioned trends and drivers is big shifts in the production system that will demand 'more and different' from packaging across the value chain.

D. Packaging Value Chain Center Background

Considering the importance of packaging to the international economy and the enhanced reputation of the Cal Poly Packaging Program, the Orfalea College of Business seeks to form a *Cal Poly Packaging Value Chain Center* that will further enhance professional development opportunities for Cal Poly faculty, build links with industry and the community, provide an identifiable campus entity for practitioners, foster interdisciplinary work (figure on right), aid in obtaining external support and complement the instructional program. The Center will also provide a venue to interlink multiple departments, colleges, and centers within Cal Poly. Moreover, the Center will perform an important coordinating and clearinghouse role among students, faculty and staff who are involved in this interdisciplinary field and interested in practicing their academic disciplines.



Dr. Jay Singh, Director of the Packaging Program, developed this proposal through discussions with Dean Scott Dawson of the Orfalea College of Business, Dr. Eric Olsen, Chair of Industrial Technology Area, and Mary Kelting, Associate Dean of Advancement in the Orfalea College of Business. These discussions focused on the most effective utilization and expansion of Cal Poly's *learn-by-doing* philosophy in a business/technology-oriented education supported by faculty intellectual contributions in applied, discipline-based and pedagogical research.

This proposal has the full support from the Packaging Advisory Board and the OCOB Dean's Advisory Council.

VISION AND MISSION

The vision of the Cal Poly Packaging Value Chain Center is to *create a nationally recognized education and research Center in the realm of interdisciplinary packaging related themes*. Its mission will be to *enhance interdisciplinary research and development opportunities among Cal Poly faculty and students and the packaging industry through collaborative research-based projects addressing real-world issues*.

Both the vision and mission of the Packaging Value Chain Center comport with the Cal Poly Strategic Plan to integrate, connect and interlink Cal Poly disciplines, faculty, staff and students, all as partners in teaching, learning, scholarship and service to provide a comprehensive polytechnic educational experience and common polytechnic identity.

PURPOSE

A. OBJECTIVE

Drawing on the expertise of numerous Cal Poly faculty, representing nationally recognized programs across all six colleges, the Cal Poly Packaging Value Chain Center will advance packaging innovation and improve the prospects for successful outcomes. The Center will provide a forum that:

1. Attracts packaging related decision makers from across industries and across corporate functions
2. Promotes idea sharing and idea generation
3. Supports programmatic multi-disciplinary research efforts that draw on the combined expertise of Cal Poly faculty and provide value to industry partners.

Following is a representative list of researchers with *potential* of interdisciplinary packaging-focused research at Cal Poly.

- *Architecture*: Clare Olsen
- *Graphic Design*: Mary LaPorte and Enrica Lovaglio Costello
- *Economics*: Sanjiv Jaggia and Steve Hamilton
- *Electrical Engineering*: Dean Arakaki
- *Finance*: Pratish Patel and Cyrus Ramezani
- *Food Science & Nutrition*: Amy Lammert, Amanda Lathrop, Samir Amin and Gour Choudhury
- *Geotechnical & Geoenvironmental Engineering*: Jim Hanson and Nazli Yesiller
- *Graphic Communication & Printing*: Malcolm Keif and Colleen Twomey
- *Industrial & Manufacturing Engineering*: Tali Freed
- *Industrial Technology*: Jay Singh, Eric Olsen, Ahmed Deif, Koushik Saha, Javier de la Fuente and Ajay Kathuria
- *Management*: Kevin Lertwachara and Rami Shani
- *Marketing*: Jeff Hess, Lynn Metcalf and Joan Lindsey-Mullikin
- *Polymers & Coatings*: Philip Costanzo, Ray Fernando and Chad Immoos
- *Statistics*: Soma Roy and Gary Hughes

B. RESEARCH FACILITIES

The currently existing teaching and research lab facilities in the Packaging Program include the following:

- i. *Distribution Testing*: This facility is well equipped to simulate the physical distribution environment packages typically experience in real life. It is International Safe Transit Association (ISTA) certified and is equipped with physical and ambient environmental simulation equipment.
- ii. *Package Design*: This facility is equipped for designing and prototyping paper-based packaging such as boxes, folding cartons, and displays.
- iii. *Rapid Prototyping*: This lab is equipped with a 3D printer
- iv. *Materials and Analytical Testing*: This lab is equipped with the most commonly used material testing equipment for paper, plastic and glass substrates towards application in packaging
- v. *Polymer Processing*: This facility has a majority of processing equipment at different scales for converting plastic resin into films and forms.

With the approval of this proposal, the facilities and related research capabilities that will be developed/expanded are:

- i. *Healthcare Packaging*: Expansion that will consist of most commonly used testing and measuring equipment for pharmaceutical and medical device packaging applications. (~144 sq. ft. expansion)
- ii. *Consumer Evaluation*: This facility will consist of a simulated retail environment to carry out consumer studies and a flexible area to be used for focus groups and usability studies. (~1100 sq. ft. expansion)
- iii. *Package Design*: The expansion will consist on new equipment for printing/plotting blanks for packages, laminating on corrugated and paperboard, and for prototyping packages from printed blanks. (~225 sq. ft. expansion)
- iv. *Rapid Prototyping*: New small 3D printers for student use and a 3D printer with capabilities to produce parts and tooling on a variety of materials (rubber-like, clear, flexible, etc.). (~225 sq. ft. expansion)
- v. *Analytical Testing*: This lab will be equipped with characterization instruments to evaluate mechanical, thermal, thermo-mechanical, permeability, chromatography and rheological studies of the polymeric materials. (~225 sq. ft. expansion)

C. CURRENT PACKAGING RESEARCH VENUES

- i. *The Cooperative Research Consortium in Packaging Science and Technology*

The Cal Poly Cooperative Research Consortium in Packaging Science and Technology was established in 2008. The Consortium is in its eighth



year of successful operation with the consistent support of ten or more organizations annually and the Cal Poly Office of Research and Economic Development. This Consortium represents a partnership among Cal Poly Industrial Technology faculty and researchers from several other departments/colleges, and companies either producing or utilizing packaging to sell their products. Following is a selective list of research projects undertaken:

- Evaluation of Sustainable Recycled and Biodegradable Substrates in Packaging
- Characterization of Single and Multi-Layer Films for Modified Atmospheric Packaging
- Life Cycle Inventory (LCI) as a Tool for Packaging Sustainability
- Radio Frequency Identification (RFID) Tag Embedded-Distribution Packaging Solutions
- Global Database for Packaging Life Cycle Assessment (LCA) Studies
- "First Mile" Distribution Analysis for Fresh Produce Packaging Systems
- Validation of post-consumer recycled and bio-based, biodegradable substrate composition, American Society for Testing and Materials (ASTM) label claims for sustainability, food safety, performance and regulatory compliance
- Migration of low-molecular weight compounds from polymeric substrates



ii. Cal Pack Labs

Cal Pack Labs, a fee-for-service initiative the Packaging Program established in 2003, has been successfully assisting the industry through development/improvement of packages/package systems as related primarily to the distribution environment. Dozens of fee-for-service or contract-service projects are successfully undertaken each year. A central mission of Cal Pack Labs is to provide education, research and testing services to the packaging industry. This initiative puts into practice Cal Poly's desire to engage faculty in research in their field of expertise. At Cal Pack Labs, faculty is engaged in research, testing and consulting services in a packaging environment to solve current industry issues. Faculty has the opportunity to obtain experience from these activities through the application of research methods and individual consultation, leading to future research opportunities, and ultimately apply the relevance of their results in classroom situations.

iii. Expanding Packaging Program

The Packaging Value Chain Center is a great opportunity for Cal Poly to position itself as a leading research institution in the ever-evolving field of packaging. The establishment of the proposed Packaging Value Chain Center will draw from the present success of the packaging research initiatives and help broaden the scope to:

- Provide cross-discipline/cross-campus opportunities for the professional development of faculty through basic and applied research and development activities through industry consultations and faculty exchanges in the area of packaging science.
- Foster and facilitate interdisciplinary efforts among departments and across colleges.

- Provide a clearinghouse for information of interest to practitioners in the packaging industry and to conduct executive training workshops and conferences for their continuing education.
- Enhance the packaging curriculum being covered in various Cal Poly units such as Food Science and Graphic Communication by facilitating and supplementing academic learning.
- Develop opportunities for undergraduate and graduate students to practice their academic disciplines by providing learn-by-doing research opportunities in the field of packaging science and technology.
- Provide supplementary educational support by acquiring gifts, general-purpose grants and equipment donations for all educational units across campus.

The Cal Poly Packaging Value Chain Center will have the capacity to pursue a range of research not typically possible at a single organization. It will provide a venue for cross-company collaboration and provide opportunities for learning and the exchange of ideas amongst the Cal Poly researchers and the industry.

D. Environmental Factors Favoring Establishment of the of Packaging Value Chain Center

The Packaging Value Chain Center will leverage by way of illustration rather than limitation, the following synergistic efforts and circumstances:

- Current interdisciplinary collaborations will provide a larger platform to promote interlinked cross-campus, faculty-student engagement, increased fundraising opportunities, as well as increased exposure for each college among industry leaders
- Packaging technology has undergone a fast and significant development in recent decades; however the smartest developments are yet to arrive. Today's modern society depends to a large extent on the availability and use of modern packaging technology, comprising a vast variety of modern materials, high tech applications and smart operations. Modern packaging technology aims to meet a vast range of requirements ranging from providing food safety, via low cost storage and distribution, self-selling marketing, convenient consumer use, and responsible waste management practices
- The existing efforts in the area of packaging-related research have been significant over the past decade. A small core team with assistance from several other Cal Poly units has championed these efforts and *brought in millions of dollars in external funding*.
- The core packaging team includes four tenured/tenure track faculty members from very diverse qualifications within the Industrial Technology area. Numerous other experts currently exist in various other departments/colleges such as Food Science and Graphic Communications
- This proposal represents several significant activities across Cal Poly and seeks to enhance the same by providing a venue to foster and facilitate interdisciplinary efforts and cooperation among departments and colleges
- The Packaging Program at Cal Poly presently enjoys the reputation of being the premier educational and research program west of the Mississippi river and as such provides a tremendous opportunity to invite trendsetting and leading research to the campus

- Preliminary discussions with several Cal Poly departments and colleges indicate a high level of interest and involvement in packaging-related interdisciplinary research
- OCOB has identified Packaging as an area of global distinction and is completely supportive of its near and long term undertakings including the proposed Center
- The MS PVC program, geared towards professionals and targeted to be launched in Fall 2016, will also accommodate increased collaboration opportunities with the industry
- The Packaging Advisory Board, consistent of 29 leaders from the industry, and the OCOB Dean's Advisory Council are fully supportive and willing to be the ambassadors of the Center in terms of participation, promotion and recruiting
- The Cal Poly Packaging Program enjoys a global reputation as a leading packaging education and research venue. This was demonstrated at the World Packaging Conference hosted at Cal Poly in 2012. Approximately 150 attendees from 23 countries participated in 90 plus presentations over the 4 day event

PACKAGING VALUE CHAIN CENTER ACTIVITIES

The Packaging Value Chain Center proposes a multi-part structure which will offer flexibility to participating industry members and researchers from various colleges and departments to tailor their research initiatives and undertakings. This customizable approach will allow the sponsoring participants to meet the challenges of cutting edge science and technology in a diverse research environment.

Following are some of the key components of the proposed Packaging Value Chain Center. The design is modeled after the successful Center for UMass/Industry Research on Polymers at the University of Massachusetts.

A. Research Consortia

The Packaging Value Chain Center will continue to use the NSF-I/UCRC format used by the existing Packaging Consortium, in which the research costs and results will be shared with other members in a focused, team-oriented approach. New research consortia targeted towards specific research areas, such as the current focus on fresh produce, will allow small team dynamics between industry sponsors and Cal Poly faculty and students. Benefits to the sponsoring organizations include exclusive reports that they can access one to two years prior to any publications by researchers; meetings, symposia and workshops on the topics of interest; a nonexclusive, royalty-free, nontransferable right and license to access and use materials (software, documentation, manuals, reports, papers and other information licensed or otherwise furnished or made accessible) during their term of membership provided they satisfy all responsibilities and obligations under the consortium agreement.

B. Sponsored Research Projects

The Packaging Value Chain Center will also carry out traditional sponsored research projects through which individual organizations can support research on their topic of interest with individual or teams of faculty. The organization and research teams will collaboratively design the program to meet the sponsor's unique needs. The sponsors of this stream of research will be provided an option to join any of the research consortia in the Packaging Value Chain Center.

C. Unrestricted Research Grants (Gifts for Research)

Philanthropic donations will allow for creative and unrestricted use of funds by the Cal Poly researchers. Packaging Value Chain Center-based research professorships, internships and funding of industrial lectureships will be possible.

D. Short-Duration, Idea-Development Research Projects

This option will provide the participants a venue to scope out potential programs through idea development and concept feasibility in short-duration and focused research studies. The preliminary results will be useful to determine whether a longer-term research undertaking is warranted and will also assist in providing research direction for any future work. This program will be available on a limited basis with agreement of the individual (or a team of) faculty members(s) and the Packaging Value Chain Center Director. This will be accomplished through Cal Pack Lab Research, Testing and Consulting Services (Cal Pack Lab), an existing fee-for-service University mechanism.

E. Outreach and Education

Workshops, seminar series and summer workshops will also be organized resulting from research conducted at the Cal Poly Packaging Value Chain to provide an opportunity for students, faculty, and industry to contribute, learn and discuss the research topics undertaken. The Packaging program has been hosting a successful annual freshPACKmoves Seminar in Monterey for the past two years focusing on focus on packaging innovation; food safety and traceability; sustainable packaging solutions; and cold chain logistics for fresh perishables.

FINANCIAL RESOURCES

The table below, provides an itemized budget with estimated revenues and expenses of the Center for an initial period of five years. Start-up funds raised through the *Center Founders' Circle* and *Corporate* memberships as well as the current momentum of research activities (external grants and consortium revenues) will initially support the hiring of a part time Administrative Director and a Technical Director who will coordinate Center activities and operations. *The OCOB will provide an amount of up to \$50,000 as backstop funding loan to the Center in case of need during the first two years of operation.* In the third year, a combination of additional personal and corporate memberships, consortium revenue, initial return of external funds from grant related activity, workshop/seminar/conference revenues and gifts will support the

Administrative Director full time, the Technical Director part time as well as the post doc and student assistants along with any external resources to organize the events affiliated with the Center.

Start-up Funds: These funds will be raised through a Center Founders' Circle and Corporate membership campaign. This will be done through the support of the OCOB Dean's office and the Cal Poly Packaging Alumni group.

Private Gifts for Research: These unrestricted research grants will be solicited from individuals and private foundations interested in supporting the packaging related research efforts of Cal Poly and the Orfalea College of Business

External Funds: The Cal Poly Packaging Value Chain Center will be a focal point for significant grant writing activity by affiliated faculty and staff. Grant proposals will be submitted to both private foundations with an interest in packaging related research as well as government funding sources.

Earned Income – Conferences, Seminars and Executive Training programs: The Center will present a series of events and conferences starting in year 1 or 2, including boot camps, executive sessions, and a major annual symposium - *freshPACKmoves* (focused on providing the fresh produce industry a critical edge in the competitive arenas of packaging innovation, food safety & traceability, sustainable packaging solutions, and cold chain logistics for fresh perishables).

Endowment Income: The Center will raise an endowment based upon naming and other support opportunities. The income from this endowment will support the mission of the Center.

Intellectual Property: It is assumed that the research activity of the Center will occasionally result in intellectual property. The Cal Poly Intellectual Property Policy as placed by the Research and Economic Development division at <http://www.research.calpoly.edu/policyip> will be consulted upon with regards to ownership and other interest, administrative procedures, income allocations and implementation. With regards to any IP arising from Consortium activities, a Cal Poly sanctioned agreement on intellectual property that includes both non-exclusive licenses for member companies, as well as exclusive agreements when in the interest of consortium members will be considered.

Note: *The Packaging research team from the OCOB has received over \$3,730,000 in external funding since 2003 through competitive grants for research from state and federal agencies as well as proprietary research for packaging organizations. These projects have been undertaken with investigators from several units at Cal Poly as well as other universities.*

1. The Cooperative Research consortium in Packaging Science and Technology,
~\$1,400,000
2. Cal Pack Lab, ~\$126,000

3. External Grants, \$2,200,000

EXPENSES & REVENUES

The table below provides an overview of the estimated expenses and revenues for the first 5 years of the Cal Poly Packaging Value Chain Center.

Expenses	Year 1 ^a	Year 2 ^b	Year 3 ^b	Year 4 ^b	Year 5 ^b
Administrative Director*	\$162,000	\$170,100	\$178,605	\$187,535	\$196,912
Technical Director**	-	-	-	-	-
Interns	-	\$10,000	\$20,000	\$20,000	\$20,000
Consortium/Sponsored research	\$229,500	\$365,000	\$475,000	\$597,000	\$733,400
Fee-for-service	\$25,000	\$35,000	\$45,000	\$55,000	\$65,000
Scholarship for MS PVC students	-	\$20,000	\$30,000	\$40,000	\$50,000
Professional seminars/training	\$20,000	\$20,000	\$30,000	\$40,000	\$50,000
Rent	-	\$96,000	\$96,000	\$96,000	\$96,000
Center Operations	\$10,000	\$20,000	\$25,000	\$30,000	\$35,000
Travel Expense	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
TOTAL EXPENSES	\$456,500	\$746,100	\$909,605	\$1,075,535	\$1,256,312
Revenue	Year 1 ^{**}	Year 2 ^{***}	Year 3 ^{***}	Year 4 ^{***}	Year 5 ^{***}
Consortium	\$214,500	\$300,000	\$360,000	\$432,000	\$518,400
Sponsored research	\$50,000	\$100,000	\$150,000	\$200,000	\$250,000
Fee-for-service	\$30,000	\$40,000	\$50,000	\$60,000	\$70,000
Center Founders' Circle Membership	\$150,000	\$200,000	\$200,000	\$200,000	\$200,000
Corporate contribution/donation	\$25,000	\$100,000	\$200,000	\$250,000	\$300,000
Professional seminars/training	\$20,000	\$50,000	\$60,000	\$70,000	\$80,000
TOTAL REVENUE	\$489,500	\$790,000	\$1,020,000	\$1,212,000	\$1,418,400

*includes ~60% towards benefits package and 5% annual raises

**OCOB will compensate the Packaging Program Director for undergraduate/graduate programs and the technical director roles

***A majority of Year 1 expense and revenue numbers are accurate and any projections included are conservative

***Year 2-5 projections are estimated

A. EXPENSES

- a. Administrative Director: It is proposed that a person from the packaging or related industry be brought in to serve as the Administrative Director. This person will report to the Dean of OCOB. Specific responsibilities of the Administrative Director include:

- Coordination of Center-supported research projects
- Coordinate the selection and launching of research projects based on recommendations of the Center's Executive Committee (EC) and Advisory Board (AB). The organizational Chart is provided later in this document.
- Interaction with industry participants through the EC and AB as well as other formal and informal mechanisms
- Interaction with college and university leadership
- Promotion of the research and technology transfer missions of the Center
- Seeking new members for the Center activities
- Making the necessary policy decisions with regard to operation of the Center and implementation of Center-related university policies
- Leading and managing the outreach and executive education activities
- Developing the annual reports and coordinating meetings supportive of the mission of the Center

A salary, consisting ~60% benefit package, of \$162,000 and an annual salary increase of ~5% are planned in the budget.

- b. Technical Director: The Director of the Packaging Program in OCOB will be the Technical Director of the Consortium and will report to the Dean of OCOB. Specific responsibilities of the Technical Director include:

- Consult with the Administrative Director on Center supported research initiative selection and launch
- Assist the Administrative Director in preparation of research project budgets
- Assist with defining the strategy with the research teams of each project
- Assist the Administrative Director in tracking and measuring each project's progress
- Supervise the operation, maintenance and procurement of any Center based research related software, supplies and equipment in the Cal Poly Packaging Program labs

OCOB will provide a compensation package to the Technical Director that will also include leadership roles in the undergraduate and graduate programs.

- c. Interns: Cal Poly students (undergraduates and graduates) will be provided paid internship opportunities towards assistance with the various administrative activities for the Center.

No interns are planned to be hired during the first year of operation of the proposed Center.

- d. Consortium/Sponsored Research: Cal Poly students (undergraduates and graduates) will be provided paid research assistant positions towards assistance with the various administrative activities for the Center. With the intent of building a reserve towards future promotion or research needs, a portion of the funding received via the research consortia and other sponsored research activities will be annually added into a related account.

It is anticipated that approximately \$229,500 from such research activities will be expended towards salaries, materials/equipment and travel for participating researchers during the first year of operation of the Center. This is based on a revenue of \$214,500 received for the consortium as well as other projected sponsored research revenue of \$50,000 this year.

- e. Fee-for-service: The Packaging Program, through its fee-for-service Cal Poly Corporation account, takes on testing/research projects from the industry. These are based on research capabilities and available equipment. Till-date, no internal or external promotion of such capabilities has been done. We anticipate that this venue will draw a significant amount of revenue through the promotion of the Center.

The projected expenses (salaries, materials, equipment maintenance, etc.) for the first year of operation of the Center for the fee-for-service activities is \$25,000

- f. Scholarships for MS PVC students: As previously mentioned, the Packaging Program is planning on launching an MS degree in Packaging Value Chain by Fall 2017. The on-campus students that enroll in this program will be financially assisted through scholarships towards their tuition and research.

No scholarships are planned to be disseminated during the first year of operation of the proposed Center.

- g. Professional Seminars/Training: The associated expenses represent the cost of marketing, organizing and hosting these events. The Packaging Program is hosting the third installment of freshPACKmoves Seminar in Monterey, California (May 16-18th, 2016). The seminar is designed to expand participants' knowledge base with access to first-hand intelligence, data-driven research, and top-notch speakers.

It is anticipated that the freshPACKmoves Seminar related expenses will be approximately \$20,000

- h. Rent: Upon the formal approval of the proposed Center, it is expected that on- or off-campus space will be sought towards administrative and meeting purposes.

No expenses are anticipated towards the Center office during the first year.

- i. Center Operations: These expenses will be primarily geared towards management of administrative and marketing undertakings.

It is anticipated that the related expenses will be approximately \$10,000 during the first year of operation

- j. Travel Expense: This expense is to reimburse primarily the Directors for travel related to the proposed Center activities.

It is anticipated that the related expenses will be approximately \$10,000 each year of operation

B. REVENUE

- a. Consortium: As previously discussed, the Cal Poly Packaging Research Consortium is currently in its 8th year of operation. While increasing the enrollment for the current consortium, the Center would allow for several other Consortia to be launched on other industry segments and or the packaging industries' collective research needs.

With 13 members this year, the membership dues amount to \$214,500

- b. Sponsored research: The Packaging Program has a great track record of attracting sponsored research aside from the Consortium. It is close to securing its second funded grant of approximately \$30,000 from the USDA's National Mango Board.

A conservative revenue of \$50,000 is anticipated for the first year of operation of the proposed Center

- c. Fee-for-Service: The Packaging Program has been successful in providing contract packaging research and testing to the industry through the Cal Pack Labs (Sponsored Programs) since 2003.

A conservative revenue of \$30,000 is anticipated for the first year of operation of the proposed Center

- d. Center Founders' Circle Membership: This involves \$25,000 pledge over 5 years from individuals. We are currently actively cultivating more than 20 individuals to support the center as a founders' circle member.

The solicitation for donations has started with the Packaging Advisory Board (PAB) members and \$40,000 has already been received. With an additional \$60,000 contribution to the Center by the OCOB Dean, we comfortably anticipate meeting the target of \$150,000 for the first year.

- e. Corporate: Corporate sponsorship levels being proposed are \$10,000, \$25,000 and \$50,000 annually. We anticipate that we would have as many as 10 corporations that are currently involved in our packaging program that are ready to be asked for sponsorship.

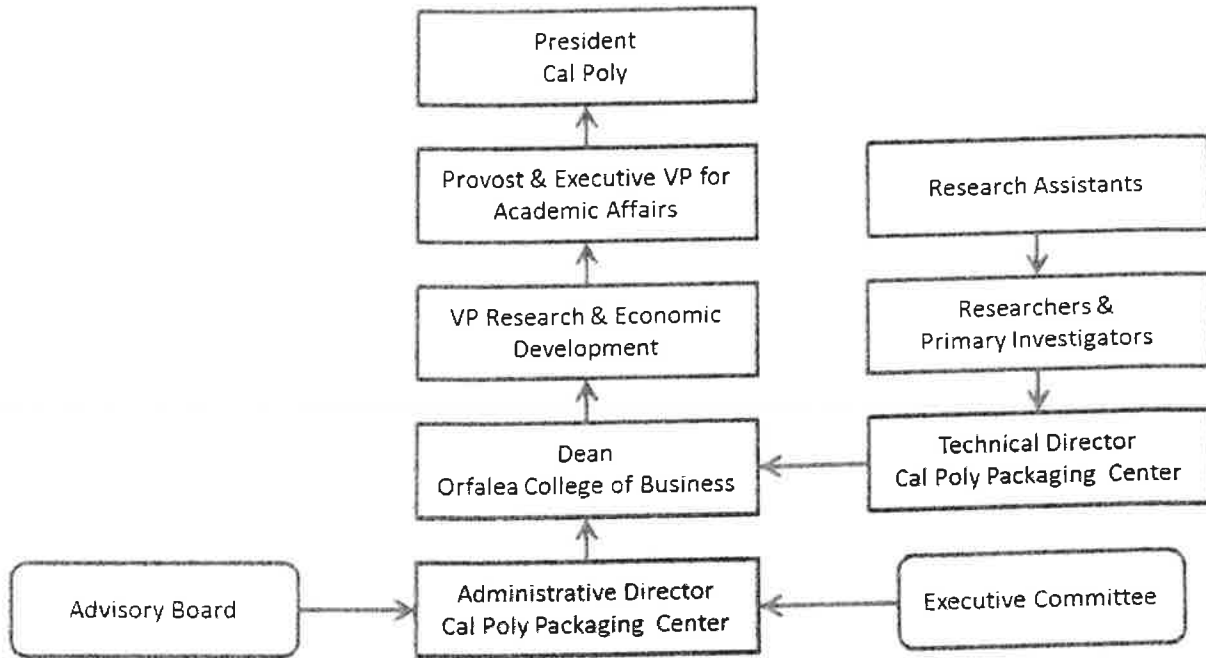
The PAB members will be discussing strategies towards seeking corporate donations at the April 22nd, 2016 meeting. We are conservatively including a \$25,000 solicitation for the first year of operation of the proposed Center.

- f. Professional Seminars/Training: This represents income from various outreach and education events hosted through the Center.

We are anticipating a revenue of \$20,000 from the upcoming freshPACKmoves Seminar

PROPOSED ORGANIZATIONAL CHART

The organizational chart below shows the reporting structure proposed.



The *Executive Committee* shall consist of the Directors plus three to five active faculty participants in the Center. The Directors will make recommendations to the Dean of the Orfalea College of Business for the appointment of faculty members to the Executive Committee. The Executive Committee shall be responsible for a) recommending candidates for Center participation; b) recommending members of the External Advisory Board; c) recommending Center programs and activities; d) recommending operating guidelines to implement Center programs and activities. Members of the Executive Committee will be appointed for two-year terms on a rotating basis. At a minimum, three members of the Executive Committee will be from colleges other than the Orfalea College of Business.

The *External Advisory Board* shall be composed of a minimum of five and a maximum of twenty members representing a spectrum of expertise and background associated with packaging science and technology. Initial appointments of between one and three years may be used to stagger Board membership terms. Thereafter, terms will be three years. The Board shall provide advice and comment on Center programs, shall engage in public relations and support activities for Center programs, and shall provide overall guidance and direction to the Center, working in consort with the Directors.

Adopted:

**ACADEMIC SENATE
Of
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, CA**

AS-__-16

**RESOLUTION ON PROPOSED NEW DEGREE PROGRAM FOR MASTER OF
SCIENCE IN PACKAGING VALUE CHAIN**

1 WHEREAS, Strategically considered, packaging incorporates procurement, R&D,
2 marketing, sales, sustainability, and plays a role in defining margins
3 and profitability; and
4

5 WHEREAS, There is an emerging emphasis on packaging value chain projected to
6 substantially impact current and future global supply chains; and
7

8 WHEREAS, The Industrial Technology Area has taught undergraduate
9 coursework in packaging technology for over twenty-eight years and
10 is considered amongst the top packaging programs in North America;
11 and
12

13 WHEREAS, The Industrial Technology Area is proposing a pilot online Master of
14 Science degree in Packaging Value Chain that exemplifies Cal Poly's
15 Learn by Doing philosophy and culminates in scholarly research
16 projects; and
17

18 WHEREAS, The Orfalea College of Business' Graduate Program Committee and the
19 Academic Senate Curriculum Committee have carefully evaluated this
20 proposal and recommend its approval; therefore be it
21

22 RESOLVED: That the Academic Senate of Cal Poly approve the proposal for the
23 Master of Science in Packaging Value Chain and that the proposal be
24 sent to the CSU Chancellor's Office for final approval.

Proposed by: Jay Singh, Professor and Packaging
Program Director

Date: August 10, 2016

Title of Proposed Program	Master of Science in Packaging Value Chain (Pilot Degree Program)
College	Orfalea College of Business
Department	Industrial Technology
Contact name(s) and email(s)	Dr. Jay Singh, jasingh@calpoly.edu

1. **Delivery Mode of program:** Fully Face-to-Face ☐ Hybrid ☐ Fully Online ☒

2. **A brief summary of the purpose (i. e., mission and goals) and distinctive characteristics of the proposed degree program.**

The proposed MS in Packaging Value Chain (MS PVC) pilot program is devoted to the *advancement of knowledge and to motivate and co-create holistic, efficient and effective solutions in the realm of packaging and its impact across the global value chains*. The focus of the program is to elaborate on the role of packaging towards creating value addition and includes courses that build on each other towards a holistic understanding of the global packaging diaspora. Towards this goal, the interdisciplinary MS PVC program incorporates packaging science/technology, data analytics, design, marketing, finance, supply chain, operations and statistics. The MS PVC program also intends to offer five certificates that have been carefully designed to accommodate individual needs of professionals looking to advance their knowledge without the need for a graduate degree.

Each course in this fully online program has been developed to engage students in the latest developments in the relevant topics through collaborative online discussions involving case studies, solving real-life problems, and interacting with professionals from the industry. Students will participate in practical exercises related to topics for each of the courses. Online delivery of the courses also offers the professional students flexibility to engage in course content and activities while maintaining a work schedule in their home communities.

Through standardized process and consistency in the delivery of content, student competencies (e.g. engagement in problem solving, creativity, collaboration, research, etc.) will be enhanced in comparison to knowledge and skills typically associated with standard achievement tests or two-hour instructor lectures. Technology tools and lesson plans used in this course will also facilitate students' collaborative learning with peers from varied geographical, personal and professional backgrounds. The courses will follow CSU's Quality Online Learning & Teaching (QOLT) rubrics with students engaged in course content, instructors, and their community of inquiry in a well-designed and consistently delivered series of courses. Students will be given accessible and varied content that addresses a variety of learning styles as opposed to a more passive, lecture style of learning. Coursework will match the rigor and expectations of a face to face delivery model as students will use the same software and course materials as a fully on-site student might use. Modules of online learning and course progression in the online environment allow students to work at their own pace with deadlines set well in advance for their personal planning.

3. **The program's fit with the campus mission, strategic plan, and commitment to Learn by Doing.**

Our Mission: Cal Poly fosters teaching, scholarship, and service in a Learn by Doing environment in which students, staff, and faculty are partners in discovery. As a polytechnic university, Cal Poly promotes the application of theory to practice. As a comprehensive institution, Cal Poly provides a balanced education in the arts, sciences, and technology, while encouraging cross-disciplinary and co-curricular experiences. As an academic community, Cal Poly values free inquiry, cultural and intellectual diversity, mutual respect, civic engagement, and social and environmental responsibility.

Packaging continues to grow beyond merely being a *support function* that puts products in some type of container into a *strategic business function aimed at creating value*. The MS PVC program is an interdisciplinary degree program that encompasses packaging science, design, marketing, finance, supply chain, operations and statistics. *The program is designed to develop competencies in the substantive packaging and related business acumen and to promote transference of learning to the workplace for professionals*. The intent of the program is to provide professionals and full time students with opportunities to assume leadership roles and advance their careers.

See letter of support from the Dean of Orfalea College of Business at the end of this document.

4. **Support Mode:** State-Support ☐ Self-Support/Extended Education ☒

5. **Anticipated student demand.** Please provide projections in the table below and identify the evidence you have used to make these projections (e.g., US Bureau of Labor Statistics).

Enrollment Projections		Year 1	Year 3	Year 5
Number of Students	MS Degree	15	25	35
	Certificates	34	50	70
Number of Graduates (Cumulative, assuming ~90% graduation rate)	MS Degree	0	32	81
	Certificates	0	67	166

Evidence:

- a. The 1-year *MS in Industrial & Technology Studies* (MS ITS) degree offered by the Industrial Technology Area in OCOB graduated over 30 students each year until 2004. Subsequently until its suspension in 2008, MS ITS was modified to a 2-year degree program and graduated an average of 13 students per year. The MS ITS degree had a substantial packaging emphasis in the curriculum and thesis requirement. A survey to Cal Poly undergraduate students who could have potential interest in the MS PVC degree program was undertaken from May 2-9, 2016. Despite the absence of information sessions and limited response period provided, 113 undergraduate students responded from Industrial Technology, Consumer Packaging Solutions Concentration (OCOB), Food Science & Nutrition, Graphic Communication and Packaging Minor. Based on a response of "extremely interested" and "interested", the survey concluded that 24 Cal Poly undergraduate students could potentially enroll in MS PVC degree program in Fall 2017. An additional 48 students indicated "moderate" and "slight" interest in the program.

- b. Through promotions at the other undergraduate Packaging degree programs in the US, we conservatively project an additional 5-7 students enrolling in the 1-year degree program. With approximately 500 students graduating per year with undergraduate packaging degrees in the US¹, we foresee our unique *packaging value chain* emphasis to a graduate degree being preferable to traditional MBA or related degrees to these professionals.
- c. A graduate degree as well as relevant certificates in packaging or related field provides professionals with substantial opportunities to assume leadership roles and advance their careers in the packaging industry². Numerous support letters from potential employers supporting the MS PVC degree and certificate offerings have been provided in the full proposal. A sample list of over 70 open career opportunities (until May, 2016) that either 'required' or 'preferred' a graduate degree in packaging or related fields is also provided in the full proposal.
- d. The Dean of Orfalea College of Business has budgeted \$75,000 for marketing the program by Fall quarter of 2016.
- e. The consultant report provided in the full proposal offers workforce demand projections for the MS PVC students. Given the primary focus on working professionals, online dissemination of courses, global demand and the right positioning, we foresee robust demand and enrollment at and after the initial launch of the MS in Packaging Value Chain program in Fall 2017.

6. Workforce demands and employment opportunities for graduates. Please describe the demands and opportunities and identify the evidence you have used to draw these conclusions.

Expert reports forecast an annual growth for the global packaging industry of 3.5% per year to 2020, with sales to reach \$997 billion by 2020³. In a definitive study of the North American packaging industry, currently valued at \$169.1 billion, experts project its growth to \$186 billion by 2017⁴. Per the consultant report provided in the full proposal, the expectations from potential recruiters of graduates from the MS PVC program includes: *skilled work force (technology, business, communication skills, consumer knowledgeable, global understanding); promotable, versatile, adaptable; strong personal values; strategic/tactical thinkers; critical thinkers; big thinkers and "doers"; resourceful and agile; creative and innovative; program must be collaborative; program must be highly recognized; and looking for highly effective leaders, fast...collaborative, data driven, less hierarchical.*

In response to "where would the MS PVC graduates fit in the industry", the corporations responded: *product manufacturers, brands, packaging manufacturers, 3PLs, transportation companies, military – civilian jobs, military contractors, contract manufacturing, management consulting and design firms.*

In terms of MS PVC graduates' fit in their organizations, the corporations stated:

- *Operating Supply Chain Leader* for specific product or category
- *Think line management* that could have a role in *strategically directing packaging* to differentiate the company
- Likely be *Packaging Department* – savings in handling equip, etc.,

¹ Survey of major North American Packaging Programs conducted by Dr. Jay Singh, January-March 2015

² IoPP, 2015 Salary Survey. http://www.iopp.org/files/2015_salary_survey_report.pdf

³ Smithers Pira, The Future of Global Packaging to 2020. Research Report published December 14, 2015

⁴ Smithers Pira, The Future of Packaging in North America to 2017. Research Report published November 23, 2012

- *Manufacturing engineering or operations*
- Could reside in *Procurement*. Likely in Package Design or Package Design evaluation
- Retail – comes from *Distribution* – replenishment, planning, etc.
- *Cross functional leadership roles* – look at who will hire (*Project Launch Manager*)
- *Packaging supervisors, plant packaging managers, engineering, maintenance prep engineers, marketing and packaging group, every dept. needs a process engineer...very transferable*

These comments and observations were invaluable in developing the MS PVC program as well as in collating the current rationale on leading corporations' needs related to packaging value chain, particularly when hiring university graduates.

7. Other relevant societal needs.

The term *packaging value chain* refers to the network of interconnected businesses and their value creation processes, covering all stages of suppliers - from the point of origin of a packaging solution and all tiers of customers; out to the point of consumption of the product and the ultimate end-of-life options for the packaging. As the power of business customers grows with the increasing technology development, information ubiquity and globalization of markets, delivering customer value is becoming increasingly critical. From packaging being regarded merely as a logistical or materials issue, there has been a shift in the value-creating logic of the packaging industry.

Packaging continues to grow beyond being a support function that puts products in some type of container to a strategic business function aimed at creating value. As a business function, packaging spans the entire range of a packaged goods company's activities and brings the holistic agenda to the table. In doing so, it becomes the strategic enabler that helps other functions deliver benefits to the consumer. Strategically considered, packaging incorporates procurement, R&D, marketing, sales, sustainability and plays a role in defining margins and profitability. Some future trends and drivers for development of packaging supply chain models are: ~~global growth of the middle class; network optimization; packaging technologies – materials and design; modeling and simulation, product, package and supply chain; sustainability; and transparency and risk mitigation.~~ The implication of these trends and drivers is big shifts in the production system that will demand 'more and different' from packaging across the value chain.

8. **Provide an assessment of the required resources and the campus commitment to allocating those resources.** Provide a narrative description and an itemized list in the table below of the resources that currently exist to support the new program, as well as the additional resources that would be needed to added at initiation, after 3 years, and after 5 years.

2016 Academic Plan – New Degree Summary Statement
(2015-16 AY)

	Existing resources	At initiation- new resources	New resources to be added after 3 years	New resources to be added after 5 years
Faculty	9	1	0	1-2
Student allocations	0	0	0	0
Support staff	1	0	1	0
Facilities	None	None	None	None
Equipment	None	None	None	None
Information resources	Student/faculty access to PolyLearn and Zoom, electronic library and learning resources	None	None	None

Narrative:

Faculty: All faculty currently participating in the MS PVC program are full time faculty with expertise in the courses led by them. OCOB has approved a new tenure-track position in the primary area of Packaging Science and Technology with a start date of September 7, 2017. This faculty member will be immediately engaged in the MS PVC program. We expect the same course offering, listed in section 10, for the first 3 years of program implementation. As the program grows, we will take market needs into account to create new electives. This may necessitate recruitment of additional 1-2 faculty after 5 years. The self-support program is expected to generate sufficient revenue to fund these positions.

Student allocations: Student assistants are not required for this fully online program

Support staff: An additional staff member may be required with administration responsibilities related to the program after 3 years. The self-support program is expected to generate sufficient revenue to fund these position.

Facilities & Equipment: The MS PVC program will be offered fully online and no Cal Poly lecture and/or laboratory equipment/space will be required

Information resources: At launch we anticipate the software requirements to primarily be related to student/faculty access to PolyLearn (Moodle LMS) and Zoom (video-conferencing). Access to and support for both of these are provided by Cal Poly's Information Technology Services. With regards to the instructional support (electronic library and learning resources), support is available through Kennedy Library. As the software/support needs of the program evolve, the OCOB has a team of support staff who can provide support when campus-wide resources are unable to.

Note: The Dean's and Provost's signatures below represent the campus commitment to allocating these resources.

9. And, as applicable:

- a. If the projection is a pilot program, please list the academic years during which the program will operate in pilot status.**

2017-18 to 2021-22 (5 years)

- b. For new degree programs that are not already offered in the CSU, please provide a compelling rationale explaining how the proposed subject areas constitutes a coherent, integrated degree program that has potential value to students and meets CSU requirements for an academic program at the undergraduate or graduate level.**

In academia Packaging, as an interdisciplinary field, involves business, design, technology, science, engineering, and the environmental disciplines. Packaging science and technology has become, more than ever, a key to business success because of dramatic economic and technological changes across a range of industrial sectors, particularly the globalization and outsourcing of some portion of nearly all value-added products. Additionally, the public policy environment, both domestic and international, is placing new demands on the packaging industry to improve its environmental footprint, reduce energy consumption, enhance recycling and contribute positively to global sustainability.

There are less than a dozen 4-year degree programs in or related to Packaging in North America. Cal Poly's Packaging Program has developed a national reputation as a significant source of packaging research and education. An increasing number of companies support packaging specific recruitment as well as research & development projects at Cal Poly, resulting in a growing portfolio of returning/new employers as well as larger research projects funded by government and other third-party organizations. The Cal Poly Packaging Program, by most assessments, is considered among the top university-based programs in the United States in Packaging Science and Technology. Located at the Orfalea College of Business, the program is offered as a Major (Industrial Technology), a Concentration (Consumer Packaging Solutions) and a Minor.

The CSU system currently offers no graduate degree programs specifically devoted to the packaging value chain. San Jose State University offers a BS degree in Nutritional Science with a Concentration in Packaging but no standalone packaging specific graduate degree. There are no graduate programs at Cal Poly that offer any curricula related to the proposed MS Packaging Value Chain program.

10. Provide the Learning Objectives for the Program and the curricular requirements

The proposed MS PVC program aims as serving as an exemplar for Cal Poly's learn-by-doing philosophy through graduating students that will be able to:

- Specify holistic, efficient and effective solutions in the realm of packaging and its impact across the global value chains
- Develop analytical and critical thinking skills towards assessing the value addition proposition of packaging
- Analyze and explain local, national, and global ethical issues related to the packaging value chains
- Infer the present and anticipated future packaging needs of the global society

- e. Effectively compose written and oral texts for a variety of scholarly, professional, and creative purposes



The table below identifies the core and approved elective course requirement towards the MS PVC degree.

Core Courses		
Course Number	Course Title	Units
GSP 530	Packaging Value Chain	2
GSP 532	Packaging Materials	4
GSP 533	Advanced Packaging Laws & Regulations	3
GSP 535	Packaging Value in Logistics and Supply Chain Management	3
GSP 536	Packaging Design	4
GSP 539	Marketing & Sales for Packaged Product	4
GSP 540	Quantitative Analysis for Packaging	4
GSP 591	Applied Industry Project	5
Core Subtotal		29
Approved Electives		
<i>Select any four</i>		
Course Number	Course Title	Units
GSB 520	Data Management for Business Analytics	4
GSP 541	Corporate Finance for Packaging	4
GSB 534	Lean Operations Management	4
GSB 563	International Business Tour	4
GSP 537	Distribution Packaging for Business Managers	4
GSP 538	Quality Evaluation of Packaged Products	4
Electives Subtotal		16
TOTAL UNITS		45

Specific to the requirements of Section 40510 of Title 5 of the California Code of Regulations, MS PVC students are required to take 5 units of GSP 591 (Applied Industry Project). The purpose of this core course is to engage in an interdisciplinary research activity, allowing for an opportunity to apply knowledge, skills, and competencies to address a significant issue in the field of packaging value chain, preferably in connection with the student's employment.

11. Signatures

We confirm that the proposed new program fits with the mission and the strategic plan for the college. Additionally, there is a commitment to allocating the resources required by the proposed new program, both in the initiation phase and the future development of the program.

Department Chair/Head	Date
Dr. Eric Olsen 	8/15/16
Dean	Date
Dr. Sanjiv Jaggia 	8/15/16

We confirm that the proposed new program fits with the mission and the strategic plan for the campus.

Academic Program Consultative Committee	Date
Provost	Date

CAL POLY
OFFICE OF THE DEAN
ORFALEA COLLEGE OF BUSINESS

February 8, 2016

To Whom It May Concern,

The new MS Packaging Value Chain program will contribute to the mission of the Orfalea College of Business to produce career ready graduates. Packaging is a strong differential advantage for the College, and is one of two areas that we have identified for global distinction. Delivering the MS Packaging Value Chain program online allows us to reach working professionals across the United States, and potentially the world, thereby building the reputation and reach of the Orfalea College of Business.

In order to ensure the success of MS Packaging Value Chain program, we hired a consultant to collect input about the skills employers desire from graduates, to identify other programs in the market, and to verify the differential advantage we have because of our existing faculty, our packaging labs, our learn by doing ethos, and the polytechnic nature of the University. The new MS builds on a strong undergraduate program and the guidance of an advisory board of leaders from firms such as Pepsi, Walmart, Amgen, and Nestle. This board provided input on the MS curriculum, and will contribute to the program's success by recruiting students from their firms to enroll in the program and hiring graduates. The Deans Advisory Council from OCOB, which includes senior executives from firms such as Apple, Google, Cisco, and NetApp, enthusiastically endorsed the MS Packaging Value Chain program during its May 2015 meeting. In short, we have verified the need for the MS in Packaging Value Chain, and designed the program to meet well defined needs by methodically engaging with industry.

OCOB faculty are uniquely equipped to deliver the MS in Packaging Value Chain, which will be offered as a self-support program and will not interfere with the delivery or success of any other existing program in the College, or in any other academic unit at Cal Poly. In fact, experience from delivering this program online will provide an example to other faculty in the College that teaching online can yield important benefits. We will be adding to our cadre of packaging faculty by hiring additional faculty to deliver the program.

We will designate a Director of the MS Packaging Value Chain program to ensure that someone has clear responsibility for recruiting, admitting, advising, and placing graduates. The Orfalea endowment is helping to underwrite the costs of launching this program and ensuring its success.

The current facilities for OCOB have the capacity to house the administration and delivery of the MS in Packaging Value Chain. No new facilities are required.

I am very excited and confident about the future of the new MS in Packaging Value Chain. Please let me know if you have any questions or concerns.

A handwritten signature in dark ink, appearing to read 'Scott Dawson', with a stylized flourish at the end.

Scott Dawson
Dean

Adopted:

**ACADEMIC SENATE
Of
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, CA**

AS-__-16

RESOLUTION ON SCHEDULING EVENTS DURING FINAL EXAMINATION PERIOD

1 WHEREAS, In the 2015-16 academic year, several departments, programs, and a
2 college attempted to schedule events, such as banquets, award
3 ceremonies, or official end-of-term gatherings, during the final
4 examination period because of space issues during commencement
5 weekend; and

6
7 WHEREAS, Events sponsored by departments, programs, and colleges could
8 create a conflict for students between their academic performance
9 and their wish to participate fully in such events; and

10
11 WHEREAS, Cultural commencement ceremonies, which are sponsored by clubs
12 rather than departments, programs, or colleges, have historically
13 occurred during the final examination period, but are separate from
14 students' academic majors; therefore be it

15
16 RESOLVED: That departments, programs, and colleges shall not request University
17 Scheduling in the Office of the Registrar to schedule such end-of-term
18 events during the final examination period, and be it further

19
20 RESOLVED: That departments, programs, and colleges shall not schedule such end-of-
21 term events on or off campus during the final examination period.

Proposed by: Academic Senate Instruction
Committee

Date: July 1, 2016

Adopted:

**ACADEMIC SENATE
Of
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, CA**

AS-__-16

**RESOLUTION ON THE REINTRODUCTION OF AS-603-03/IC,CC,GEC
[RESOLUTION ON CREDIT/NO CREDIT GRADING (CR/NC)]**

- 1 WHEREAS, Resolution AS-603-03/IC,CC,GEC [RESOLUTION ON CREDIT/NO
2 CREDIT GRADING (CR/NC)] was adopted by the Cal Poly Academic
3 Senate on June 3, 2003; and
4
5 WHEREAS, No response concerning Resolution AS-603-03/IC,CC,GEC was
6 received from President Baker; and
7
8 WHEREAS, Resolution AS-603-03/IC,CC,GEC was not implemented; and
9
10 WHEREAS, The above situation was not discovered until winter quarter 2016;
11 and
12
13 WHEREAS, Resolution AS-603-03/IC,CC,GEC would have produced substantive
14 changes to Cal Poly's policies on courses taken credit/no credit; and
15
16 WHEREAS, After thirteen years the Academic Senate should consider its position
17 on the adoption of these policies; therefore be it
18
19 RESOLVED: That the provisions of Resolution AS-603-03/IC,CC,GEC (excluding
20 those associated with subsequently abandoned POWER and CAPTURE
21 processes) be implemented under cover of the present resolution.

Proposed by: Academic Senate Executive
Committee

Date: August 30, 2016

Adopted: June 3, 2003

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

AS-603-03/IC,CC,GEC

**RESOLUTION ON
CREDIT/NO CREDIT GRADING (CR/NC)**

- 1 WHEREAS, This resolution pertains to courses that are normally graded, not to CR/NC-only
2 courses; and
3
4 WHEREAS, This resolution refers to undergraduate students only, not to graduate students; and
5
6 WHEREAS, Students in good standing (not on academic probation) should have the option of
7 taking a limited number of courses CR/NC; and
8
9 WHEREAS, The ability to take courses CR/NC can broaden a student's academic experience,
10 which should be encouraged; and
11
12 WHEREAS, POWER and CAPTURE currently prompt students to select normal grading or the
13 CR/NC option for each course they enroll in during registration; and
14
15 WHEREAS, The current policy, as approved by the Academic Senate in 1997, cannot be fully
16 implemented; therefore be it
17
18 RESOLVED: That undergraduate students be permitted to take up to 12 units of courses CR/NC
19 in accord with the following specifications:
20
21 • CR requires the student earn a C or higher; and
22
23 • The catalog and class schedule provide advice to students to consult with their
24 advisor when considering taking a major course CR/NC; and
25
26 • The method by which students elect the CR/NC option be removed from
27 students' course selection via POWER and CAPTURE and a designated link be
28 added to POWER to serve as the sole vehicle for electing the CR/NC option after
29 initial registration.

Proposed by: Academic Senate Instruction,
Curriculum, and General Education Committees
Date: April 29, 2003
Revised: May 14, 2003
Revised: May 28, 2003
Revised: June 3, 2003

Adopted:

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

AS-__-16

RESOLUTION ON RETIRING OBSOLETE ACADEMIC SENATE RESOLUTIONS

- 1 WHEREAS, A resolution approved by Cal Poly's Academic Senate reflects the concerns and
2 campus organization of the time in which it is adopted; and
3
4 WHEREAS, With the passage of sufficient time an adopted resolution may no longer hold
5 relevance; and
6
7 WHEREAS, Such obsolete resolutions should be identified and formally removed from the set of
8 active resolutions; and
9
10 WHEREAS, No process currently exists for determining the obsolescence of Academic Senate
11 resolutions or for their formal retirement; therefore be it
12
13 RESOLVED: That the *Bylaws of the Academic Senate* be amended as shown on the attached copy to
14 guide the formal retirement of resolutions by the Academic Senate.

Proposed by: Academic Senate Executive Committee
Date: August 25, 2016

V. MEETINGS

E. RETIRING RESOLUTIONS

When an Academic Senate resolution is suspected of being out of date or no longer pertinent, at the Chair's discretion the resolution may be submitted for review as to its current relevance by the Academic Senate committee that originally sponsored it or by an ad hoc committee. The committee's opinion regarding the resolution shall be forwarded to the Academic Senate Executive Committee. If the Executive Committee finds that the resolution in question should be retired, a proposal to this effect shall be placed on the Academic Senate's consent agenda. If no senator pulls the resolution from the consent agenda, the resolution shall be considered retired. If pulled from the consent agenda, the proposal will appear as a business item for debate at the next meeting of the Academic Senate. The President shall be informed of any such action and the Academic Senate shall update its records.

Adopted:

**ACADEMIC SENATE
Of
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, CA**

AS-__-16

**RESOLUTION ON PROPOSED NEW DEGREE PROGRAM:
BACHELOR OF SCIENCE IN PUBLIC HEALTH**

- 1 WHEREAS, The Kinesiology Department has a long history of preparing students for careers in health
2 education, health promotion and public health settings; and
3
- 4 WHEREAS, The purpose of the proposed Bachelor of Science in Public Health is to provide students with
5 the knowledge, skills and experiences necessary to address current public health challenges
6 and meet the workforce demand in a sector of employment that is expected to increase by
7 18% in California between 2012 and 2022; and
8
- 9 WHEREAS, The faculty in the Kinesiology Department have the expertise to deliver a Bachelor of Science
10 in Public Health Degree program that aligns with the most recent critical component
11 elements from the Association of Schools of Public Health and the Council on Education in
12 Public Health; and
13
- 14 WHEREAS, The faculty in the Kinesiology Department are engaged in NIH funded public health research
15 and are well positioned to support robust undergraduate research experiences; and
16
- 17 WHEREAS, The Kinesiology Department has engaged in extensive consultation with more than 70 faculty
18 members from across the campus building on our interdisciplinary strengths in the
19 development of the degree proposal and cultivating broad campus support for the Bachelor
20 of Science in Public Health; and
21
- 22 WHEREAS, Many similar programs in the CSU are impacted and of our competitor institutions in the UC
23 system (Berkeley, Davis, Los Angeles, and Santa Barbara) only UC Berkeley has an
24 undergraduate degree in Public Health which is also impacted; and
25
- 26 WHEREAS, There is substantial interest by Cal Poly students who desire the opportunity to pursue a
27 Bachelor of Science in Public Health as a pathway to public health careers or a springboard to
28 graduate programs in Public Health or Allied Health Professions; and
29
- 30 WHEREAS, California as home to 38 million people is engaged in vital strategies to improve health
31 outcomes and Cal Poly graduates with a Bachelor of Science in Public Health will successfully
32 contribute to these efforts; therefore be it
33
- 34 RESOLVED: That the proposed new degree program for the Bachelor of Science in Public Health be
35 approved.

Proposed by: Kris Jankovitz, Professor Department of
Kinesiology
Date: September 27, 2016

Title of Proposed Program	Public Health
College	Science and Mathematics
Department	Kinesiology
Contact name(s) and email(s)	Kris Jankovitz, Ph.D., Interim Chair: kjankovi@calpoly.edu Heather Starnes, Ph.D.: hstarnes@calpoly.edu

1. Delivery Mode of program: Fully Face-to-Face ☒ Hybrid ☐ Fully Online ☐

a. Campus

California Polytechnic State University, San Luis Obispo

b. Full and exact degree designation and title:

Bachelor of Science in Public Health

CSU Degree Program Code: 12141

CIP Code: 51.2201

- c. Date the Board of Trustees approved adding this program projection to the campus Academic Plan.**
March 2015

- d. Term and academic year of intended implementation.**
Fall 2017

- e. Total number of units required for graduation. This will include all requirements (and campus-specific graduation requirements), not just major requirements.**
180 Quarter Units

- f. Name of the department(s), division, or other unit of the campus that would offer the proposed degree major program. Please identify the unit that will have primary responsibility.**
Department of Kinesiology, College of Science and Mathematics

- g. Name, title, and rank of the individual(s) primarily responsible for drafting the proposed degree major program.**
Dr. Kris Jankovitz, Professor, Interim Department Chair, Kinesiology (kjankovi@calpoly.edu)
Dr. Heather Starnes, Asst. Professor, Kinesiology (hstarnes@calpoly.edu)

- h. Statement from the appropriate campus administrative authority that the addition of this program supports the campus mission and will not impede the successful operation and growth of existing academic programs.**

Forthcoming as proposal goes through levels of approval:

Memo from Vice Provost Academic Programs and Planning, Mary Pedersen

i. Any other campus approval documents that may apply (e.g. curriculum committee approvals).

Forthcoming as proposal goes through levels of approval:

- Support Letter from Jeffrey D. Armstrong, President - pending
- Approval of Public Health Bachelor of Science Degree, Academic Senate Resolution - pending
- Support Letter from Phillip Bailey, Dean, College of Science and Math – Appendix 1.5
- Support Letter from Elena Keeling, Chair CSM Curriculum Committee – Appendix 1.6
- Report from Librarian, College of Science and Math – Appendix 1.7

j. Please specify whether this proposed program is subject to WASC Substantive Change review.
Not Applicable

2. A brief summary of the purpose and characteristics of the proposed degree program.

*(What is the program designed to do? What will candidates learn while in the program?
What knowledge and skills will graduates possess when they graduate from the program?)*

The purpose of this proposed Bachelor of Science in Public Health is to provide students with the knowledge, skills, and experiences necessary to meet current public health challenges to promote health and prevent disease. Graduates will be prepared to meet the demand for trained health promotion professionals and community health workers and according to the US Bureau of Labor Statistics this sector of employment is expected to expand by 19% between 2012 and 2022 (<http://www.bls.gov/emp/>) The workforce demand will likely continue to rise due to population growth and an aging population. The proposed curriculum will be based on the three Core Functions of Public Health and the 10 Essential Services as identified by the Centers for Disease Control and Prevention (www.cdc.gov/nceh/ehs/ephli/core_ess.htm). (See Appendix 3.3.) The program learning objectives will be based on six of the ten essential services, as they are appropriate to undergraduate preparation. The curriculum will be designed to meet the standards for accreditation by the Council on Education for Public Health (CEPH) and will include the Critical Component Elements of an undergraduate major in Public Health as specified by the Association of Schools of Public Health (ASPH) in the Framing the Future document (www.asph.org/FramingtheFuture). The program learning objectives for the BS in Public Health have been mapped to the Public Health Domains specified in the Critical Component Elements for an undergraduate degree in public health and can be seen in Appendix 3.2.

The proposed degree program will prepare students to meet the professional practice standards as developed by the **National Commission for Health Education Credentialing, Inc.** (NCHEC) and meet the competencies and 7 responsibilities for Certified Health Education Specialists as identified by the 2010 Health Educator Job Analysis. **Certified Health Education Specialists (CHES)** are qualified in aspects of the profession at the entry level. A CHES has the ability to work in various settings such as worksites, health care, community, public health, non-profit

health organizations, school and university settings. A CHES is trained and qualified to plan and coordinate various health promotion programs to improve the quality of life and health outcomes of diverse populations.

Students who complete the Public Health Degree with a Concentration in Physical Activity and Public Health will also qualify for the **ACSM/NPAS Physical Activity in Public Health Specialist** (PAPHS) certification and the ACSM Health and Fitness Specialist (HFS) Certification. The ACSM PAPHS certification indicates proficiency in coordinating physical activity interventions and all physical activity initiatives at the local, state and federal level. The ACSM HFS certification indicates proficiency in assisting healthy persons and those with medically controlled conditions to adopt and maintain healthy lifestyle behaviors.

More specifically the curriculum will focus on a broad foundation in multiple areas of public health, to include ample opportunities for hands-on application of knowledge in classes, field experience, and research projects, as well as requiring community-oriented outreach activities to promote health. Four concentrations are proposed based on community health needs, faculty and student strengths at Cal Poly and job market projections. These are:

(1) **Community and Public Health** prepares students for careers in local, state and federal public health departments; non-profit health agencies and coalitions; health insurance providers, hospital, clinical and research settings; and prepares students to pursue graduate study for the Masters in Public Health and the MS in Health Care Administration, Community Health, Environmental Health, Health Education or Health Promotion. This concentration provides a foundation in concepts that are complementary for students who are planning to pursue further study in allied health professions or medicine to pursue further study in allied health professions or medicine.

(2) **Physical Activity and Public Health** prepares students to work with entities in communities, engaged in planning to improve health outcomes by promoting physical activity. Graduates are prepared for careers in local, state and federal public health agencies; non-profit health agencies and coalitions; local government agencies, corporate and commercial fitness settings; and prepares students to pursue graduate study for the Masters in Public Health or the MS in Kinesiology or Health Promotion or Health Education. This concentration provides a foundation in concepts that are complementary for students who are planning to pursue further study in the built environment.

(3) **Worksite and University Health Promotion** prepares students for careers as health promotion specialists in various public/private worksite and university health promotion settings, non-profit health agencies; and to pursue graduate study for the Masters in Public Health or the MS in Health Promotion or Health Education.

(4) **Culture and Society in Health** prepares students with a strong foundation in the social determinants of health. Graduates are prepared for careers in a variety of settings such as local, state and federal public health agencies; non-profit health agencies; hospital, clinical and research settings; and to pursue graduate study for the Masters in Public Health. This concentration provides a foundation in concepts that are complementary for students who are planning to pursue further study in allied health professions or medicine.

The State of California, home to more than 38 million people, is engaged in vital strategies to create a sustainable health care system that effectively addresses the burden of disease experienced by our population. The efforts are driven by the need to contain costs for providing medical care and ultimately reduce the demand for health care services. The most costly illnesses and injuries and associated comorbidities are often preventable and/or treatable through lifestyle interventions. Cost containment approaches alone cannot solve the long-term problems associated with health care expenditures growing at an unsustainable rate. California and the rest of the nation have identified that investment in primary and secondary prevention is a vital component of strategies to improve the health of the population, prevent and reduce disease burden, contain costs and reduce demand for health care. Prevention is the systematic process of promoting healthy behavior and environments to reduce the likelihood of (primary prevention) or prevent progression of (secondary prevention) disease, injury or chronic conditions.¹ Health outcomes are influenced by a variety of factors such as biology and genetics, lifestyle behaviors, social and physical environments, and access to health care. It is crucial to improve and expand prevention efforts to address the growing prevalence and burden of disease attributable to preventable conditions. California will need a workforce with specialized training in primary and secondary prevention to impact social and physical environments and work to establish policies and best practices that positively influence the behavioral, social, environmental, and economic conditions to improve health outcomes, quality of life, and societal costs.² Improving the conditions in which Californians live, learn, work and play in ways that can be sustained over time will result in a healthier population, society and workforce.^{1,2}

California Polytechnic State University, San Luis Obispo (Cal Poly) is uniquely poised to create a new BS degree in Public Health that provides the integrative hands-on undergraduate training required to meet the demand for professionals engaged in promoting health and preventing disease. The emphasis on a cross-disciplinary program will build on the strengths of existing faculty who have expertise in health science/public health across multiple disciplines (e.g., Anthropology, Biological Science, City and Regional Planning (Built Environment), Communication Studies, Ethnic Studies, Food & Nutritional Science, Kinesiology, Liberal Arts, Microbiology, Psychology, Public Policy, Sociology, Statistics and Women & Gender Studies). In 2014, Cal Poly established the Center for Solutions Through Research in Diet and Exercise (STRIDE), a scientific research center for obesity prevention and treatment. The impetus for the STRIDE Center was initiated by the Kinesiology Department in 2007 to support the Teacher Scholar model and foster interdisciplinary obesity prevention research collaborations across campus. In addition to National Institutes of Health funded scientific research, STRIDE contributes to hands-on learning, discovery and community outreach by our students, faculty, and staff in order to prevent disease, promote physical activity and healthy weight across the lifespan. We currently have research and community outreach programs in place that reflect our national, state, and university priorities for improving population health. The students in the proposed degree program in Public Health would benefit from and contribute to the STRIDE mission.

Cal Poly is an ideal location for a new undergraduate degree program to train future public health professionals and the field of study appears to be in demand for applicants to the CSU. Of the 15 State supported undergraduate programs, six are impacted. Cal Poly is at least 130 miles away from the nearest undergraduate Public Health programs (CSU Fresno and Monterey Bay), and the rest are at least 200 miles away. Cal Poly often draws applicants who also apply to the University of California at Berkeley, Davis, Los Angeles and Santa Barbara.

Only UC Berkeley offers a BA in Public Health, which is also impacted. Importantly, a series of campus wide forums (in November 2014 and March 2016), meetings with faculty and staff across the campus and community members (October 2015 – March 2016), and a student survey revealed a strong level of interest in public health among current Cal Poly students, faculty, and staff. Please see Appendix 3.1 for a list of all the members of the Cal Poly campus community who participated in Open Forums, one-on-one meetings, and meetings of Affiliated Faculty to provide consultation and feedback on the proposed BS Degree in Public Health. Faculty from across the campus provided recommendations for courses to include in the curriculum to capitalize on the interdisciplinary strengths across the University. These recommendations helped to inform the curriculum in Support, Concentrations and Advisor Approved electives.

3. The program's fit with the campus mission and strategic plan.

(Describe in several sentences how the program fits, complements, augments or extends the mission.)

Our Mission: Cal Poly fosters teaching, scholarship, and service in a Learn by Doing environment in which students, staff, and faculty are partners in discovery. As a polytechnic university, Cal Poly promotes the application of theory to practice. As a comprehensive institution, Cal Poly provides a balanced education in the arts, sciences, and technology, while encouraging cross-disciplinary and co-curricular experiences. As an academic community, Cal Poly values free inquiry, cultural and intellectual diversity, mutual respect, civic engagement, and social and environmental responsibility.

The proposed BS in Public Health degree program **fits Cal Poly's mission** because it will provide students the opportunity to partner with faculty, campus and community organizations to discover how to apply public health principles to promote health and prevent disease. Successful graduates of the Public Health degree program will have comprehensive education in the social, environmental, behavioral, cognitive, and biological principles of health promotion and disease prevention. Furthermore, successful Public Health graduates will have co-curricular experiences and skills in designing, implementing, and evaluating health promotion programs and policies. The proposed Public Health degree is based on the core faculty members' commitment to social and environmental responsibility for the protection of public health. We seek to instill these commitments in our students, who will protect the future of public health by skillfully designing, implementing, and evaluating health promotion programs and policies.

The Cal Poly Public Health curriculum will expand the scope of more traditional public health degrees to include training in both global and individual level approaches to prevention. Housed in the College of Science and Math with departments such as Biological Sciences, Chemistry, Kinesiology and Statistics that will contribute to the curriculum and with close ties to STRIDE, Cal Poly is uniquely suited to offer such a degree. The Cal Poly BS in Public Health degree is **complementary to the missions of the University, College, and STRIDE**, as it reflects our commitment to hands-on training in health science/public health as well as a solid foundation in ethical and community-oriented education.

For example, this new degree supports the University's strategic initiatives, which are to:

- Develop and inspire whole-system thinkers
- Embrace the teacher-scholar model

- Foster diversity and cultural competency in a global context
- Promote a culture of support, philanthropy, and community engagement
- Achieve sustainable growth and support world-class facilities and equipment
- Ensure our financial future

4. Support Mode: State Support ☒ Self-Support/Extended Education ☐

5. Anticipated student demand.

	At initiation	After 3 years	After 5 years
Number of Majors	50	125	≥250
Number of Graduates (total)	**	25	≥75
Basis for projection	Students will be admitted and ICMA	Anticipated # of students program can support	Anticipated # of students program can support

a. The proposed BS in Public Health will emphasize an interdisciplinary approach, attracting students from many disciplinary areas. Currently, all degree programs at Cal Poly are classified as "Impacted" (CSU Impacted Programs report, 2014-2015). The CSU is already engaged in efforts to provide a trained workforce to meet the demand in the State of California. The time is right for Cal Poly to play a role. There are 16 undergraduate programs in the CSU in this discipline area, three are titled Public Health and 10 are titled Health Science. Six of these programs are impacted. Three programs recently changed the title of their degree programs to Public Health mirroring a nationwide trend in the title of similar degree programs. (The CSU Degree Program Code is 12141 and the Classification of Instructional Program Code is 51.2201). A list of the BS programs in the CSU is provided below. An additional list of BS Public Health of competitor institutions in the University of California system is also provided.

CSU	BS/BA	Title
Channel Islands	BS	Health Science
Chico	BS	Health Science
Dominguez Hills	BS	Health Science
East Bay	BS	Health Sciences
Fresno	BS	Health Science
Fullerton	BS - impacted	Health Science
Long Beach	BS - impacted	Health Science
Los Angeles	BS (recent retitle - 2011)	Public Health
Monterey Bay	BA	Collaborative Health & Human Services
Northridge	BS (recent retitle – 2015	Public Health
Sacramento	BS - impacted	Health Science
San Bernardino	BS	Health Science
San Diego	BS – impacted (appears to be retitled for 2016)	Health Science (Public Health)
San Francisco	BS - impacted	Health Education
San Jose	BS - impacted	Health Science
Stanislaus	BS – self support program	Health Science

University of California Public Health Programs

The University of California programs that are our competitor institutions for highly qualified undergraduates do not have similar undergraduate program offerings. Having this degree could draw more highly qualified students to Cal Poly.

- UC Santa Barbara – does not offer undergraduate or graduate programs in public health.
- UC Berkeley – School of Public Health
 - BA in Public Health (impacted - must apply to major as sophomore)
 - Designed to prepare students for MPH
 - MPH/MS/MA, DrPH/Ph.D in Public Health
- UC Davis
 - Undergraduate Minor in Public Health
 - MPH/MS, Dr.PH/Ph.D. in Public Health (**no Bachelor of Science program**)
- UCLA – School of Public Health
 - Undergraduate Minor in Public Health
 - MPH/MS, Dr.PH/Ph.D. (**no Bachelor of Science program**)
- *Describe differences between the proposed program and programs listed in Section 5a above.*

We provide a comparison upon request of the proposed Cal Poly BS in Public Health to the two programs in the California State University system that have most recently re-titled the degree to Public Health, Los Angeles (CSULA) and Northridge (CSUN). It should be noted that both the programs at CSULA and CSUN have been in existence for many years and are under the umbrella of accreditation as awarded to the Master of Public Health program at each campus. The Cal Poly program proposal has been built to align with the most recent (2012) Association of Schools in Public Health (ASPH) guidelines for undergraduate degrees in public health (See Appendix 3.2) and the 2014 criteria for stand-alone baccalaureate programs for accreditation by the Council on Education for Public Health (CEPH). The Cal Poly program has Program Learning Outcomes that specifically align with the public health domains in the ASPH guidelines (see Appendix 3.2). The Cal Poly degree proposal has more specified requirements in biology, microbiology, nutrition, psychology and statistics as compared to the curricula CSULA and CSUN. The proposed curriculum also includes courses in injury prevention, obesity prevention & treatment, media and technology in health promotion, and stress, health and chronic disease. The Cal Poly proposal also includes four concentrations that allow students to prepare to specialize in different public health career areas. Through the concentrations and advisor approved electives students will have the opportunity consider how the social determinants of health impact health outcomes in different populations. The Cal Poly proposal also offers an extensive list of advisor-approved electives to allow students to diversify in many areas of public health including the built environment, behavioral health, exercise and fitness, public policy, statistics, and communication, and include more coursework in biology, chemistry, microbiology, physics and Spanish.

6. Workforce demands and employment opportunities for graduates.

Cal Poly students with a BS degree in Public Health will be trained to meet the workforce needs in public health promotion and disease prevention in a variety of settings:

- Local, State and Federal Public Health Agencies (disease and injury prevention, health promotion)
- Non-profit health agencies and community health organizations (American Lung Association, Community Foundations, etc.)
- Universities and other educational settings
- Health care facilities (health interventions, behavior change)
- Health insurance companies (health behavior change, injury prevention, health screening)
- Corporate and Small Business (worksite health promotion services)
- Government and Military Settings (health promotion services)

The Bureau of Labor Statistics predicts that job opportunities for health educators and community health workers will expand by 13 percent between 2014 and 2024, a rate faster than the average for all occupations. An increased emphasis on preventative health care in the U.S. is the biggest factor driving this growth. As health care costs continue to rise, insurance companies, employers and government are turning to preventative health care strategies, including health educators, to help people make lifestyle changes to keep themselves healthy. The workforce demand will also be driven by population growth in the State of California. By 2030, California's population is projected to be 48 million people and 20% of the population will be over age 65. California will continue to become more ethnically and economically diverse.

United States Department of Labor: Job Outlook for Health Educators 2014-2024:

<http://www.bls.gov/ooh/community-and-social-service/health-educators.htm#tab-6>

Summary

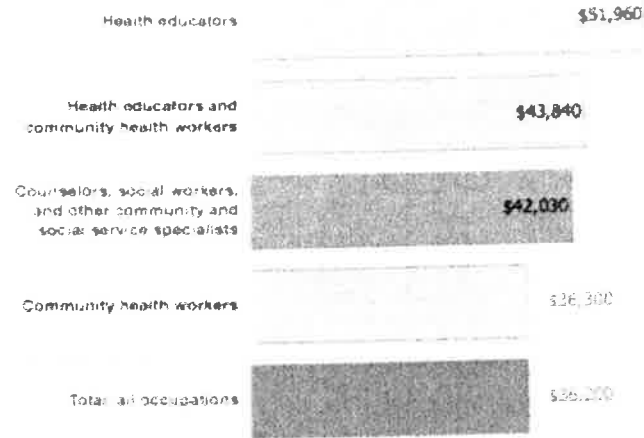
Quick Facts: Health Educators: SOC Code: 21-1091

2015 Median Pay	\$51,960 per year (Health Educators)
Entry-Level Education	Bachelor's degree
Work Experience in a Related Occupation	None
On-the-job Training	None
Number of Jobs, 2014	57,570
Job Outlook, 2014-2024	13% (faster than average)

Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2016-17 Edition*, Health Educators and Community Health Workers, on the Internet at <http://www.bls.gov/ooh/community-and-social-service/health-educators.htm> (visited May 01, 2016).

Health Educators and Community Health Workers

Median Annual Wages: May 2013



Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics

Data from State of California Employment Development Department shows estimates that there will be a change of 18.3% for projected employment for Health Educators between 2012-2022.

A break down by county can be seen here:

<http://www.labormarketinfo.edd.ca.gov/aspsdotnet/SupportPage/AllOccPrj.aspx?soccode=211091>

United States Bureau of Labor – California

Employment Growth Projections 2012-2022

<http://www.projectionscentral.com/Projections/ProjectionSites>

<http://www.bls.gov/emp/>

Area of Specialization	Sources of Data	Project Growth 2012-2022
Health Educators	US Bureau of Labor Office of Employment Projections	18.3%
Community Health Workers	US Bureau of Labor Office of Employment Projections	19.1%
Employment Opportunities with training beyond the Bachelor's Degree. (Master's Degree or Allied Health Professions School)		
Epidemiologist	US Bureau of Labor Office of Employment Projections	10.2%
Nurse	US Bureau of Labor Office of Employment Projections	16.9%
Occupational Health and Safety Specialist	US Bureau of Labor Office of Employment Projections	23.6%
Occupational Therapist	US Bureau of Labor Office of Employment Projections	22.6%
Physician Assistant	US Bureau of Labor Office of Employment Projections	33.7%

United States Bureau of Labor – United States

Employment Growth Projections 2012-2022

<http://www.projectionscentral.com/Projections/ProjectionSites>

<http://www.bls.gov/emp/>

Area of Specialization	Sources of Data	Project Growth 2012-2022
Health Educators	US Bureau of Labor Office of Employment Projections	19%
Community Health Workers	US Bureau of Labor Office of Employment Projections	25.1%
Employment Opportunities with training beyond the Bachelor's Degree. (Master's Degree or Allied Health Professions School)		
Epidemiologist	US Bureau of Labor Office of Employment Projections	10.2%
Nurse	US Bureau of Labor Office of Employment Projections	16%
Occupational Health and Safety Specialist	US Bureau of Labor Office of Employment Projections	6.6%
Occupational Therapist	US Bureau of Labor Office of Employment Projections	27%
Physician Assistant	US Bureau of Labor Office of Employment Projections	38.4%

Data Sources for Demonstrating Evidence of Need

APP Resources Web <http://www.calstate.edu/app/resources.shtml>

US Department of Labor, Bureau of Labor Statistics

California Labor Market Information

Labor Forecast

7. Student Demand

- a. Provide compelling evidence of student interest in enrolling in the proposed program. Types of evidence vary and may include (for example), national, statewide, and professional employment forecasts and surveys; petitions; lists of related associate degree programs at feeder community colleges; reports from community college transfer centers; and enrollments from feeder baccalaureate programs.

We have student survey data and information from a report characterizing the growth of undergraduate public health majors in the United States from 1992-2012. We have a list of faculty and staff who attended campus forums and affiliated faculty meetings on the Cal Poly Campus to consult, gain input and gauge student interest (see Appendix 3.1). In 2015 a survey of Cal Poly students who participate in health professions advising and in student clubs and organizations related to allied health professions was conducted. Students were contacted and asked to participate in the survey through the listserve maintained by the College of Science Math Advising Center – Pre Health Professions Listserve. Nearly 60% of the respondents indicated that had a major in Public Health been available at Cal Poly when they applied they would have definitely selected or strongly considered selecting as their

major. Over 55% of the respondents said they would be interested in completing a minor in Public Health if one became available at Cal Poly. See the breakdown of responses below.

BS Public Health Survey

Based on the description above, if a major in Public Health had been available when you applied to Cal Poly, how likely is it that you would have considered selecting it as your major?

Answer Options	Response Percent	Response Count
Definitely would select.	23.3%	51
Would strongly consider it.	36.1%	79
Might consider it.	34.2%	75
Would not select it.	11.4%	25
Why would you be interested or uninterested in this major?		115
<i>answered question</i>		219
<i>skipped question</i>		0

BS Public Health Survey

If a minor in public health becomes available, how interested would you be in earning this minor?

Answer Options	Response Percent	Response Count
Very interested.	55.3%	119
Somewhat interested.	21.4%	46
Might consider it.	18.1%	39
Very uninterested.	5.1%	11
Why would you or wouldn't you be interested in this minor?		79
<i>answered question</i>		215
<i>skipped question</i>		4

At Cal Poly the current BS in Kinesiology has a concentration in Health Science. As of Spring Quarter 2016 there are 489 undergraduate Kinesiology Majors and of those who have declared their Concentration on 2015-17 catalog, 30% have declared Health Science. There is interest among current Kinesiology majors to prepare for public health careers.

The Association of Schools of Public Health recognized the need for information regarding the trends in undergraduate degrees in public health. The January/February 2015 issue of Public Health Reports published, "Characterizing the Growth of the Undergraduate Public Health Major: US, 1992-2012. The purpose of the paper was to analyze the existing data about conferrals of undergraduate public health degrees and better understand the trends in undergraduate public health education over the past two decades. It was reported that the number of undergraduates receiving degrees in public health has grown from less than 1000 in 1992 to more than 5000 annually since 2010. Between 1992 and 2012 degree conferrals for public health increased by 750% and nationwide between 2008 and 2012 public health ranked as the 10th fastest growing category nationwide with an average growth of 18% each year. The authors conclude that the growth in demand for undergraduate public health degrees will likely remain constant or continue to grow. In 2012 California colleges and universities conferred 751 undergraduate degrees in public health or 12% of the total nationwide (Leider, Castrucci, Pleyps, Blakely, Burke & Sprague, 2015)³.

California community college programs that could serve as "feeder" programs for the BS in Public Health in that all provide curricula that can satisfy the Cal Poly transfer selection criteria for transfer students and five community colleges have programs specific for training Community Health Workers (City College of San Francisco, College of the Sequoias, Santa Rosa Junior College, Berkeley City College and Mission College) that could prepare students to transfer to Cal Poly for the BS in Public Health if they also complete the additional specified transfer selection criteria.

b. Identify how issues of diversity and access to the university were considered when planning this program. Describe what steps the program will take to insure ALL prospective candidates have equitable access to the program. This description may include recruitment strategies and any other techniques to insure a diverse and qualified candidate pool.

Our ability to recruit new students from underrepresented populations increases with commencement of our new B.S. degree in Public Health. Our current plan for recruiting underrepresented students involves in-depth collaboration with our Admissions Office at Cal Poly. Our Public Health program will work every year with our "partner" high schools, which all have greater than 75% of their students on Federal Assistant Low Income Free Lunch programs. Cal Poly will actively recruit students from our partner schools to apply to our new program in Public Health.

The recruitment activities include: 1) annual visits to partner high schools each year to work with their faculty, counselors and students to inform them about Cal Poly's undergraduate Public Health degree program; 2) support for bringing high school students on campus from partner schools to participate in workshops to learn more about our majors (including Public Health), the campus culture, and student life at Cal Poly. In 2014 Cal Poly College of Science and Math brought 160 students to campus as part of this program; 3) assistance hosting "yield receptions" throughout California where accepted underrepresented students can interact with faculty and current Cal Poly students; and, 4) participating in our partner school Ambassador Program where currently enrolled Cal Poly students from partner

schools host current high school students during one of our on-campus symposia for prospective underrepresented students.

Enrollment trends suggest that undergraduate programs in Public Health across the nation have more diverse student populations. The January/February 2015 issue of Public Health Reports published, "Characterizing the Growth of the Undergraduate Public Health Major: US, 1992-2012," indicated that women and minority students had greater representation in public health degrees as compared with the total number of undergraduate degrees in the United States. Undergraduates receiving degrees in public health were more diverse than undergraduates overall (Leider, Castrucci, Pleyps, Blakely, Burke & Sprague, 2015)³. It is reasonable to suggest that a degree in Health Science (Public Health) at Cal Poly may draw a more diverse applicant pool to our university, thereby increasing diversity on this campus. As California's population grows and as more emphasis is placed on improving population health outcomes, California colleges and universities will need to meet the demand for bachelor-level graduates in public health).

8. Other relevant societal needs

As health care costs continue to escalate (18% of GDP), the nation is turning to preventative strategies to help people make lifestyle changes to improve health outcomes. This degree proposal is timely in that the Patient Protection and Affordable Care Act (Healthcare Bill) provides funding for prevention programs. There will be \$15 billion over 10 years for a Prevention and Public Health Fund that will support community prevention programs that influence the policies within the physical and social environment that make it difficult for people to make healthy choices. Students who complete the B.S. in Public Health Degree will be well trained to create, implement, and evaluate disease prevention and health promotion programs. The private and non-profit sectors are also investing in population health and health education to improve health outcomes and will be in need of a workforce to implement these programs. The Bureau of Labor Statistics predicts that job opportunities for health educators and community health workers will expand by 13 percent. These prevention programs are calling for a paradigm shift away from a predominant focus on individual level change towards multilevel approaches to promote healthy communities that seek to overcome the impediments to healthy behaviors. Public health efforts will focus on a comprehensive change to have an effect on many diseases, not just one disease. Graduates from our program will be well prepared to advance these efforts.

9. Provide a budget plan, assessing the required resources and the campus commitment to allocating those resources.

	At initiation	After 3 years	After 5 years
Faculty	1 new	1 new	Existing
Student allocations	30	100	200
Support staff	Existing	1	Existing
Facilities	Existing	Existing	Existing
Equipment	Existing	Existing	Existing
Information resources	Existing	Existing	Existing

This program will incorporate expertise from across campus, including faculty from several departments to develop curricula, include existing courses. Approximately 85% of the curriculum will be delivered through existing courses. Faculty members already teach many of the courses included in the proposed curriculum, so many resources are already in place. In addition, as kinesiology department faculty, we already have the faculty expertise necessary to teach most of the new courses proposed in the major.

a. List faculty who would teach in the program, indicating rank, appointment status, highest degree earned, date and field of highest degree, professional experience, and affiliations with other campus programs.

Christine L. Hackman, Assistant Professor, PhD, (2015) Health Education and Health Promotion, Expertise: drug use in young adults, health promotion program planning and evaluation, research methods.

Kristine Jankovitz, Professor, PhD (1995), Health Education. Expertise: health education/promotion, community health, health behavior theory; weight status in young children.

Sarah Keadle, Assistant Professor, PhD MPH (2012), Kinesiology. Expertise: Physical Activity and Health, Physical Activity Epidemiology.

Suzanne Phelan, Professor, PhD. (2001), Clinical Health Psychology. Expertise: Theory-based lifestyle interventions; prevention and treatment of obesity and diabetes; clinical trials; epidemiological studies; maternal/child health

Heather A. Starnes, Assistant Professor, Ph.D. (2012), Health Promotion and Disease Prevention. Expertise: Environmental Influences on Physical Activity Behavior, Physical Activity Public Health

Alison K. Ventura, Assistant Professor, Ph.D. (2008), Human Development and Family Studies, Pediatric Nutrition. Expertise: Primary Prevention of Obesity, Promotion of healthy parent feeding practices and child eating behaviors.

Robert D Clark, Professor, Ph.D. (1998), Biomechanics. Expertise: Biomechanics, Human Factors in Injury Prevention, Excessive Loading on Skeletal Structures

b. Describe facilities that would be used in support of the proposed program.

Cal Poly: Cal Poly has 5.8 million square feet in 149 major buildings to support educational activities. The majority of the courses for this BS in Public Health program will occur in general purpose classrooms or computer laboratories utilized by the College of Science and Mathematics. All classrooms at Cal Poly are internet (Wi-Fi and Ethernet) ready and utilize Smart Room technology, including electronic projectors or monitors. Our larger classes utilize classroom response systems (for example I-Clicker, Learning Catalytics and TopHat).

c. Provide evidence that the institution provides adequate access to both electronic and physical library and learning resources.

See Appendix 1.7 for report from J. Scaramozzino, Librarian, College of Science and Mathematics. This document outlines the resources in place to support the growth of the degree.

10. Provide the Learning Objectives for the Program and the curricular requirements.

- Institutional learning outcomes (ILOs) – Referred to as ULOs at Cal Poly, SLO
- Program learning outcomes (PLOs)
- Student learning outcomes (SLOs)

University Learning Objectives - WHEN STUDENTS GRADUATE FROM CAL POLY, THEY 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 of 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 related to sustainability
7. Engage in lifelong learning

Program Learning Outcomes for the BS in Public Health

Program Learning Outcomes - (Aligned with the Association of Schools of Public Health (ASPH) Critical Component Elements (See Appendix 3.2), the Council on Education in Public Health (CEPH) accreditation guidelines, the National Commission for Health Education Credentialing: Certified Health Education Specialist (CHES) Competencies, and The Health Education Specialist Practice Analysis (HESPA). Graduates of the B.S. in Public Health will be able to:

1. Identify and apply the scientific evidence base of human health and disease, and of public health to design programs and services that improve health outcomes.
2. Apply the basic concepts, methods and tools of public health data collection and analysis to monitor health status and understand factors that influence health outcomes at the local, state, national and global levels.
3. Provide information using a variety of communication strategies to facilitate the adoption of healthy behavior.
4. Develop, evaluate and improve programs and services to improve health outcomes at all levels of the social ecological model.
5. Apply interdisciplinary and community based approaches to improve health outcomes.
6. Develop and advocate for public health policies and plans to promote and protect the health of individuals, families, and communities.
7. Examine the legal, ethical and economic dimensions of health care and public health policies, the roles and responsibilities of local, state and federal agencies and their influence on health outcomes.
8. Examine the history and philosophy, core functions and the value of public health across the globe and in society.
9. Appraise the socio-economic, behavioral, biological, environmental, and other factors that impact human health and contribute to health disparities.

Ancillary Student Learning Outcomes – for use by the Department to inform CLOs – (updated with language for 2015 HESPA project). Students who successfully complete the B.S. in Public Health with courses that cover the seven

responsibility areas for Certified Health Education Specialists (CHES) will qualify for the exam for Certified Health Education Specialist (CHES – NCHEC.org). CHES must be able to:

1. Assess needs, resources, and capacity for health education/promotion
2. Plan health education/promotion
3. Implement health education/promotion
4. Conduct evaluation and research related to health education/promotion
5. Administer and manage health education/promotion
6. Serve as a health education/promotion resource person
7. Communicate, promote, and advocate for health, health education/promotion, and the profession.

The Student Learning Outcomes are based on the professional practice standards as developed by the National Commission for Health Education Credentialing, Inc. (NCHEC) and meets the competencies and 7 responsibilities for Certified Health Education Specialists

- a. *List all requirements for graduation, including electives, for the proposed degree program, specifying course catalog numbers, course titles, total units required for completion of the degree, major requirements, electives, and prerequisites or co-requisites (ensuring there are no “hidden prerequisites that would drive the total units required to graduate beyond the total reported in 1e above). Include proposed catalog descriptions of all new courses.*

In addition to the program requirements listed on this page, students must also satisfy requirements outlined in more detail in the Minimum Requirements for Graduation section of this catalog, including:

- 60 units of upper division courses
- Graduation Writing Requirement (GWR)
- 2.0 GPA
- U.S. Cultural Pluralism (USCP)

B.S. in Public Health – 180 units

General Education Requirements 72 units required

(24 of which are specified in major/support)

Area A: Communication (12)

Area B: Science and Mathematics (0) - these units are in the degree major/support

Area C: Arts and Humanities (20)

Area D/E: Society and the Individual (12) – 8 units are in the degree major/support

Area F: Technology (upper Division)(4)

Support 42 units

ANT 201/SOC 110 Cultural Anthro/Comp. Societies (GE D3) (choose one)	4
BIO 161 Introduction to Cellular & Molecular Biology (GE B2 & B4)	4
BIO 231 Human Anatomy & Physiology I	5
BIO 232 Human Anatomy & Physiology II	5
CHEM 127 General Chemistry (GE B3 & B4)	4
FSN 210 Nutrition	4
MCRO 221/224 Microbiology/General Microbiology I (choose one)	4/5
PSY 201/202 General Psychology (choose one)	4
STAT 218 Applied Statistics for the Life Sciences (GE B1)	4
STAT 313 Applied Experimental Design and Regression Models (GE B1)	4

Major Requirements (67 units)

HLTH 101	Orientation to Public Health	1
HLTH 255/260	Multicultural Health/Women's Health	4
HLTH 265	Introduction to Community & Public Health	3
HLTH 298	Disease Epidemiology	4
HLTH 299	Behavioral Epidemiology	4
HLTH 305	Drugs in Society	4
HLTH 310	Injury Prevention	3
HLTH 320	Media & Technology in Health Promotion	4
HLTH 334	Health Behavior Theory	3
HLTH 402	Research Methods in Public Health Settings	4
HLTH 405	Stress, Health and Chronic Illness	4
HLTH 410	Global Health	4
HLTH 434	Health Promotion Program Planning	4
HLTH 435	Health Promotion Prog Implementation & Evaluation	4
HLTH 453	Obesity Prevention & Treatment	4
HLTH 460/461/462/463	Senior Project/Public Health Internship	1
Advisor Approved Electives	(See Appendix 3.5 for list)	12

Free Electives (3-4)

Concentration (19-20)

B.S. in Public Health Concentrations

To pursue the development of this program proposal for a BS in Public Health the Kinesiology Department engaged the campus community in a comprehensive consultation process to ensure that the proposed curriculum is reflective of the interdisciplinary aspects of public health. (See Appendix 3.1 for a roster of those who engaged in the consultation process) Further, the Associate Vice Provost for Academic Programs and Planning recommended that the curriculum capitalize on the interdisciplinary strengths and collaboration across the campus. The curriculum for the support and major core needed to be precisely aligned with the critical component elements from the Association of Schools of

Public Health and the Council on Education in Public Health accreditation criteria for standalone baccalaureate programs (See Appendix 3.2). Therefore it is the concentrations where there is robust interdisciplinary support of the curriculum in the concentrations. Most of the courses that are listed in the concentrations are those that were recommended by faculty in those departments. The major and support areas cover the public health domains and the natural science, social and behavioral sciences. The concentrations can allow the students to expand particularly in the social and behavioral sciences, in the built environment, infectious disease and microbiology, social determinants of health and to improve their communication and organizational skills. The concentrations also provide flexibility for students to focus their preparation by providing a choice of courses to fulfill the concentration requirements. For example in the Community and Public Health Concentration a student may wish to focus on the public relations aspect of public health or may choose to focus on the public policy aspects. Another reason for having choices for the students in the concentrations is that it reduces a constraint on progress toward degree. For example COMS 418 is only taught once a year but COMS 316 is taught every quarter. Both are courses that focus on communication and will add to the students' strong foundation from the core and support courses to better understand the role of communication in health promotion and disease prevention. Having choices for students also mitigates any burden on one particular course to offer enough seats for a new program. Also our concentrations included some new courses proposed by other departments (and recommended for inclusion by faculty in those departments) but we needed to be sensitive that these new courses may have limited seat availability if multiple sections are not taught per year. Further, when students strategically match their advisor-approved electives with their concentration course choices they can maximize their preparation to be competitive in the workplace, graduate school or to specialize in an emerging area in public health (i.e. built environment, healthy communities, public policy, behavioral health). As any brand new curriculum can be a "work in progress" our assessment plan will allow us to identify any modifications to the curriculum that can be made during a subsequent catalog cycle that will improve student success and attainment of the program learning outcomes.

The following provides a description of the purpose for each of the proposed concentrations. Please note that on advising materials, in the catalog and on curriculum sheets students will be informed that if a concentration course is double counted as a GE requirement they will need to take another course in order to earn 180 units. The students may actually view this favorably because it will provide adequate opportunity to acquire pre-requisites for graduate school or to pursue a minor without delaying progress toward degree. Additionally, please consider that the use of the phrase "This concentration provides a foundation in concepts that are **complementary** for students who are planning to pursue further study in ..." is appropriate and provides clarification for students intending to pursue graduate study, particularly in the allied health professions, that the concentrations do not meet the specific pre-requisite requirements for these programs. This phrasing was suggested by the professional academic advisors in the Cal Poly Pre-Health Professions Advising program as the best way to provide clarity for students and accurately represent how the concentrations can benefit students preparing for allied health professions careers.

Community & Public Health

This concentration prepares students for careers in local, state and federal public health departments; non-profit health agencies and coalitions; health insurance providers, hospital, clinical and research settings; and prepares students to pursue graduate study for the Masters in Public Health and the MS in Health Care Administration, Community Health, Environmental Health, Health Education or Health Promotion. This concentration provides a foundation in concepts that are complementary for students who are planning to pursue further study in allied health professions or medicine.

CRP 212 or 215 or 425 or 426	Introduction to Urban Planning/Planning for & with Multiple Publics/Biking, Walking & the City/ Planning Healthy Communities	4
FSN 310 or 318	Maternal & Child Nutrition/Nutrition & Aging	4
JOUR 312 or POLS 351	Public Relations/ Public Policy and Administration	4
MCRO 320	Emerging Infectious Diseases	3
MCRO 342	Public Health Microbiology	4
Total		19

Physical Activity in Public Health

This concentration prepares students to work with entities in communities engaged in planning to improve health outcomes by promoting physical activity. Graduates are prepared for careers in local, state and federal public health agencies; non-profit health agencies and coalitions; local government agencies, corporate and commercial fitness settings; and prepares students to pursue graduate study for the Masters in Public Health or the MS in Kinesiology or Health Promotion or Health Education. This concentration provides a foundation in concepts that are complementary for students who are planning to pursue further study in the built environment.

CRP 212 or 215 or 425	Introduction to Urban Planning/Planning for & with Multiple Publics/Biking, Walking & the City	4
KINE 278	Introduction to Perspectives in Physical Activity	4
KINE 303	Exercise Physiology	4
KINE 452	Fitness Assessment and Exercise Prescription	4
NR 218	Applications in GIS	3
Total		19

Worksite & University Health Promotion

This concentration prepares students for careers as health promotion specialists in various public/private worksite and university health promotion settings, non-profit health agencies; and to pursue graduate study for the Masters in Public Health or the MS in Health Promotion or Health Education.

COMS 301 or JOUR 312	Business & Prof Comm/Public Relations	4
KINE 401	Managing Exercise & Health Programs	3
HLTH 450	Worksite & University Health Promotion	4
PSY 330 or 340	Behavioral Effects Psychoactive Drugs/ Behavioral Genetics	4
PSY 302 or 350 or 352	Behavior in Organizations/Teamwork/ Conflict Resolution	4
Total		19

Culture & Society in Health

This concentration provides students with a strong foundation in the *social determinants of health*. Graduates are prepared for careers in a variety of settings such as local, state and federal public health agencies; non-profit health agencies; hospital, clinical and research settings; and to pursue graduate study for the Masters in Public Health. This concentration provides a foundation in concepts that are complementary for students who are planning to pursue further study in allied health professions or medicine.

COMS 316 or 418	Intercultural Comm/Health Communication	4
PSY 252 or 310 or 372	Social Psychology/Psychology of Death/ Multicultural Psychology	4
PHIL 339	Biomedical Ethics	4
Choose two of the following:		8
ANT 250 Biological Anthropology		
ANT 401 Culture and Health		
ANT 402 Nutritional Anthropology		
POLS 310 Race, Class, Gender & Sexuality		
POLS 459 Politics of Poverty		
POLS 457/WGS 457 - US Reproductive Rights		
PSY 344 Behavioral Genetics		
PSY 360 Applied Social Psychology		
ES 350 or WGS 350 - Gender, Race, Culture Science & Tech		
Total		20

a. List other curricula currently offered by the campus that are closely related to the proposed program.

The BS Degree in Kinesiology with a concentration in Health Science prepares students who are interested in health promotion related Kinesiology careers. In fact this was the inspiration for the proposal for the B.S. in Public Health. Currently 30% of Kinesiology majors are following the Health Science Concentration. (There are 489 Kinesiology undergraduates). This concentration will eventually be discontinued when the B.S. Degree in Public Health is approved. The Kinesiology degree program has been revised for the 17-19 catalog.

b. Describe community participation, if any, in the planning process. This may include prospective employers of graduates.

On Campus Open Forums were held in November 2015 and March 2016 to gauge interest and solicit input from the campus community. Further one-on-one meetings were held with key informants on campus and in the community to provide guidance and develop support for the program proposal.

We have obtained Letters of Support from:

- Penny Borenstein, MD, MPH, Health Officer, San Luis Obispo County Public Health Department.
- Cal Poly, SLO College of Science and Math Health Professions Advisors
- Suzanne Phelan, Ph.D., Director, STRIDE Center, *Solutions Through Research in Diet and Exercise, Cal Poly, SLO.*
- Aydin Nazmi, Ph.D., Director (past), STRIDE Center, *Solutions Through Research in Diet and Exercise, Cal Poly, SLO.*
- Tom Maier, Ph.D., Director of Community Health Services and Public Health Laboratory, County of San Luis Obispo Public Health Department (*Retired*). Lecturer, Cal Poly, College of Science and Math.
- Lisa Nicholson, Ph.D., Kari Pillola, Ph.D., Scott Reaves, Ph.D. and Peggy Pappathakis, Ph.D., Food Science and Nutrition Department Faculty
- A letter of support from the City and Regional Planning Department is being prepared.

References:

1. Social Determinants of Health

<http://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health>

2. Reducing Health Care Costs through Prevention: Health Care Reform Policy Draft

<http://www.preventioninstitute.org/component/jlibrary/article/id-79/127.h21>



Appendices for BS Public Health Cal Poly, San Luis Obispo

APPENDIX 1: PROGRAM IDENTIFICATION	1.1
<i>Statement from appropriate campus authority</i>	
Memo from Mary Pedersen, Vice Provost Academic Programs and Planning	<i>(Pending approval)</i>
<i>Other campus approval documents that may apply</i>	1.2
Support letter from Jeffrey D. Armstrong, President (pending approval)	1.3
Approval of Academic Senate Resolution AS-790-15 (pending approval)	1.4
Support letter from Philip Bailey, Dean College of Science and Math	1.5
Support letter from Elena Keeling, Chair College of Science and Math Curriculum Committee	1.6
Report from Jeanine Scaramozzino, Available upon request Librarian, College of Science and Math Robert E. Kennedy Library	1.7
Note Appendix 2: not included in this summary	
APPENDIX 3: ADDITIONAL SUPPORTING DOCUMENTS	3.1
Roster of Faculty and Staff engaged in consultation through Campus Open Forums, Meetings of Affiliated Faculty and Staff, and one-one consultations	3.2
Recommended Critical Component Elements of an Undergraduate Major in Public Health: Association of Schools of Public Health	3.3
Public Health Core Functions and 10 Essential Services	3.4
BS Public Health: Advisor Approved Electives	3.5
<i>Letters of Support:</i>	3.5

<p><i>San Luis Obispo County Department of Public Health</i> <i>College of Science and Math Advising Center</i> <i>STRIDE Center: Solutions Through Research in Diet & Exercise</i> <i>Dr. Tom Maeir, Director (retired) Community Health, San Luis Obispo County</i> <i>Department of Public Health</i> <i>Department of Food Science and Nutrition Faculty</i></p>	

Appendices – Pending Approval

1.1

1.2

1.3

1.4

APPENDIX 1.5

*Support letter from Philip Bailey, Dean
College of Science and Math*

CAL POLY
SANTA LUIS CAMPUS

MEMO

TO: Academic Senate Curriculum Committee

FROM: Philip S. Bailey, Dean
College of Science and Mathematics

SUBJECT: Health Science Degree Program Proposal

DATE: May 4, 2016

I am writing to express my support for a new B.S. degree in Health Science (Public Health) proposed by the Kinesiology Department. The Cal Poly faculty members who have designed and will implement this degree have extensive experience and breadth in the discipline area of public health.

The program can be implemented with our current Kinesiology faculty with the addition of two new tenure track faculty members, one in year one and another in year three. These new faculty members will provide needed expertise in Epidemiology and Public Health Promotion/Health Education. With the realization that university resources are limited, we anticipate being able to handle the cost of new faculty members initially with College of Science and Mathematics resources. In addition, we plan to investigate faculty expertise and needs in other departments with the idea of possibly sharing new expertise and not duplicating current faculty expertise.

As the degree program grows to the anticipated 250 students over the first five years, the existing faculty, which includes the addition of the two tenure track faculty members, will support major courses, general education health courses, a service course for Liberal Studies majors and courses that serve the Kinesiology BS and MS programs. Initially, student enrollment targets for this new program will be accommodated within the current targets for the Kinesiology degree program and overall college targets. Depending on enrollment growth of the university and program priorities, we hope to increase enrollment targets for the College of Science and Mathematics to further accommodate this program and the new Marine Science program as well.

Additionally, the Kinesiology Department and the College of Science and Mathematics Curriculum Committee is in support of the degree being titled Public Health, which accurately reflects the curricular emphasis and is now the preferred name for degrees in this field.

I am supportive of this plan and believe we can implement it successfully.

APPENDIX 1.6

*Support letter from Elena Keeling, Chair
College of Science and Math Curriculum Committee*

MEMO

TO: Academic Senate Curriculum Committee
FROM: Elena Keeling, Chair
College of Science & Mathematics Curriculum Committee
SUBJECT: New B.S. in Health Science (Public Health)
DATE: May 2, 2016

The College of Science & Mathematics Curriculum Committee has approved the proposal for a new B.S. degree in Health Science (Public Health) within the Department of Kinesiology.

The proposed curriculum draws on the strengths of current Kinesiology faculty, as well as on supporting coursework from other departments in the College of Science & Mathematics and across the university. It will provide a valuable addition to degree offerings in CSM and will fill an important gap in health-related coursework. The program has been developed with considerable thought, investigation into similar degrees at other campuses, and consultation with a wide range of faculty across our campus.

We are in full support of the degree being titled Public Health, which accurately reflects the curricular emphasis and is now the preferred name for degrees in this field.

APPENDIX 3.1

*Roster of Faculty and Staff engaged in consultation through
Campus Open Forums, Meetings of Affiliated Faculty and Staff, and one-one consultations
Faculty and Staff Attendance at Campus Open Forums
November 20, 2014 and November 25, 2014 &
One-on-One Consultations on New Degree Proposal for
BS in Public Health*

Contact Name	Department
Dawn Neill	Anthropology
Debra Valence-Laver	Associate Dean Liberal Arts
Elena Keeling	Biology
Emily Taylor	Biology
Frances Villablanca	Biology
Cameron Shields	Biology
Melanie Gutierrez	Biology
Jason Blank	Biology
Chris Kitts	Biology, Chair
Danielle Epstein	Career Services
Lauren Platte	Career Services
Kelly Main	City/Regional Planning
Christine Shea	Communication Studies
Lorraine Jackson	Communication Studies
Daniel Levi	Environmental Psych - Psychology
Denise Isom	Ethnic Studies, Chair
Amy Vorhees	Extended Education
Amy Lammert	Food Science
Gour Choudhury	Food Science and Nutrition, Chair
David Harris MD, Medical Director	Health and Counseling Services
Theresa Fagouri	Health and Counseling Services
Kate Murphy	History
Tali Freed	IME
Dan Eller	Journalism
Beverly Bass	Landscape Architecture
David Watts	Landscape Architecture
Tom Maier	Lecturer CSM and Retired Director Community Health San Luis Obispo County Public Health Department.
Karen Muñoz-Christian	Modern Languages
Kari Pilolla	Nutrition
Doris Derelian	Nutrition
Lisa Nicholson	Nutrition
AydinNazmi	Nutrition
Peggy Papathakis	Nutrition
Scott Reaves	Nutrition

Louise Berner	Nutrition
Meghan Farrier-Nolan	CSM Advising Center - Pre-Health Advisor
Carrie Langer	Psychology
Julie Rodgers	Psychology
Marni Goldenberg	RPTA
Susan McKenzie	RPTA
Ken Schwab	RPTA
Jerusha Greenwood	RPTA
Shawn Burn	Social Psych – Psychology
Shacey Rucas	Social Sciences
Coleen Carrigan	Social Sciences
Ryan Alaniz	Sociology
Robert Schaffer	Sociology
Andrew Schaffner	Statistics
Stephanie Teaford	STRIDE
Jane Lehr	Women and Gender Studies Chair
Bob Clark	Kinesiology
Elizabeth England Kennedy	Kinesiology
Kris Jankovitz	Kinesiology
Camille O'Bryant	Kinesiology
Suzanne Phelan	Kinesiology
Heather Starnes	Kinesiology
Alison Ventura	Kinesiology

***Meeting with Affiliated Faculty
BS Degree in Public Health Proposal***

February 19, 2016	February 25, 2016	March 3, 2016
<p>BIO Elena Keeling Pat Fidopastis (emailed suggestions)</p> <p>COMS Lori Jackson Chris Shea</p> <p>CSM Advising Kristi Weddige Anya Bergman</p> <p>KINE Todd Hagobian Pat Hosegood Martin</p> <p>Modern Languages Karen Munoz Christian</p> <p>RPTA Bill Hendricks</p> <p>STAT Andrew Schaffner Becky Ottosen</p> <p>WGS Jane Lehr</p>	<p>BIO Nathaniel Martinez Candace Winstead</p> <p>CRP Kelly Main</p> <p>CSM Advising Meghan Farrier-Nolan Kristi Weddige Anya Bergman</p> <p>CSM Tom Maier – part time faculty SLO County Public Health Dept. Director Community Health (retired)</p> <p>FSN Doris Derelian Aydin Nazmi Lisa Nicholson Scott Reaves</p> <p>KINE Kellie Hall Jennifer Olmstead Camille O'Bryant</p> <p>POLS Michael Latner</p> <p>PSY Carrie Langer</p> <p>WGS Christina Lefevre Latner</p>	<p>Mary Pedersen, Vice Provost, Academic Programs and Planning</p> <p>CAFES Rich Caveletto, Associate Dean Nanine Van Draanen, Associate Dean</p> <p>Food Science and Nutrition Doris Derelian Aydin Nazmi Lisa Nicholson Kari Pillola Jennifer Ryder Fox Scott Reaves</p> <p>CSM Derek Gragson, Associate Dean Kellie Green Hall, Associate Dean Camille O'Bryant, Associate Dean</p> <p>Kinesiology Bob Clark Elizabeth England Kennedy Christine Hackman Todd Hagobian Kris Jankovitz Suzanne Phelan Alison Ventura</p>

APPENDIX 3.2

*Recommended Critical Component Elements of an
Undergraduate Major in Public Health: Association of Schools of Public Health*



Recommended Critical Component Elements of an Undergraduate Major in Public Health August 3, 2012

Cal Poly, SLO – Program Learning Objectives for Proposed BS in Health Science (Public Health) aligned with
Critical Component Elements

There is a growing interest in undergraduate education for public health. The Association of Schools of Public Health (ASPH) recognizes that there is significant value in education in undergraduate public health regardless of a graduate's ultimate career destination, and that some programs will choose to provide education in public health as a part of a general liberal arts education. There are important distinctions between undergraduate and graduate education with regard to the acquisition of knowledge, skills, competencies, and career opportunities. While ASPH is undergoing a process of reviewing the nature of public health education overall, it has also charged an expert panel with providing guidance for those seeking to start a new undergraduate program in public health or to expand or improve an existing program.

I. BACKGROUND DOMAINS

A. Content Areas:

1. **Science:** Students should have an introduction to the foundations of scientific knowledge, including the biological and life sciences and the concepts of health and disease
PLO 1 & 9: GE Area B: BIO 161, BIO 231, 232, CHEM 127, FSN 210, MICRO 221/224, HLTH 265, 298, 299, 305, 405, 410, 453
2. **Social and Behavioral Sciences:** Students should have an introduction to the foundations of social and behavioral sciences
PLO 1 & 9: GE Area D 1-5, HLTH 235, 298, 299, 305, 310, 334, 405, 410, 434, 435, 453, PSY 201/202
3. **Math/Quantitative Reasoning:** Students should have an introduction to basic statistics
PLO 2, 7, 9: STAT 218, 313, HLTH 298, 299, 402, 405, 410, 453
4. **Humanities/Fine Arts:** Students should have an introduction to the humanities/fine arts
PLO 8: GE Area A and GE Area C,

B. Skill Areas:

1. **Communications:** Students should be able to communicate, in both oral and written forms and through a variety of media, to diverse audiences
PLO 3: GE Area A, HLTH 320, 402, 334, 453
2. **Information Literacy:** Students should be able to locate, use, evaluate, and synthesize information
PLO 1, 5, 7, 8, 9: GE Area A, GE Area C, Area D 1-4, HLTH 320, 402

II. PUBLIC HEALTH DOMAINS

A. Overview of Public Health: Students should have an introduction to the history and philosophy of public health as well as its core values, concepts, and functions across the globe and in society.

PLO 8: HLTH 101, 265, 298, 299, 305, 410; Concentrations

B. Role and Importance of Data in Public Health: Students should have an introduction to the basic concepts, methods, and tools of public health data collection, use, and analysis and why evidence-based approaches are an essential part of public health practice.

PLO 2: STAT 218, 313, HLTH 298, 299, 402, 405, 410, 453

C. Identifying and Addressing Population Health Challenges: Students should have an introduction to the concepts of population health, and the basic processes, approaches, and interventions that identify and address the major health-related needs and concerns of populations.

PLO 1, 3, 5, & 9; GE Area D, HLTH 265, 298, 299, 305, 310, 320, 334, 402, 434, 435, 453; Concentrations

D. Human Health: Students should have an introduction to the underlying science of human health and disease including opportunities for promoting and protecting health across the life course.

PLO 1 & 5, 6; GE Area B BIO 151, BIO 231, 232, CHEM 127, FSN 210, MICRO 221/224, HLTH 265, 298, 299, 305, 405, 410, 453

E. Determinants of Health: Students should have an introduction to the socio-economic, behavioral, biological, environmental, and other factors that impact human health and contribute to health disparities.

PLO 1 & 9; GE Area B BIO 151, BIO 231, 232, FSN 210, MICRO 221/224, Area D 1-5, HLTH 265, 298, 299, 305, 310, 334, 405, 410, 434, 435, 453

F. Project Implementation: Students should have an introduction to the fundamental concepts and features of project implementation, including planning, assessment, and evaluation.

PLO 4, 3, 5, STAT 218, 313, HLTH 334, 402, 434, 435, 453

G. Overview of the Health System: Students should have an introduction to the fundamental characteristics and organizational structures of the U.S. health system as well as to the differences in systems in other countries.

PLO 7 & 9; GE Area D 1-5, HLTH 265, 410

H. Health Policy, Law, Ethics, and Economics: Students should have an introduction to basic concepts of legal, ethical, economic, and regulatory dimensions of health care and public health policy, and the roles, influences, and responsibilities of the different agencies and branches of government.

PLO 7; GE Area C, Area D 1-4, HLTH 101, 265, 298, 299, 410

I. Health Communication: Students should have an introduction to the basic concepts of public health-specific communication, including technical and professional writing and the use of mass media and electronic technology.

PLO 3, 4 & 6; GE Area A, HLTH 320, 402, 334, 453; Concentrations

III. CUMULATIVE EXPERIENCE AND FIELD EXPOSURE

Students should have opportunities to integrate, apply, and synthesize knowledge through cumulative and experiential activities that include:

A. Cumulative Experience: Students should have a cumulative, integrative, and scholarly or applied experience or inquiry project that serves as a capstone to their educational experience.
PLO 3, 4, 5: HLTH 460 or 461 or 462 or 463

B. Field Exposure: As an integral part of their education, students should be exposed to local level public health professionals and/or to agencies that engage in population health practice.
PLO 5: HLTH 460 or 461 or 462 or 463

IV. CROSS-CUTTING AREAS

Students should be exposed to concepts and experiences necessary for success in the workplace, further education, and life-long learning. These may include the following:

- ii Advocacy for protection and promotion of the public's health at all levels of society
- ii Community dynamics
- ii Critical thinking and creativity
- ii Cultural contexts in which public health professionals work
- ii Ethical decision making as related to the self and society
- ii Independent work and a personal work ethic
- ii Networking
- ii Organizational dynamics
- ii Professionalism
- ii Research methods
- ii Systems thinking
- ii Teamwork and leadership

Throughout the curriculum, students should have a wide range of instructional methods and experiences that provide exposure to a solid foundation of the diverse nature of public health practice. In addition, students should receive career and graduate school advising.

Frequently asked questions about the CCEs are found at <http://www.asph.org/document.cfm?page=1209>. For details about the project, visit <http://www.asph.org/FramingtheFuture>.

The Association of Schools of Public Health is the only organization representing the Council on Education for Public Health (CEPH)-accredited schools of public health and programs seeking accreditation as schools of public health. ASPH promotes the efforts of schools of public health to improve the health of every person through education, research, and policy. Based upon the belief that "you're only as healthy as the world you live in," ASPH works with stakeholders to develop solutions to the most pressing health concerns and provides access to the ongoing initiatives of the schools of public health.

This project was supported under a cooperative agreement from the Centers for Disease Control and Prevention (CDC) through the Association of Schools of Public Health (ASPH) Grant Number CD300430.

ASSOCIATION OF SCHOOLS OF PUBLIC HEALTH

ASPH

Appendix 3.3

Public Health Core Functions and 10 Essential Services

The following core functions of public health and ten essential services provide the framework for all activities of the Department:

Core Function 1—Assessment

Assessment, monitoring, and surveillance of local health problems and needs, and of resources for dealing with them

Essential Service #1: Monitor health status and understand health issues facing the community

Essential Service #2: Protect people from health problems and health hazards

Core Function 2—Policy Development

Policy development and leadership that fosters local involvement and a sense of ownership that emphasizes local needs and that advocates equitable distribution of public resources and complementary private activities commensurate with community needs

Essential Service #3: Give people the information they need to make healthy choices

Essential Service #4: Engage the community to identify and solve health problems

Essential Service #5: Develop public health policies and plans

Core Function 3—Assurance

Assurance that high-quality services, including personal health services, needed for protection of public health in the community are available and accessible to all persons; that the community receives proper consideration in the allocation of federal, state and local resources for public health; and that the community is informed about how to obtain public health, including personal health services, or how to comply with public health requirements

Essential Service #6: Enforce public health law and regulations

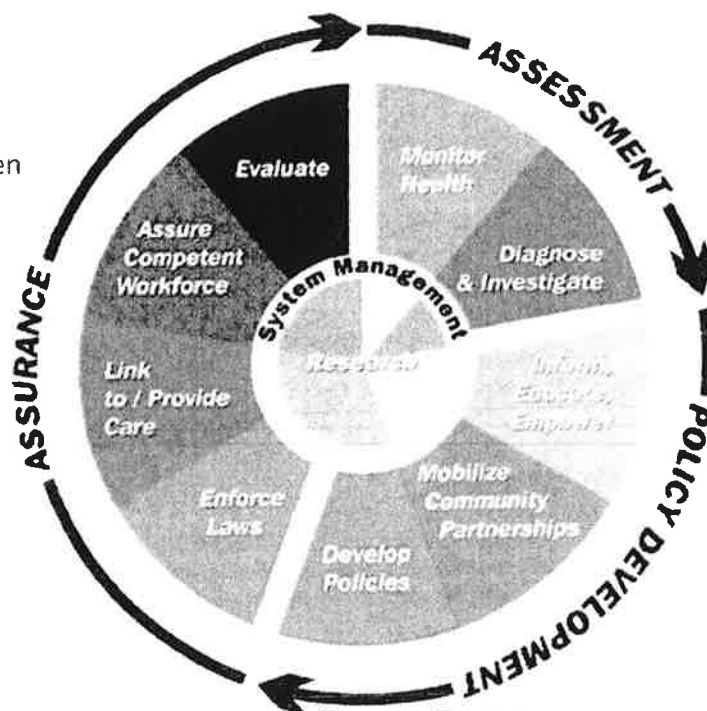
Essential Service #7: Help people receive health services

Essential Service #8: Maintain a competent public health workforce

Essential Service #9: Evaluate and improve programs

Core Function 4—System Management

Essential Service #10: Contribute to and apply the evidence base of public health



APPENDIX 3.5

BS Health Science: Advisor Approved Electives (12)

Note: 4 units must be at the 300/400 level

Culture and Health

ANT 250	Biological Anthropology	4
ANT 360	Human Cultural Adaptation (GE D5)	4
ANT 401	Culture in Health	4
ANT 425	Meaning, Gender & Identity in Anthro Theory	4
ES or WGS 350	Gender, Race, Culture, Sci & Tech (GE F, USCP)	4
ISLA 303 or HNRS 304	Values & Technology (GE C4)	4
ISLA or HNRS 320	Topics Issues in Values, Media & Culture	4
WGS 301	Cont Issues in Women's & Gender Studies	4

Life and Physical Science

BIO 123	Biology of Sex	4
BIO 162	Introduction to Organismal Form & Function	4
BIO 302 or 303	Human Genetics/Survey of Genetics	4
BIO 305	Biology of Cancer	4
CHEM 128	General Chemistry	4
CHEM 129	General Chemistry	4
CHEM 216	Organic Chemistry I	5
CHEM 217	Organic Chemistry II	3
CHEM 218	Organic Chemistry III	3
CHEM 312	Survey of Organic Chemistry	5
CHEM 313	Survey of Biochemistry & Biotechnology	5
MCRO 225	General Microbiology II	5
MCRO 320	Emerging Infectious Diseases	3
MCRO 342	Public Health Microbiology	4
MCRO 421	Food Microbiology	4
MCRO 436	Environmental Microbiology	4
PHYS 121	College Physics I	4
PHYS 122	College Physics II	4
PHYS 123	College Physics III	4

Health Communication

COMS 212	Interpersonal Communication	4
COMS 213	Organizational Communication	4
COMS 301	Business and Professional Communication	4
COMS 316	Intercultural Communication	4
COMS 418	Health Communication	4
JOUR 219	Multicultural Society and Mass Media	4
JOUR 312	Public Relations	4
JOUR 412	Public Relations and Crisis Management	4

Built Environment and Health

CRP 212	Introduction to Urban Planning	4
CRP 214	Land Use and Transportation Studies	4
CRP 215	Planning for and with Multiple Publics	4
CRP 425	Biking, Walking & the City	4
CRP 426	Planning Healthy Communities	4
NR 218	Applications in GIS	3

Health and Nutrition

FSN 310	Maternal and Child Nutrition	4
FSN 315	Nutrition in Aging	4

Health

HLTH 297	Medical Terminology	3
HLTH 450	Worksite & University Health Promotion	4

Exercise & Fitness

KINE 303	Exercise Physiology	4
KINE 304	Pathophysiology and Exercise	3
KINE 408	Exercise and Health Gerontology	4
KINE 452	Fitness Assessment & Exercise Rx	4

Public Policy and Health

POLS 310	Politics of Ethnicity and Gender (USCP)	4
POLS 333	World Food Systems (GE Area F)	4
POLS 351	Public Administration	4
POLS 451	Technology and Public Policy	4
POLS 459	Politics of Poverty	4
RPTA 450	Resource and Grant Development	4

Behavioral Health

PSY 252	Social Psychology	4
PSY 256	Developmental Psychology	4
PSY 302	Behavior in Organizations	4
PSY 310	Psychology of Death	4
PSY 311	Environmental Psychology	4
PSY 318	Psychology of Aging	4
PSY 320	Health Psychology	4
PSY 330	Behavioral Effects of Psychoactive Drugs	4
PSY 340	Biopsychology	4
PSY 344	Behavioral Genetics	4
PSY 405	Abnormal Psychology	4
PSY 372	Multicultural Psychology	4
SOC 326	Sociology of the Life Cycle	4

Spanish

SPAN 101 or 111	Elementary Spanish I or Elem Hispanic Lang	4
SPAN 102	Elementary Spanish II	4
SPAN 103	Elementary Spanish III	4
SPAN 104	Intensive Elementary Spanish	12
SPAN 201	Intermediate Spanish I	4
SPAN 202	Intermediate Spanish II	4
SPAN 203	Intermediate Spanish III	4
SPAN 204	Intensive Intermediate Spanish	8

Statistics

STAT 323	Design and Analysis of Experiments I	4
STAT 324	Applied Regression Analysis	4
STAT 330	Statistical Computing with SAS	4
STAT 331	Statistical Computing with R	4

APPENDIX 3.4

Letters of Support

San Luis Obispo County Department of Public Health

College of Science and Math Advising Center

STRIDE Center: Solutions Through Research in Diet & Exercise

Dr. Tom Maeir, Director (retired) Community Health

San Luis Obispo County Department of Public Health

Department of Food Science and Nutrition



THE UNIVERSITY OF CALIFORNIA, SAN LUIS OBISPO

Public Health Department



Public Health

10/15/2014 10:21 AM

1. **Program Name:** B.S. in Public Health
2. **Program Description:**
The Public Health Department offers a Bachelor of Science degree in Public Health. The program is designed to prepare students for careers in public health and to provide a strong foundation for graduate study in public health.

3. **Program Objectives:**

The Public Health Department supports the Public Health Department's vision of a public health program that is based on research, education, and service. The program is designed to prepare students for careers in public health and to provide a strong foundation for graduate study in public health. The program is designed to prepare students for careers in public health and to provide a strong foundation for graduate study in public health. The program is designed to prepare students for careers in public health and to provide a strong foundation for graduate study in public health.

The Public Health Department is committed to providing a high-quality education to its students. The department is committed to providing a high-quality education to its students. The department is committed to providing a high-quality education to its students.

4. **Program Structure:**

The Public Health Department offers a Bachelor of Science degree in Public Health. The program is designed to prepare students for careers in public health and to provide a strong foundation for graduate study in public health. The program is designed to prepare students for careers in public health and to provide a strong foundation for graduate study in public health.



California Polytechnic State University
San Luis Obispo, CA 93407

Academic & Pre-Health Advising Center
College of Science and Mathematics
(805) 756-2615

March 9, 2016
Kinesiology Department
ATTN: Kristine Jankovitz, Ph.D.

Dear Dr. Kristine Jankovitz:

On behalf of the College of Science and Mathematics Advising Center, I would like to strongly express our support for the proposed Public Health degree program. As the professional academic and pre-health advisors on this campus, our office plays a fundamental role in educating students both within our college and across the campus about pre-health career opportunities. Public health is one of the primary health careers endorsed by the National Association of Advisors for the Health Professions (NAAHP) that we actively educate and advise students to consider.

As members of NAAHP, we attend annual conferences to stay informed about trends in various health professions disciplines. In our December issue of "The Advisor", the Journal of NAAHP, focused solely on Public Health education as a new paradigm. Dr. Spencer, who is the current president of the Association of Schools and Programs of Public Health (ASPPH), stated that over the last two decades, we have seen remarkable growth in accredited institutions of public health. He stated that ASPPH member institutions educate more than 33,000 students annually and graduate more than 12,000 graduates each year. It is evident to us and our NAAHP colleagues, that public health is a growing, emerging field and the need to produce public health professionals who can meet the demands of the 21st century is on the rise.

The proposed public health degree would prepare individuals to work specifically in public health settings that allow them to monitor the health of communities and solve local and national health problems and priorities. Moreover, it will offer students opportunities for a capstone experience and relevant exposure in a public health setting, which is strongly recommended prior to seeking a public health related job or applying into a master's in Public Health (MPH) graduate program. As such, an undergraduate degree in Public Health would provide an advantageous background to prepare individuals to fulfill important workforce needs or for advanced academic study in public health.

We feel that the title of Public Health is the appropriate undergraduate degree title that should be used to prepare individuals seeking employment in public health jobs. If the degree were to be called, "Health Sciences" we would be concerned that prospective and current students would mistake this degree as a general pathway for completing admission requirements for applying to graduate level or other allied health programs. The degree title of Public Health provides transparency for prospective and current students about the program's objectives, thus reducing the number of students who may change in and out of the major. However, we do feel strongly that the degree holds value regardless of a graduate's ultimate career destination. The tenets and philosophies that will be taught in this undergraduate public health degree will provide a complimentary background that can be folded into anyone's specified area of practice in health professions.

We are excited about the proposed undergraduate major and the objective to prepare more students with the essential knowledge, skills and competencies necessary to meet our future health challenges. We look forward to working with you to educate and advise our prospective and current students about this rewarding career path.

Sincerely,

Kristi Weddige, MA Ed., Director, College of Science and Mathematics Advising Center

CAL POLY

SANTA CLARA UNIVERSITY

STRIDE

Center for Strategic Planning
& Academic Program Review

February 12, 2015

Re: Proposed BS in Health Science (Public Health)

Dear Colleagues:

I am writing in support of the proposed Kinetics/ogy Department BS Health Science (Public Health) Degree.

The proposed BS has an innovative curriculum that meets the new standards for accreditation from the Council on Education for Public Health for baccalaureate public health education. If approved as a Public Health degree, Cal Poly would have one of only six such programs in California.

According to the Bureau of Labor Statistics, jobs related to public health are projected to grow faster than the average. Moreover, graduate programs in public health and the clinical professions are increasingly competitive and students with undergraduate preparation in public health would be at an advantage. Student demand is also projected to be very high given the interest-supply nature of the proposal and its application to many attractive career options and graduate school. In sum, there is clear market/industry and student demand for the program, making this program a strategically prudent effort for Cal Poly.

Sincerely,



Aydin Nazmi, PhD

Director, STRIDE

Associate Professor, Food Science & Nutrition

Thomas W. Maier, Ph.D.

March 2, 2016

Kristine Jankovitz, Ph.D.
Department of Kinesiology
Cal Poly State University

As the former Director of Community Health Services for the San Luis Obispo County Public Health Department, I wish to express my enthusiastic support for the proposal to create a new academic major focusing on public health.

Public Health is the art and science concerned with preserving and enhancing the health of everyone. The health and strength of our communities and of our nation depends in great measure upon effective public health practice. The new Cal Poly public health academic initiative will help prepare the students of today and tomorrow to become successful practitioners of public health- to help meet the growing needs of an increasing population and our growing environmental and health challenges.

For the past ten years, as a Lecturer at Cal Poly, I have supervised students doing internships in public health. From that experience, I believe that Cal Poly's "learn by doing" approach and focus on student success is particularly well-suited to achieve excellence in preparing students for a career in public health. The proposed curriculum has been carefully constructed to achieve that goal.

The title of this proposed new major should be "Public Health". No other title being considered, such as "Health Science", is accurate. "Public Health" is a recognized academic discipline. The proposed curriculum will meet the standards of the Council on Education for Public Health for accreditation in Public Health. It is important to accurately and effectively communicate to future students and to their eventual employers or graduate schools about their undergraduate degree. It is public health that has inspired the proposed curriculum, and Public Health is its appropriate name.

The future health challenges of our nation can only be met by preparing the students of today to meet them. I salute the vision and effort of the Cal Poly faculty who have worked on this proposal to create a new Public Health Major.

Sincerely,

Thomas W. Maier, Ph.D.

Thomas W. Maier, Ph.D.
Lecturer, College of Science and Mathematics,
California Polytechnic University
Former Director of Community Health Services,
County of San Luis Obispo Public Health Department



August 31, 2016

Re: Proposed BS in Public Health

Dear Colleagues,

I am writing to express my strong support of the Proposed BS degree in Public Health. The proposed program will make a significant contribution to both Cal Poly and the state of California.

First, the program is **state-of-the art** and meets all the requirements and recommendations put forth by the Centers for Disease Control, the Council on Education for Public Health accreditation standards, and the Association of Schools of Public Health curriculum recommendations.

Secondly, the program will help **fill the growing demand** on campus and across the state for training in public health. This program is in direct response to hundreds of students and faculty who overwhelmingly voiced in campus forums and surveys the desire for a Public Health degree program at Cal Poly. As prevalence of chronic disease continues to increase, the demand for public health workers has burst and is projected to expand by at least 37% by 2020. All current undergraduate degree programs in public health in California are impacted, and none are within 130 miles of Cal Poly. This region and California as a whole needs a Public Health degree program.

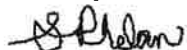
Thirdly, Cal Poly's **Kinesiology Department is uniquely suited** for this program. Consistent with other Public Health programs in Kinesiology across the CSU and in the nation, Kinesiology at Cal Poly is arguably the only place on campus with a preexisting framework to adequately support a Public Health degree. Kinesiology's "Health Promotion" concentration has long been developed as a "mini" public health degree program. This concentration has now been transformed into a Public Health degree that meets national accreditation standards. Kinesiology's multidisciplinary nature and tenure track faculty are ideally suited for Public Health, bringing expertise in exercise, nutrition, epidemiology, physiology, public health promotion, chronic disease, and health psychology. Kinesiology houses the STRIDE obesity research center, which will host unique experiences for Public Health students to participate in NIH-funded epidemiological and preventive health research. Kinesiology and STRIDE have strong relationships with academic departments and other centers across campus and working relationships with pertinent community partners. Overall, these attributes make Kinesiology the ideal place for a strong, integrated Public Health degree program providing hands-on training to promote health and prevent disease.

Of note, the program was originally proposed as, "Health Science," which nicely reflects Kinesiology's location in the College of Science and Math and Kinesiology's former concentration entitled, "Health Promotion." However, campus forums, community consultations and research in trends in academia made clear that **"Public Health" is the more suitable name.** After reviewing the curriculum, faculty and colleagues from across campus and the community reported strong preferences for the name "Public Health;" "Public Health" is more widely recognized, and, most importantly, better captures the proposed curricula and linkages with accreditation bodies and employment opportunities.

California needs a workforce with specialized training in primary and secondary prevention of disease. The proposed Public Health curriculum will leave graduates prepared to work in a variety of settings, including worksites, health care, community, public health, non-profit health organizations, school and university settings. Students and the state of California will be better served by students leaving equipped for direct employment opportunities in public health post-graduation.

I am in full support of the proposed degree program and can't imagine a more opportune time to launch it.

Best regards,



Suzanne Phelan, PhD

Professor, Kinesiology Department, Cal Poly

Director, STRIDE Obesity Research, Cal Poly

Adjunct Professor, Dept. of Psychiatry and Human Behavior, Brown Medical School



California Polytechnic State University
San Luis Obispo, CA 93407
Food Science and Nutrition Department
(805) 756-2660

September 19, 2016

Dr. Kris Jankovitz
Kinesiology Department

Dear Dr. Jankovitz,

As faculty members in Nutrition of the Department of Food Science and Nutrition, College of Agriculture, Food and Environmental Sciences, we are very pleased to support the proposed Public Health Degree Program. Public Health is a growing field with graduates having the potential to meet the increasing demand for health-related positions in the coming years. The fields of both Nutrition and Kinesiology are central to the health of populations and are a natural fit for collaboration in "health" courses and training our collective students for careers in the health and wellness industries. There are many cross-cutting health experience opportunities for students, including taking courses in nutrition. Both introductory nutrition and life course classes offered by the FSN Department fit into the Public Health domains of human health and determinants of health and can serve as advisor approved electives and support the community and public health concentration.

Cal Poly and the Kinesiology Department, with support from the Nutrition faculty and department, are well-positioned to support and lead students interested in careers in planning, implementing and monitoring the health of communities in local, regional, national or global locations.

The Nutrition faculty have a history of working well with faculty member of the KINE department and this new major will provide more opportunities for faculty to collaborate, in addition to preparing students interested in health-related fields with essential knowledge and skills to improve the health of the populations.

Sincerely,

Peggy C. Papathakis, PhD, RD
Professor of Nutrition

Lisa M. Nicholson, PhD, RDN
Professor of Nutrition

Scott Reaves, PhD
Professor of Nutrition

Kari D. Pilolla, PhD, RD
Assistant Professor, Nutrition

CAL POLY

2015 Academic Plan – New Degree Summary Statement

11. Signatures

We confirm that the proposed new program fits with the mission and the strategic plan for the college. Additionally, there is a commitment to allocating the resources required by the proposed new program both in the initiation phase and the future development of the program.

Department Chair/Head

Date

Associate Dean/Dean

Date

We confirm that the proposed new program fits with the mission and the strategic plan for the campus.

Associate Vice Provost

Date

Provost

Date

BYLAWS OF THE ACADEMIC SENATE

Fall 2016

II. MEMBERSHIP OF THE ACADEMIC SENATE

B. TERMS OF OFFICE

1. Terms of office for senators: the elected term of office for senators shall be a two-year term or one-year term when the caucus membership changes by more than two representatives. ~~A senator can serve a maximum of two consecutive, elected terms~~ A senator can serve a maximum of four consecutive years and shall not again be eligible for election until one year has elapsed. A senator appointed to fill a temporary vacancy for an elected position shall serve until the completion of that term or until the senator being temporarily replaced returns, whichever occurs first. If this temporary appointment is for one year or less or if the senator is serving a one-year elected term, it shall not be counted as part of the ~~two-term~~ four years maximum for elected senators. The representative for part-time academic employees shall serve a one-year term with a maximum of four consecutive one-year terms.
2. Terms of office for Academic Senate Chair: once a senator is elected to serve as Academic Senate chair, that senator becomes an at-large member of the Academic Senate and the position vacated becomes a college vacancy to be filled by the college caucus. The elected term of office for Academic Senate Chair shall be a maximum of three one-year consecutive terms.

C. REPRESENTATION

1. Colleges and Professional Consultative Services with an even number of senators shall elect one-half of their senators each year. Those with an odd number of senators shall not deviate from electing one-half of their senators each year by more than one senator. All of the senators from each college and Professional Consultative Services shall constitute the appropriate caucus.
2. When a college or Professional Consultative Services with an uneven number of senators gains a new senator due to an increase in faculty in a year when more than one-half of their senators are to be elected, the new Senate position shall be for one year for the first year, then two years thereafter.
3. There shall be no more than one senator per department/teaching area elected by any college where applicable until all departments/teaching areas within that college are represented. A department/teaching area shall waive its right to representation by failure to nominate. This bylaw shall have precedence over Article III.B of the *Bylaws of the Academic Senate*.