Meeting of the Academic Senate Executive Committee
Tuesday, March 29, 2022
3:10 to 5:00pm
https://calpoly.zoom.us/j/89707060802

I. Minutes: March 1, 2022 (p. 2)

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

III. Reports:
A. Academic Senate Chair:
B. President’s Office:
C. Provost:
D. Statewide Senate:
E. CFA:
F. ASI:

IV. Business Item(s):
A. Appointments to Academic Senate Committees for 2022-2024 Term: (pp. 3-11)
B. Appointments to University Committees for the 2022-2024 Academic Year: (pp. 12-16)
C. Appointments of Academic Senate Committee Chairs for 2022-2023 Academic Year: (p. 17)
D. Approval of 2022-2023 Calendar of Meetings: (p. 18)
E. Resolution on Scheduling of Online Assessments: John Hagen, Academic Senate Instruction Committee Chair (pp. 19-21)
F. [TIME CERTAIN 4:00 P.M.] Resolution on UFPP 11.4.2 Departmental Role in the Selection Process for Chairs and Heads: Ken Brown, Academic Senate Faculty Affairs Committee Chair (pp. 22-28)
G. Resolution on New Degree Program for Master of Science in Statistics: Andrew Schaffner, Statistics Department Chair (pp. 29-82)
H. Resolution on AB 928 and Common GE Pathway: Gary Laver, Academic Senate General Education Governance Board Chair (pp. 83-85)
I. Resolution on AB 928 and CSU Golden Four: Gary Laver, Academic Senate General Education Governance Board Chair (pp. 86-88)

V. Discussion Item(s):

VI. Adjournment:
Meeting of the Academic Senate Executive Committee  
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https://calpoly.zoom.us/j/83813764023


II. Communication(s) and Announcement(s): Academic Senate meetings will be held in a virtual modality for the 2022 Spring quarter.

III. Reports:
A. Academic Senate Chair: Thomas Gutierrez, Academic Senate Chair, announced that in other Academic Senates in the CSU system have an alternative resolution called ‘Sense of the Senate’ which gives folks a snapshot of the senate’s attitudes towards a particular subject. Suggests that it may be a good tool to use for in the future.
B. President’s Office: Jessica Darin, Representative from the President’s Office, briefly discussed trustee visits.
C. Provost: none.
D. Statewide Senate: none.
E. CFA: none.
F. ASI: Tess Loarie, ASI president, announced CFAC consultation is over. Student Government is doing an internal audit about how ASI can improve their governance, looking for student feedback to improve serving students in the future. Board of Directors voted on the College Based Fee resolution. There were 21 total votes: 17 voted against CBF and 4 voted in favor of CBF.

IV. Business Item(s):
A. Approval of Substitution of Phillip Nico, CENG, for Brian Self on the Budget and Long-Range Planning Committee for the 2022-2023 Academic Year. M/S/P to approve the substitution of Phillip Nico, CENG, for Brian Self on the Budget and Long-Range Planning Committee for the 2022-2023 Academic Year.
B. Approval of Substitution of Jose Navarro, CLA, for India D’Avignon on the CLA caucus for the 2022-2023 Academic Year. M/S/P to approve the substitution of Jose Navarro, CLA, for India D’Avignon on the CLA caucus for the 2022-2023 Academic Year.

V. Discussion Item(s):
A. GEGB Membership/Bylaw Discussion -Term Length Alignments with Current Senate Bylaws: There was discussion regarding the term limits for the General Education Governance Board and this will return as a business item in a future Academic Senate meeting.

VI. Adjournment:

Submitted by,

Sessa Renfrew
Sessa Renfrew
Academic Senate Student Assistant

805-756-1258 - academicsenate.calpoly.edu
Statements of Interest Received for 2022-2024 Academic Senate Committee Vacancies by College
(All appointments are for 2-years unless noted below)

**College of Architecture and Environmental Design**
Budget and Long Range Planning 2022-2024
Paul Redden, Construction Management (8 years at Cal Poly) – INCUMBENT
Working with BLRP to provide expertise in project management relating to budgeting and conceptual cost estimating and controls.

Curriculum Committee 2022-2024

DTA 2022-2024
Diversity 2022-2024
Fairness 2022-2024
Cole McDaniel, ARCE (17 years at Cal Poly) – INCUMBENT
My goal is to help the board make wise decisions concerning cases brought by students.

Instruction 2021-2023
RSCA 2022-2024

**College of Agriculture, Food and Environmental Sciences**
Curriculum Committee 2022-2024
Amy Lammert, Food Science Nutrition (12 years at Cal Poly) Tenured – INCUMBENT
I have served as the FSN Curriculum Chair and CAFES-CC chair since 2015 and 2020, respectively. For the Food Science, I do assessment for the university and for our Institute for Food Technologist approved program. I am the PI on a USDA-HEC grant that is building a curriculum to teach Food Product Development courses at the university level. Thus, curriculum from the eyes of building and assessing courses is a significant portion of my service to the department, college, and university. I would love to continue in my current capacity at the AS-CC.

Fairness 2022-2024
Samantha Gill, Natural Resources Management (24 years at Cal Poly) Tenured
I’ve been a faculty member at Cal Poly for almost 25 years and the Fairness Board is a committee that I’ve always had an interest in. Grading can be a contentious issue between faculty and students so fairness must be of the utmost concern for faculty members. This by no means indicates that faculty should grade easily, but that they should treat all students the same when grading. Sometimes students mistake stringent grading as being unfair, but that is simply not the case. Yet, when issues of fairness in grading do arise, it’s good that students have a means to address these issues and that is where this committee comes into play. Giving the student the opportunity to file a grievance is the appropriate thing to do.
I believe that I would be a good addition to this committee because in over 24 years at Cal Poly, I have taught many students and thus graded a great deal of assignments, yet I have never had a student file a grievance against me. Yes, I’ve had students dispute my grading, but I’ve always been able to settle those disputes between myself and the student. Sometimes, it was simply that I made an error and I corrected it, other times the student just needed more explanation as to why the assignment was graded as it was.

I’m glad that the board has been looking at revising the procedures as it’s important to do so regularly with all procedures as things and times change. If this is not completed this academic year, I’m happy to work on that, if selected, next year. I also think that it is good that they are looking into the appropriateness of OSRR plagiarism and cheating issues. I’ve heard from many faculty members that the sudden shift to online courses because of COVID has led to a great deal of cheating. Many exams are now given on Canvas when students are not all in the same room with the professor and as a result, they are using other materials and talking/texting with each other, in other words blatantly cheating. Yet, students do not believe this is cheating. Students have told me that they assume any online exam is open book. This is not what I had assumed. In my opinion, it is right for this board to be involved in grievances which arise from cheating and plagiarism.

GEGB 2022-2025
Karen Cannon, Agricultural Education and Communication (4.5 years at Cal Poly) Tenure Track
My interest in serving on the General Education Committee is to gain a better understanding of Cal Poly's GE requirements. Because we have excellent academic advisors in CAFES, I do not have a great understanding of coursework outside of our Agricultural Communication degree program. Serving on GEGB would provide me insight to GE courses and requirements across campus. Additionally, I am interested in how GEs will be adapted and transformed during our move to the semester system. Overall, I'd like to better understand GE so that some day our department may be able to offer a course(s) in a GE area to better serve students in CAFES and beyond.

Grants 2022-2024
Angelos Sikalidis, Food Science Nutrition (4 years at Cal Poly) Tenured
In terms of scholarship since my time at Cal Poly I have been able to obtain through grants and pledges extramural funding at the level of over $500,000, published 16 manuscripts, in peer review scientific journals, 3 book chapters and produced graduate students. Colleagues as well as the administration in appreciation of the work produced towards scholarship have requested my service as grants reviewer, so that the obtained experience in the scholarship arena can enrich the committee. I would be most willing to serve and bring in my perspectives to the committee as well as serve as mentor for younger faculty and share my experiences in terms of what has been more successful and what less successful regarding grant funding acquisition.
I am passionate about supporting diversity, equity, and inclusivity (DEI) at Cal Poly to foster a healthy and supportive academic and professional environment for all members of the Cal Poly community.

I am currently serving my first term on the Academic Senate Diversity Committee, where my accomplishments include work on the following projects:

- Identification and integration of DEI in university and college personnel policies (e.g., DEI considerations in retention, promotion, and tenure; DEI integration into teaching and service, etc.).

- Identification and analysis of data describing the state of diversity at Cal Poly (including student applicant, accepted, enrolled, and persistence demographics; faculty applicant, hire, rank, and promotion outcome demographics; and staff applicant, hire, and management classification demographics).

- Evaluation of Exceptional Service to Students (ESS) applications.

- Development of a proposal to the General Education Governing Board (GEGB) about including a person to ensure sufficient expertise in DEI issues in the process of reviewing and approving GE course proposals.

- Development of a resolution to recognize caste as a protected class.

- Development of guidelines for evaluating the diversity statements of faculty applicants.

- Incorporation of diversity learning objectives (DLOs) into program learning objectives (PLOs).

- Exploration of creating an ombudsperson for faculty and staff.

- Examination of student evaluations from a DEI perspective, and whether policies/procedures need to be revised to address this.

Many of these projects are ongoing, with the goal of greater infusion of DEI into the policies and culture of Cal Poly. I believe that these projects are important in fostering a healthy DEI climate at Cal Poly, and because these projects are ongoing, I would like to continue my service on the Academic Senate Diversity Committee to build upon the work I have already completed on these projects and to help move some of these projects toward completion.
Paul Anderson, Computer Science (3 years at Cal Poly) Tenure Track
I am interested in extending my program specific service commitment (as a member of the Environmental Studies Minor Faculty Committee) into broader university service.

College of Liberal Arts
Budget and Long Range Planning 2022-2024
Lauren Kołodziejski, Communication Studies (8 years at Cal Poly) Tenured – INCUMBENT
I have served on this committee for two years and would like to continue to serve, Cal Poly is in a moment of transition, particularly with the conversion to semesters. My previous service on this committee as well as my experience with curriculum will be helpful for addressing the committee’s charges in the coming years. My expertise in communication will also be useful in helping the committee communicate its outcomes to relevant stakeholders.

Curriculum Committee 2022-2024
Christian Anderson, World Languages and Cultures (10 years at Cal Poly) Tenured – INCUMBENT
While I am grateful to those who have called me "the living soul of ASCC", I want to amplify my own recognition of the other members as a collection of capable and conscientious colleagues, with whom I am delighted to continue serving as we navigate the challenges of semester conversion and the metaphysics of modality.

Xiaoying Rong, Graphic Communication (17 years at Cal Poly) Tenured
I am currently the Curriculum Committee chair of Graphic Communication Department and serve on CLA Curriculum Committee too.

My years with Cal Poly have involved many curriculum development efforts. These efforts include revising, redesigning courses with effective pedagogical approaches, effectively using Bloom’s Taxonomy to design the courses with measurable learning objectives.

While serving on the Curriculum Committee at the college level, I learned how the curriculum supports students’ learning experiences through different disciplines. At the same item, I learned more about how the GE curriculum is set and the requirements of qualifying for GE courses through clearly defined learning objectives and course learning activities.

I understand that ASCC has a great responsibility to review the curriculum across the campus. I expect to learn and share my experience with the committee members and contribute actively to discussions. This term also involves loads of work for preparing for the semester transition. I am prepared for the duties and make positive contributions to the committee.

DSA 2022-2024
Faculty Affairs 2022-2024
Ken Brown, Philosophy (14.5 years at Cal Poly) Tenured – Incumbent
I have chaired FAC since 2012 and served before then back to 2010. I can continue with the ongoing project of developing university level faculty personnel policies. If there are other interested faculty from CLA willing to serve that the Executive Committee finds acceptable, I recommend to the Executive Committee that they consider the possibility of the other faculty member serving as representative for CLA while I continue as a non-voting chair of the committee, if that arrangement seems best.

Kylie Parrotta, Social Sciences (3 years at Cal Poly) Tenure Track
I served on the Faculty Affairs committee at my previous institution for three years as representative for my college and then I chaired the committee for three years, overseeing a campus climate survey. I was also on the Executive Committee of Faculty Senate at my previous institution when we did a program performance inventory and redesigned our P&T assessments. I am an organizational ethnographer by training and am currently serving as a secretary of a regional professional organization, so I am very familiar with evaluating organizational policies and procedures, and updating bylaws.

Instruction 2022-2024
Sara Lopus, Social Sciences (5 years at Cal Poly) Tenure Track – INCUMBENT
In the past two years, I have worked with this committee to draft resolutions relating to textbook affordability, textbook accessibility, and remote examinations. I hope to continue my work in these areas by serving on this committee for two more years

RSCA 2022-2024
Hocheol Yang, Graphic Communication (1.5 years at Cal Poly) Tenure Track
I'm a committed faculty member to a model that faculty integrate excellence in teaching with excellence in research, scholarly and creative activities. My prior research experiences and funding records in UX problems with human subject studies could help the RSCA program to support and encourage socially impactful research projects, empirical data collection and analysis, and interdisciplinary collaborations. Being part of the committee, I also want to further Cal Poly and businesses, while helping these research activities be safe, legal, and ethical conduct of research.

Sustainability 2022-2024

College of Science and Math
Budget and Long Range Planning 2022-2024

DSA 2022-2024
Briana Ronan, School of Education (8 years at Cal Poly) Tenured
As a recipient of the Distinguished Scholarship Award in 21-22, I would love the opportunity to return the honor and serve on this committee. I am particularly interested in finding ways to recognize the work of colleagues/scholars whose research is dedicated to interrupting systems of inequities in their respective fields, public scholarship and/or other forms of scholarship for social change.
Lars Tomanek, Biological Sciences (16 years at Cal Poly) Tenure Track – INCUMBENT
Promoting student-centered research to Cal Poly has been one of my passions since joining the faculty. For me, involving students in research is high-impact teaching. Student-centered research also motivates and engages faculty and, thus, it is an important element of Cal Poly’s vibrancy. Since serving on the Academic Senate for the last three years, I have expanded my involvement in university affairs beyond my department and college, and greatly enjoyed learning about the academic pursuits of other disciplines on campus. Serving on the Distinguished Scholarship Committee the last two years, I appreciated hearing about different types of research and different ways faculty are engaging students in it.

By serving on the committee, I learned that it is important to hear from a broader range of voices, especially those promoting equity between genders, different disciplines and the alternative approaches used to engage students in research. I am enriched by what I learned from other committee members explaining their perspective. As a chair I try to achieve a group consensus among committee members by promoting discussions that consider equity, the different areas of scholarship on campus and the challenges that faculty from different backgrounds face, e.g., industry- versus agency-funded research. I also have a new appreciation of the need to take into account continuity in research, as the commitments and roles of faculty change over the years.

Importantly, the Distinguished Scholar Award also sends a message to the faculty-at-large and the greater public, specifically funders. For example, by recognizing research in education we embrace scholarship in our daily craft of teaching, recognizing industry-funded research promotes our engagement with industries and supporting research by the National Institute of Health and the National Science Foundation helps our students prepare for graduate programs. Finally, as a DSA recipient myself, I know that it is also an acknowledgement of the role of our students’, staff and department's efforts to promote research. The award is therefore a celebration of our effort as an educational community to enhance our thinking about the world and the ever-changing reality that our students will experience in their future.

GEGB 2022-2025
Samuel Frame, Statistics (16 years at Cal Poly) Tenured – INCUMBENT
I was on the first two GE task forces, one of which established the GE structure we now call GEB. When there was a need for a CSM rep, I joined in part because I was curious about what I had been part of creating.

It has been a very enlightening experience, especially since I joined the GEGB during the finalization of the new GE template, GE recertification, and substantial modality changes. I believe this is the most important committee I have served on.

If there is a need, I would be willing to chair the group. But I don't believe I am prepared for that and would require substantial hand holding from Gary, Rachel and Dustin. After another term, I am confident I would be prepared to chair the
group if asked to do so.

Grants 2022-2024  
RSCA 2022-2024  
Eric Kantorowski, Chemistry and Biochemistry (19 years at Cal Poly) Tenured - INCUMBENT  
I've been supported by a RSCA grant (as a co-PI) and have had to navigate through the process of attending a conference in a state with a travel ban. I'm interested contributing to policies/guidance related to these and other RSCA-related items.

Alison Ventura, Kinesiology and Public Health (8 years at Cal Poly) Tenured  
I have extensive experience with the peer-review process, as well as with grantsmanship and securing grant funding. During my time at Cal Poly, I have secured over $4M in internal and external funding for my work and have maintained consistent NIH funding since arriving at Cal Poly. I have also served as a grant reviewer for NIH and several other organizations, including First 5 SLO and the National Dairy Council. Thus, I feel my previous experience and expertise will allow me to make an effective contribution to the RSCA Review committee.

Sustainability 2022-2024  
Erin Pearse, Mathematics (9 years at Cal Poly) Tenured  
I am director of the Initiative for Climate Leadership and Resilience (https://climate.calpoly.edu/) and have worked for years on projects related to climate & sustainability (including with several other committee members).

Orfalea College of Business  
Budget and Long Range Planning 2022-2024  
Curriculum Committee 2022-2024  
Lynn Metcalf, Industrial Technology & Packaging (34 years at Cal Poly) Tenured – Incumbent  
I have enjoyed contributing to this university-wide committee and have extensive experience serving on the Orfalea College Undergraduate Programs Committee, as a member (2003-2009, 2015-2016, 2019-present) and as Chair (2005-2008 and 2016-2018).

Over the past 20 years, I have prepared major curriculum proposals that have college and interdisciplinary impact, as well as new course proposals and modifications.

Among these are
1. Entrepreneurship Concentration and Minor proposals  
2. Marketing Concentration revision for the 2005-2007 catalog  

I’ve worked with ASCC Chairs, Daniel Parsons, Susan Olivas, Cem Sunata and other members of the Registrar’s office to implement curricular initiatives.
Additionally, I'm deeply engaged with curriculum review and assurance of learning in preparation for re-accreditation in the Orfalea College. In Fall 2015, I served as the internal reviewer for the Graphic Communication Department Re-Accreditation, Accrediting Council for College Graphic Communications, Inc. And, in Winter 2020, I served as internal reviewer for Journalism, working alongside the accreditation team.

DSA 2022-2024
Steve Hamilton, Economics (18 years at Cal Poly) Tenured - INCUMBENT
I believe in the teacher-scholar model and essential role of research in delivering excellent classes to students. I am interested in helping reward faculty who continue to develop their research programs, particularly those who continue to work with students and conduct interesting research after tenure and promotion.

DTA 2021-2023
Diversity 2022-2024
Faculty Affairs 2022-2024
Fairness 2021-2023
GEGB 2020-2023
Grants 2022-2024
Instruction 2022-2024
James Burleson, Management, HR, and Information Systems (8 years at Cal Poly) Tenure Track – Incumbent
I have served on the instruction committee for the past two years. I enjoy the opportunity to serve and would love to continue serving on the committee.

Sustainability 2022-2024
Ajay Kathuria, Industrial Technology and Packaging (8 years at Cal Poly) Tenure Track – Incumbent
I would like to continue in my current role as a member of ASSC and work with other members of the committee to promote Sustainability Learning Objective, Sustainability Catalogue and develop a pathway to implement CPSLO's.

USCP Faculty At Large (1) - 2022-2024
Mahdi Rastad, Finance (9 years at Cal Poly) Tenured
I have served on both UPC and GPC at college level and can related my experience to USCP at the university level. I have also served on Risk and Safety and BLRP committees at the university level which were great opportunity to learn how to best interact with collogues across campus.

Professional Consultative Services
Curriculum Committee 2021-2023
DTA 2021-2023
Faculty Affairs 2022-2024
Brett Bodemer, Library (13 years at Cal Poly) Tenured – Incumbent
A main focus of work over at least the last seven years has been the sustained work on the UFPP document (now up to major revisions in chapter 8) and I would
like to help this project in these latter stages of revision before abandoning the committee. My familiarity with other charges that are/or may arise on the FAC docket also will provide value for the committee.

Fairness 2022-2024
GEGB 2022-2025

**Philip Yoshida, Athletics (23 years at Cal Poly)**
As we move toward the semester conversion, I feel I would have keen insight into the needs of a well rounded GE program as well as the needs/burdens of students. I am also the coach rep for the SLO chapter of the CFA and hear all about lots of issues faculty have regarding workload, classes, etc.

RSCA 2022-2024

**Jesse Vestermark, Kennedy Library Academic Services (12 years at Cal Poly)**
Tenured – INCUMBENT
It’s important to have library representation (via PCS) on the RSCA Committee for a variety of reasons. Probably foremost of these reasons is the library’s mission to support RSCA through its resources and services, and the need for staying closely in sync with both RSCA opportunities and challenges (such as COVID-19) that are encountered campus-wide. For example, as incumbent, last year I used my research skills to help our chair collect scholarship on interdisciplinary and international documentation of how the pandemic has impacted academic researchers. I would like to continue on in this work to support committee goals that relate to faculty collaboration and improved integration of teaching and research. Finally, as a tenured faculty member, being attuned to Academic Senate RSCA issues would help me better support and mentor our recently hired tenure-track faculty, as well as contribute to my awareness of campus endeavors as I enter my second year as an Academic Senator.

Sustainability 2021-2023
Statements of Interest Received for 2022-2023 University Committee Vacancies
(All appointments are for 1-year unless noted below)

Academic Assessment Council:
**CAED (2022-2025)**  
**CAFES (2022-2025)**  
**SCHOOL OF EDUCATION (2020-2023)**

Andrew Byrne, School of Education (5 years at Cal Poly) Tenured  
I have served a previous term as the CSM representative to Academic Assessment Council, but they created a role specifically for School of Education. After my term ended, I waited for the SOE role to be posted. My accomplishments in the area of assessment include having taught assessment and evaluation, and having led accreditation efforts of various types since being a doctoral student. This includes writing and compiling national accreditation reports for CACREP, being a visitor for a counselor education program accreditation, and leading Cal Poly's HECSA program through a successful program review. It is my expectation in serving again on the assessment council, that it can truly serve the purposes that faculty find intrinsic and transformative. My goal is primarily to influence members of the council to return the pertinence, enthusiasm, and engagement of assessment to the faculty, where assessment should be embraced, administered, and evolved. I have appreciated working with Michael Nguyen as he began to transform the council, and I have already seen changes to how Cal Poly conducts and uses assessment. That experience is encouraging to me, and I would be delighted to serve on the council again while representing the School of Education.

**PCS (2021-2024)**

**Athletics Advisory Council** – Two vacancies any college (2021-2024 and 2022-2025)  
Philip Yoshida, Athletics (23 years at Cal Poly)  
As the Head Swimming and Diving Coach, I am responsible for balancing the dynamic of a women's and men's team so gender equality and Title IX compliance is an important part of our program and planning (especially budget planning). Maintaining a perfect APR score is the goal of many of our coaches, so academic support, graduation rates and quarter to quarter eligibility of our student-athletes is very important. Finally, looking at the roster of members, there is no coach representative which I feel is imperative when "recommending policy and direction" in Athletics.

Adrienne Lent, Kinesiology (2 years at Cal Poly) Tenure Track  
I am currently a full-time lecturer in public health and will be starting as an assistant professor of public health in Fall 2022. I am very interested in serving on the Athletics Advisory Council. I was a student athlete myself on the women's cross-country team during my undergraduate studies at UC Santa Cruz. As a lecturer at Cal Poly, I have had several student athletes in my courses and have observed the challenges they can face in balancing academics and sports. I am very interested in identifying policies that support the academic success and health/wellness of student athletes at Cal Poly. I also have an MBA and seven years of experience managing multi-million dollar, cancer related research programs funded by both federal and private donor funds. This includes a NIH funded program focused on training the next generation of diverse cancer scientists from underrepresented backgrounds. I was responsible for budgeting, tracking
trainee metrics (e.g., training completion rates, progress, etc.), and generating reports on program outcomes. These experiences will allow me to contribute to the functions of the Athletics Advisory Board. In addition to supporting the reporting and budgeting responsibilities of the board, my goal as a potential member of this board is to leverage my experiences and identify ways in which we can support student athlete success at Cal Poly.

Cal Poly Corporation Board of Directors – One vacancy (2022-2025)
  Sean Hurley, Agribusiness – Tenured, Incumbent
See Additional Page

Campus Parking and Transportation Advisory Committee; Two vacancies any college – (2022-2024 and 2022-2024)
  Andrew Byrne, School of Education (5 years at Cal Poly) Tenured
  I have been a faculty member at Cal Poly since 2017 and have witnessed various stakeholder experiences related to parking and access to our campus. I believe that parking regulations and plans should match and support the overall objectives and mission of the university itself. If appointed to this committee I would advocate for alignment in that way.

  Ryan Walter, Physics (8 years at Cal Poly) – Tenured – INCUMBENT
  I am passionate about sustainability in Parking and Transportation on campus. I previously took the bus to campus for almost 4 years and more recently started driving an EV and charge on campus. I would like to continue to serve on this committee, as I have done for the past two years, and continue to make sustainable improvements to Parking and Transportation on campus.

Commencement Policy Committee
  CAED – (2022-2024)
  CAFES – (2021-2023)
  CSM – (2021-2023)
  Jodi Christiansen, Physics (16 years at Cal Poly) Tenured
  Commencement is one of the memorable highlights of every alumni's Cal Poly experience. A positive experience for students, parents and faculty is essential to the success of the commencement day. Planning is essential to for a successful graduation. I have experience planning events for the Veritas Forum, the Astronomy Club, and also many years performing in symphonies. I also have experience planning and executing technical programs in my research with the VERITAS telescope array. It would be an honor to work with the committee to design the pomp and circumstance for the graduation ceremonies, including lining up top notch speakers, and behind the scenes related to fees and accommodations. Comments on my committee work always include dedicated and reliable. I enjoy taking committee work from the initial stages through to the final product and will budget the time necessary for the commitment. It would be an honor to take on specific tasks as needed and shepherd them for the committee.

  CENG – (2021-2023)

Disability Access and Inclusion Committee: Two vacancies (2022-2024 and 2022-2024)

Graduation Writing Requirement (GWR) Advisory Board: Three vacancies
  CAED (2022-2024)
  CLA (2022-2024)
  CSM (2022-2024)
Institutional Animal Care and Use Committee: One vacancy (2022-2025)
Larisa Vredevoe, Biological Sciences (23 years at Cal Poly) Tenured
Current member

Heather Liwanag, Biological Sciences (6.5 years at Cal Poly) Tenured – INCUMBENT
As an animal researcher myself, I have a keen interest in contributing to the humane and scientifically sound use of animals. I understand that the purpose of the IACUC is to maintain the standards of the animal research facilities on campus, and to ensure that the animal research performed at Cal Poly is both scientifically and ethically robust. Because my research program includes experiments with marine mammals, I am familiar with state and federal permitting procedures for the use of protected species. I also study lizards, so I have experience with both lab and wild animal husbandry standards as well. I have a genuine concern for the welfare of research animals, and I understand the value of animal research from a scientist’s perspective. This allows me to review protocols with an awareness and appreciation for what is at stake. I have served on the IACUC Committee here at Cal Poly for 5 years and also at my previous institution (Adelphi University) for 2 years. I enjoy serving on the IACUC, and I believe it is an important and rewarding way to contribute my service to the university.

Intellectual Property Review Committee:
CAED – (2022-2025)
Daniel Knight, Construction Management (6 years at Cal Poly)
I have served and want to continue to on this committee.

CLA – (2022-2025)
CSM – (2022-2025)
Jodi Christiansen, Physics (16 years at Cal Poly) Tenured
I am interested in serving on the Intellectual Property Review Committee. My interest stems from 16 years at Cal Poly where I was discouraged from establishing industry partners due to the Cal Poly's polices on Intellectual Property rights. In their effort to protect me and my rights, the policies actually made it difficult to establish a partnership that was amenable to both the university and the external company. Over the years polices change, and I would like to participate in an effort to enhance the opportunities for partnerships. I also serve on the Physics Department's Student Career Facilitation Committee where one of our key activities is in helping students establish a network that will support them in getting a job upon graduation or going to graduate school. Networking is an essential ingredient in the process and industry partners should be cultivated at Cal Poly. It is especially important for students with diverse backgrounds who may not have family networks in business. These partnerships at Cal Poly can level the playing field and enhance inclusivity in the work place. Students who build a network of industry contacts because they are at Cal Poly will successfully move into good paying jobs.

The IPRC also includes review functions. I have continuously maintained grants in Particle Astrophysics with the National Science Foundation since 2008 that are managed by the Cal Poly Corporation. As part of managing my grant, I am familiar with the conflicts of interests that can arise. In addition, I have been reviewing grant proposals for the National Science Foundation and Department of Energy since 2010 and have expertise in the review process. I believe that this experience would be

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valuable to the committee.

Sustainability Advisory Committee: One vacancy (2022-2024)

Status of Women Committee:
CAFES – (2022-2024)
Jean Dodson Peterson, Wine and Viticulture; Horticulture and Crop Science
(8 years at Cal Poly) Tenured
I respectfully request consideration to serve on the Status of Women Committee at Cal Poly. I am a tenured Associate Professor of Viticulture in the Department of Wine and Viticulture and the Department of Horticulture Crop Science. I have been a faculty member at Cal Poly since Fall of 2014. During the last eight years, I have had the opportunity to assess and experience the challenges associated with being a woman in higher education, in an agricultural focused discipline and as a mentor to many of our diverse students. These are all arenas where women are typically underrepresented and unfortunately often marginalized. I am aware that most women have witnessed our campus’ lack of diversity in positions of leadership and while recognition is an important first step in all our personal journeys to address the gender-based challenges we face, I believe we must commit to a plan of action for having our voices united and in advocating for dissolving these barriers. As I alluded to, my personal experience as a woman in viticulture and as a professor has made me acutely aware of stereotypes that deter woman from pursing advanced educational degrees, entering research, or seeking positions of leadership. I believe it is important to intervene as early as possible and to provide opportunities to and advocate for the women who look to us for mentorship. I believe in active engagement with our peers and students to provide opportunities of support and empowerment. I would be an active and supportive addition to this committee and hope to work collaboratively to ensure Cal Poly is a community where women are raised up and whose skills are cultivated. Thank you for your consideration.

CENG – (2021-2023)
CLA – (2022-2024)
OCOB – (2022-2024)

University Union Advisory Board: One vacancy (2022-2023)
Cal Poly Corporation (CPC)  
Board of Directors  

Expression of Intent and Willingness to Serve  

Name: _Sean Hurley_ Phone: _805-756-5050_  
Department: _Agribusiness_ College: _CAFES_  

A. Statement indicating consistent history of active involvement with an interest in University affairs.  
Since joining Cal Poly 20 years ago, I have been actively engaged in many areas of university affairs. I am currently the chair of the Learning and Research Technology Workgroup (LRTW) and a board member of the Corporation Board. Previously, I chaired the Budget and Long-Range Planning (BLRP) Committee and was a Senator representing the CAFES Caucus on the Academic Senate Executive Committee. I have participated as a committee member of the President’s Advisory Council on Planning, Process, and Budget and served on the search committees for the Dean of Business and the Chief Information Officer.  

B. Statement of demonstrated ability to work productively as a member of a governing body.  
Over the last ten years I have been a productive member of several campus governing bodies. On the Corporation Board, I have chaired the Audit Committee for the last three years along with normal board duties. During this time, the committee was required to solicit and review proposals for selecting an auditing firm for the Corporation. As a member of the Academic Executive Committee, I actively participated in the myriad of business items the committee needed to accomplish. Over the eight years I participated on the BLRP committee, I have participated and led the development of a couple of several successful resolutions regarding strategic planning and student success. As Chair of the LRTW, I participated in reviewing different learning management systems and bringing AWS cloud computing services to campus. Currently, the committee is attempting to facilitate the adoption of an administrative infrastructure that will allow for a more robust high performance computing capabilities on campus.  

C. Statement indicating why membership on the Board is of interest.  
There are three main reasons why I would like to continue working as a board member for the Corporation. I believe I have valuable historical institutional memory regarding the Bella Montana project that could help the Corporation navigate the discussion of how best to bring more faculty and staff on-campus housing. Given the immense effect that the Corporation has on student’s lives, I have the unique perspective of being a parent of two current students (hopefully a third in the Fall), which allows me to provide advice to the Board regarding how its decisions potentially affect both students and faculty. Finally, since the last two years of being a board member has occurred during COVID where the Corporation was in crisis mode, I would like to have another three-year term so I can assist the Corporation adjust to the new normal of doing business as it comes out of this crisis.  

I AM WILLING TO ACTIVELY SERVE AS A CPC BOARD MEMBER FOR THE TERM OF OFFICE (three years, unless selected to a vacant unexpired term).  

Signature: ___________________________ Date: __March 6, 2022__  

I UNDERSTAND THE REQUIREMENTS, OBLIGATIONS, AND RESPONSIBILITIES OF DIRECTORS. (Please see Role of Board Member.)  

Signature: ___________________________ Date: __March 6, 2022__  

Cal Poly Corporation, Bldg, 15  
San Luis Obispo  
CA 93407
<table>
<thead>
<tr>
<th>Committee</th>
<th>Chair 2021-2022</th>
<th>Chair Since</th>
<th>Possible Chair 2022-2023</th>
<th>2022-2023 Committee Member</th>
<th>College/Department</th>
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<tr>
<td>Budget &amp; Long-Range Planning Committee</td>
<td>Steve Rein*</td>
<td>21-22</td>
<td>Steve Rein</td>
<td>No</td>
<td>Statistics</td>
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<td>Paul Redden</td>
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<td>Greg Bohr</td>
<td>20-21</td>
<td>Greg Bohr</td>
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<td>Social Sciences</td>
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<td>Xiaoying Rong</td>
<td>Yes</td>
<td>Graphic Communications</td>
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<tr>
<td>Distinguished Scholarship Awards Committee</td>
<td>Lars Tomanek</td>
<td>19-20</td>
<td>Lars Tomanek</td>
<td>Yes</td>
<td>Biological Sciences</td>
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<td>Steve Hamilton</td>
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<td>Economics</td>
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<tr>
<td>Distinguished Teaching Awards Committee</td>
<td>Brian Kennelly</td>
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<td>Diversity Committee</td>
<td>Marilyn Tseng</td>
<td>19-20</td>
<td>Jean Lee</td>
<td>Yes</td>
<td>Materials Engineering</td>
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<td>Andrew Byrne</td>
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<td>School of Education</td>
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<td>Faculty Affairs Committee</td>
<td>Ken Brown</td>
<td>44178</td>
<td>Ken Brown</td>
<td>Yes</td>
<td>Philosophy</td>
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<td>Anika Leithner</td>
<td>15-16</td>
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<td>GE Governance Board</td>
<td>Gary Laver</td>
<td>18-19</td>
<td>Dustin Stegner</td>
<td>Yes</td>
<td>English</td>
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<td>(4 year appointment – ends 2022)</td>
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<td>Grants Review Committee</td>
<td>Dawn Niell</td>
<td>21-22</td>
<td>Dawn Niell</td>
<td>Yes</td>
<td>Anthropology</td>
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<tr>
<td>Instruction Committee</td>
<td>John Hagen</td>
<td>19-20</td>
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<tr>
<td>Research, Scholarship and Creative Activities Committee</td>
<td>Keri Schwab</td>
<td>19-20</td>
<td>Jesse Vestermark</td>
<td>Yes</td>
<td>PCS</td>
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<td>Sustainability Committee</td>
<td>Jonathan Reich</td>
<td>21-22</td>
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<tr>
<td>USCP</td>
<td>Grace Yeh</td>
<td>19-20</td>
<td>Grace Yeah</td>
<td>Yes</td>
<td>Ethnic Studies</td>
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# Academic Senate Calendar of Meetings
## For 2022-2023

All Executive Committee meetings are held in 01-409 unless otherwise noted. All Academic Senate meetings are held in UU220 unless otherwise noted. All meetings are from 3:10 to 5:00pm.

<table>
<thead>
<tr>
<th>DATE</th>
<th>MEETING</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 16, 2022 (Friday, 1:00 to 5:00pm)</td>
<td>Academic Senate Retreat</td>
</tr>
<tr>
<td>September 20</td>
<td>Executive Committee</td>
</tr>
<tr>
<td>October 4</td>
<td>Academic Senate</td>
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<td>October 11</td>
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<tr>
<td>November 1</td>
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<tr>
<td>November 8</td>
<td>Academic Senate</td>
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<tr>
<td>November 15</td>
<td>Executive Committee (if needed)</td>
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<tr>
<td>November 29</td>
<td>Academic Senate (if needed)</td>
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<tr>
<td>December 5 – January 8, 2023</td>
<td>Finals Week and Quarter Break</td>
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<tr>
<td>January 10</td>
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<td>January 24</td>
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<td>February 28</td>
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<td>March 7</td>
<td>Executive Committee (if needed)</td>
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<tr>
<td>March 14</td>
<td>Academic Senate (if needed)</td>
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<td>March 20 – March 31, 2023</td>
<td>Finals Week and Quarter Break</td>
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<tr>
<td>April 3</td>
<td>Executive Committee</td>
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<td>April 18</td>
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<td>May 23</td>
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<tr>
<td>May 30</td>
<td>Executive Committee (if needed)</td>
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<tr>
<td>June 5</td>
<td>Academic Senate (if needed)</td>
</tr>
<tr>
<td>June 12 – June 23, 2023</td>
<td>Finals Week and Quarter Break</td>
</tr>
</tbody>
</table>
RESOLUTION ON SCHEDULING OF ONLINE ASSESSMENTS

WHEREAS, Online assessments of student learning are becoming more common; and

WHEREAS, Students have personal commitments scheduled outside of class time; and

WHEREAS, Students plan these commitments based on their class schedule; and

WHEREAS, Online assessments with narrow availability windows may conflict with student personal commitments; and

WHEREAS, These time conflicts may fall disproportionately and inequitably on students who need to work and those with dependent care obligations; and

WHEREAS, Online assessments that conflict with student personal commitments may harm student success; and

WHEREAS, The faculty of Cal Poly are dedicated to student success; and

WHEREAS, Online assessments with broad availability windows alleviate such conflicts; therefore be it

RESOLVED: The Academic Senate endorses the attached guidance for administering online assessments, and be it further

RESOLVED: The Academic Senate will ask the Registrar to circulate this guidance at the beginning of each academic year.

Proposed by the Academic Senate Instruction Committee
Date: March 29, 2022
Guidance for Scheduling of Online Assessments

Background
Prior to the rapid transition to online instruction necessitated by the COVID-19 pandemic, most exams, quizzes, and other types of assessment were administered in person during regularly scheduled class meetings; final exams and other final assessments were administered during the scheduled final exam time. During the campus closure starting in March of 2020, most assessments were conducted online. While Cal Poly has returned to predominantly in-person instruction for the 2021-22 academic year, it is likely that online assessments will continue to be used more frequently than in the pre-pandemic era.

Before Cal Poly offered online assessments, students were better able to plan their schedules so that other responsibilities would not conflict with their class assessments. Since then, online assessments have become more widespread, and some students in courses have been required to complete online assessments with a short assessment availability window, outside of the regularly scheduled class time. Some classes scheduled for asynchronous online delivery have required students to take assessments synchronously at a specific date and time within a short assessment availability window. In some instances, the assessment availability window has been as short as 30 – 60 minutes. These practices have created conflicts for students required to complete an assessment at the same time that they had other scheduled obligations such as a scheduled class meeting for another course, employment, family care responsibilities, or a school-related event. This could compromise student success if students must choose between taking an online assessment, or missing another class, or having to take time off work.

Faculty can avoid creating these conflicts by adhering to the following guidance.

Guidance

Availability Window Definition
For the purposes of this document, the assessment availability window is the time during which a student can choose to complete an exam, quiz, or other assessment. This is not the same as the time limit for the assessment. For instance, an exam with a 90-minute time limit to complete, could have an assessment availability window from Monday at 6 AM until Tuesday at 6 PM. The student could start the exam anytime in the 36-hour assessment availability window but would have to finish within 90 minutes of starting the exam.

During the Instructional Period (Not including Finals Week)
1. For classes with a scheduled meeting time, assessments administered online should be offered during the regularly scheduled class meeting time or have an assessment availability window of at least 24 hours; assessment availability windows can include weekend days, but at least 24 hours of the window should be on a weekday.
2. For classes without a scheduled meeting time, assessments administered online should have an assessment availability window of at least 24 hours; assessment availability windows can include weekend days, but at least 24 hours of the
window should be on a weekday.

3. Faculty are strongly encouraged to set the assessment availability window for online assessments to at least 36 hours; at least 24 of those hours should be on a weekday.

During the Last Week of Classes for lab courses, activity courses, and 1-unit lecture courses

1. For classes with a scheduled meeting time, final assessments administered online should occur during the scheduled class meeting time or have an assessment availability window of at least 48 hours. The day and time of the final assessment or the assessment availability window for the final assessments should be included in the syllabus on the first day of class.

2. For classes without a scheduled meeting time, final assessments administered online should have an assessment availability window of at least 48 hours and the assessment availability window for the final assessment should be included in the syllabus on the first day of class.

3. Faculty are strongly encouraged to set the assessment availability window for online final assessments to 72 hours or more.

During Finals Week for lecture courses of two or more units

1. For classes with a scheduled meeting time, final assessments administered online should be offered during the time posted in the final exam schedule or have an assessment availability window of at least 48 hours during finals week (Monday-Friday). The day and time of the final assessment or the assessment availability window for the final assessments should be included in the syllabus on the first day of class.

2. For classes without a scheduled meeting time, final assessments administered online should have an assessment availability window of at least 48 hours during final exam week (Monday-Friday) and the assessment availability window for the final assessment should be included in the syllabus on the first day of class.

3. Faculty are strongly encouraged to set the assessment availability window for online final assessments to 72 hours or more.
RESOLUTION ON UFPP 11.4.2 DEPARTMENTAL ROLE IN THE SELECTION PROCESS FOR CHAIRS AND HEADS

Impact on Existing Policy: Policy enacted by this resolution expresses already established policy based on AM-20171030 in UFPP Appendix.

WHEREAS, Departmental voting procedures for recommendations to deans for internal department chairs and heads are limited by policy established in AM-20171030: Settlement on Lecturer Voting; and

WHEREAS, These policies on voting procedures are expressed in “Cal Poly Election Process for Internal Department Heads/Chairs” available on the Academic Personnel website; and

WHEREAS, The scope of the ways departments work with deans in the selection of departmental leadership should be clear to faculty and administration; and

WHEREAS, University Faculty Personnel Policies (UFPP) is the governing document for faculty personnel policies at Cal Poly with its appendix containing administrative memos, therefore be it

RESOLVED: The policy contained in UFPP 11.4.2 Departmental Role in the Selection Process for Chairs and Heads be placed in UFPP Academic Year 2022-23, and be it further

RESOLVED: “Cal Poly Election Process for Internal Department Heads/Chairs” be placed in UFPP Appendix, and be it further

RESOLVED: By Fall 2022 Colleges revise chapter 11 of their personnel policy documents as needed to conform with 11.4.2.
Proposed by: Academic Senate Faculty Affairs Committee
Date: [Sometime in 2022]

1 (1) Describe how this resolution impacts existing policy on educational matters that affect the faculty. Examples include curricula, academic personnel policies, and academic standards.
(2) Indicate if this resolution supersedes or rescinds current resolutions.
(3) If there is no impact on existing policy, please indicate NONE.
EXECUTIVE SUMMARY: Academic Senate Faculty Affairs Committee (FAC) proposes placing into UFPP policies on the departmental role in the selection of chairs or heads, including existing policy on requirements for lecturer participation in any departmental voting procedures for such recommendations.

BACKGROUND: The Academic Senate Faculty Affairs Committee (FAC) is a standing Senate committee with representation from each college, the library and professional consultative services, Academic Affairs, and a student representative. FAC employs a streamlined process for approval of updates to University Faculty Personnel Policies (UFPP) including consultation with faculty affected by proposed changes and clear identification of which policy documents have been superseded by a proposed change. This process uses Academic Senate resolutions to establish new policy, revise existing policy, or substantially reformulate existing policy.

Summary

Administrative memos establishing university personnel policies reside in the UFPP Appendix, updated annually and available on the Academic Personnel website. In Fall 2017 a no-fault settlement to a grievance established university level policy on departmental voting procedures concerning the advising of deans in the appointments of internally selected chairs and heads. This policy required such elections to include 12.12 (3-year) faculty along with tenure-line faculty equivalently in such elections, and required other lecturers to have a separate advisory vote. An email to the faculty on this matter is in UFPP Appendix as AM-20171030: Settlement on Lecturer Voting. The document “Cal Poly Election Process for Internal Department Heads/Chairs” from February 8, 2018 expresses these requirements in policy form, and therefore should be placed in the UFPP Administrative Memos appendix as AM-20180208.

FAC proposes placing these existing policies into UFPP 11.4.2, along with other related policies concerning the departmental role in the selection of department chairs and heads. These other policies cover interim chair and head appointments, external searches for chairs and heads, and the role of faculty, including lecturers, in these procedures.

Impact on Existing Policy

The policies concerning voting procedures contained in UFPP 11.4.2 expresses current policy and practice at Cal Poly, and so there is no impact on existing policy by placing these policies in UFPP. College and library personnel policies must conform with the policies in 11.4.2 concerning interim chair and head appointments.

Faculty Affairs Committee
Implementation

College and department personnel policies concerning voting procedures for recommendations to the dean of internal chair/head candidates, and any other policies about departmental roles in selections of chairs and heads need to be updated to cite UFPP 11.4.2.

Consultation with Faculty Units

Consultation on this matter is concurrent with its placement on the Academic Senate Executive Committee and main meeting agendas.

What follows is the proposed text of 11.4.2 contained within the entirety of subchapter 11.4, and the administrative documents to be placed in UFPP Appendix.

The policies in 11.4.1 and 11.4.3 were recently passed by the Senate and await recognition by Pres. Armstrong. The proposed policies for 11.4.2 are best seen in the context of the whole of 11.4, and so we provide the entirety of that subchapter here. Two cross references to 11.4.2 are needed in 11.4.1. They are indicated in red underlined text.
11.4. Department Governance

11.4.1. Department Leadership

11.4.1.1. Policy in 11.4.1 established by AS-934-22.

11.4.1.2. Department chairs and heads are faculty who have administrative functions as part of their assignment. Department chairs and heads serve at the pleasure of the dean. Appointment of chairs and heads are made by the dean after consultation with the faculty, the provost, and the president. Consultation with the faculty includes the departmental selection processes contained in 11.4.2.

11.4.1.3. In exceptional cases MPP administrators may be appointed as chairs or heads on an interim basis. Also, department chairs and heads may be appointed to MPP positions on an interim basis. Interim appointments are covered further in 11.4.2.5.

11.4.1.4. Department chairs receive three-year renewable appointments. The definite term of chair appointments allows for a rotation of department leadership providing new leadership, fresh ideas, shorter term action plans, and the opportunity for more faculty to rotate through this leadership role.

11.4.1.5. Department heads receive appointments over an indefinite period, providing long-term continuity of leadership within their department and college.

11.4.1.6. Deans determine whether a department chair or department head appointment best suits the needs of the department and college.

11.4.1.7. Department chairs and heads may have academic year appointments, 12-month appointments. The nature of the appointment depends on the nature of their duties in the academic year and during summer, as determined by the dean, and are compensated accordingly.

11.4.1.8. The responsibilities and priorities of department chairs and heads will vary across colleges, departments, and individuals. Departments have varying models of how the responsibilities listed below will be accomplished. Although there are many items listed as the department chairs’ and heads’ responsibilities, some of these items may be delegated to other faculty and staff depending on the size of the department, organizational structure, support staff and the fraction of the department chair’s or head’s assignment that is dedicated to administrative duties. The college deans will help the department chairs and heads understand the prioritization of these duties in conjunction with the college and department’s vision and goals.

11.4.1.9. Academic Personnel maintains a document describing in detail the responsibilities and priorities of department chairs and heads, including the following areas of management and leadership for the department:

- Administration of department affairs
- Budget development and administration
- Department personnel
- Academic programs and curriculum
- Student engagement and success
- Advocacy for the department’s interests
- Community engagement and development activities

11.4.1.10. Department chairs and heads are subject to annual administrative review. This administrative review is wholly distinct from faculty evaluations that are
11.4.2. **Departmental Role in the Selection Process for Chairs and Heads**

11.4.2.1. Policy in 11.4.2 established by [cite Senate action] and AM-20171030, editorially revised in [AM-20180208].

11.4.2.2. Processes conducted within a department for selection of candidates for department chairs and heads are advisory, providing recommendations from the department faculty to the dean.

11.4.2.3. Any departmental practice for selecting candidates for department chairs or heads that involves voting among the department faculty shall incorporate the voting requirements outlined below. These voting requirements represent a minimum; departments may modify their department chair or head selection policies through the joint governance process approved by the dean.

11.4.2.3.1. All 12.12 (3-year) lecturers, including counselors and librarians, with an appointment in the academic quarter of the vote will be eligible to participate in the vote to recommend a department chair or head, with a full vote in their department voting process. Nothing in the balloting process will differentiate the three-year lecturers’ vote from tenured and tenure-track faculty votes for department chair or head recommendations.

11.4.2.3.2. All other lecturers will be granted an advisory vote. These advisory votes will be differentiated and summarized separately from the votes of the 12.12 (3-year) lecturers, tenured faculty, and tenure-track faculty.

11.4.2.3.3. Lecturers shall be notified regarding the department voting process in the same manner as all tenured and tenure-track faculty.

11.4.2.3.4. Lecturers eligible to cast a vote or an advisory vote shall be afforded the same opportunity as tenured and tenure-track faculty to attend regularly scheduled department meetings when department chair or head recommendation balloting is scheduled.

11.4.2.4. The results of all departmental voting shall be included in the department’s basis for recommendations of suitable candidates from the department to the dean.

11.4.2.5. An interim chair or head may be appointed from faculty within the department, from faculty not in the affected department, or from administrators. Interim chairs and heads are intended to serve until the dean makes a standard appointment of a department chair or head. The initial appointment of an interim chair or head shall be for a defined period of time, renewed as needed. For renewal of interim appointments extending beyond the academic year following the appointment, the dean shall solicit feedback from all department faculty, including all lecturers employed when the feedback is collected, for use in the dean’s decision about the chair or head appointment.

11.4.2.6. In exceptional cases the college may undergo a standard faculty recruitment to hire a department chair or head. In addition to all the normal aspects of a faculty recruitment, the chair of the search committee shall solicit feedback from all lecturers employed during the quarter of the search; these lecturers will be granted a full advisory vote, which will be presented to the faculty search committee. This advisory vote shall be included in the basis for
recommendations of suitable candidates from the search committee to the dean.

11.4.3. **Changes in Department Leadership Models**

11.4.3.1. Policy in 11.4.3 established by AS-935-22, superseding AS-801-15.

11.4.3.2. The dean has discretion over the type of department chair or head appointments appropriate for the college and department.

11.4.3.3. Changes in department leadership models shall involve a consultative process with department faculty and staff.

11.4.3.4. Colleges shall specify in their personnel policy documents the process for implementing such a change in departmental leadership.
RESOLUTION ON NEW DEGREE PROGRAM FOR MASTERS OF SCIENCE IN STATISTICS

WHEREAS, For nearly 50 years the Statistics Department has offered a BS Statistics degree and, in 1973 was among the first programs in the nation to offer an undergraduate degree in statistics; and

WHEREAS, Demand for statisticians with advanced degrees vastly outstrips supply, both in California and nationwide; and

WHEREAS, Cal Poly’s Academic Plan Consultative Committee reviewed the summary statement for the new Master of Science in Statistics degree; and

WHEREAS, Both the Cal Poly Provost and the CSU Board of Trustees approved the addition of the new Master of Science in Statistics degree to Cal Poly’s academic plan; and

WHEREAS, The department developed a new degree program proposal (see attached) using the template required by the Chancellor’s Office; and

WHEREAS, This new degree program proposal has been approved by the Statistics department curriculum committee, the College of Science and Mathematics curriculum committee, and the Academic Senate Curriculum Committee; therefore be it

RESOLVED: That the Academic Senate of Cal Poly approves the new degree program for final review by the Chancellor’s Office.

Proposed by: Andrew Schaffner, Kelly Bodwin, and John Walker on behalf of the Statistics Department Faculty

Date: March 29, 2022
NEW DEGREE PROPOSAL

Master of Science in Statistics

March 2022
Please confirm (✓) that the following are included in the degree proposal:

✓ Board of Trustees Academic Master Plan approval date

✓ WSCUC response to Substantive Change Screening Form is attached

N/A Copies of any contracts or agreements made between parties with an interest in operating the proposed program. Other entities may include academic departments, academic institutions, foundations, vendors or similar. Please include a copy of the agreement and an e-mail or other evidence that the campus attorney has approved the agreement.

✓ The total number of units required for graduation is specified (not just the total for the major):

N/A a proposed bachelor’s program requires no fewer than 120 semester units

N/A any proposed bachelor’s degree program with requirements exceeding 120 units must request an exception to the 120 semester unit limit policy

✓ all units required for degree completion must be included in the total units required for the degree. Any proficiencies required to graduate that are beyond what is included in university criteria admission criteria must be assigned unit values and included in the total unit count.

N/A Title 5 minimum requirements for bachelor’s degree have been met, including:

N/A minimum number of units in major (BA 24 semester units, BS 36 semester units)

N/A minimum number of units in upper-division (BA 12 semester units, BS 18 semester units)

✓ Title 5 requirements for proposed master’s degree have been met, including:

✓ minimum of 30 semester units of approved graduate work are required

✓ no more than 50% of required units are organized primarily for undergraduate students

✓ maximum of 6 semester units are allowed for thesis or project

✓ Title 5 requirements for master’s degree culminating experience are clearly explained.

✓ for graduate programs, at least five full-time faculty with terminal degrees in appropriate disciplines are on staff.

N/A For self-support programs:
(in conformance with EO 1099 and EO 1102)
N/A specification of how all required EO 1099 self-support criteria are met

N/A the proposed program does not replace existing state-support courses or programs

N/A academic standards associated with all aspects of such offerings are identical to those of comparable state-supported CSU instructional programs

N/A explanation of why state funds are either inappropriate or unavailable

N/A a cost-recovery program budget is included*

N/A student per-unit cost is specified

N/A total cost for students to complete the program is specified

* Basic Cost Recovery Budget Elements
   (Three to five year budget projection)

Student per-unit cost
Number of units producing revenue each academic year
Total cost a student will pay to complete the program

Revenue  - (yearly projection over three years for a two-year program; five years for a four-year program)
   Student fees
   Include projected attrition numbers each year
   Any additional revenue sources (e.g., grants)

Direct Expenses
   Instructional costs – faculty salaries and benefits
   Operational costs – (e.g., facility rental)
   Extended Education costs – staff, recruitment, marketing, etc.
   Technology development and ongoing support (online programs)

Indirect Expenses
   Campus partners
   Campus reimbursement general fund
   Extended Education overhead
   Chancellor’s Office overhead

*Additional line items maybe added based on program characteristics and needs.
1. Program Type
   a. State-Support
   c. Delivery Format: Fully face to face
   e. New Program

2. Program Identification
   a. Campus:
      California Polytechnic State University, San Luis Obispo
   b. Full and exact degree designation and title:
      Master of Science in Statistics
   c. Date the Board of Trustees approved adding this program projection to the campus
      Academic Master Plan:
      March 24, 2020
   d. Term and academic year of intended implementation:
      Fall 2023
   e. Total number of units required for graduation. This will include all requirements (and
      campus-specific graduation requirements), not just major requirements:
      45 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 Statistics, College of Science and Math
   g. Name, title, and rank of the individual(s) primarily responsible for drafting the proposed
      degree major program.
      Dr. Andrew Schaffner, Professor (aschaffn@calpoly.edu)
      Dr. Kelly Bodwin, Assistant Professor (kbodwin@calpoly.edu)
      Dr. John Walker, Professor (jwalker@calpoly.edu)
      Dr. Dennis Sun, Assistant Professor (dsun09@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.

See: Supplement 4: Dean’s Office Letter of Support

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

See Supplement 1:
(a) Statistics Department Curriculum Committee approval
(b) College of Science and Math Curriculum Committee approval and Academic Senate Curriculum Committee approval
(c) Academic Senate Resolution
(d) Presidential approval

j. Substantive Change:
The WASC Senior College and University Commission Substantive Change Manual states: Institutions must submit a Substantive Change Screening Form for all new degree programs to determine if a review is necessary. Please include a copy of the response to the Substantive Change Screening form.

If this proposed program is subject to WSCUC Substantive Change review, the campus may submit a copy of the WSCUC Sub-Change proposal in lieu of this CSU proposal format. If campuses choose to submit the WSCUC Substantive Change Proposal, they will also be required to submit a program assessment plan using the format found in the CSU program proposal template.

The proposed program was submitted for a substantive change screening. WSCUC determined that the program was not subject to WSCUC Substantive Change Review.

See Supplement 7: WSCUC Response to Substantive Change Screening

k. Proposed Classification of Instructional Programs and CSU Degree Program Code

Although the Chancellor’s Office assigns CIP Codes, campuses are invited to suggest one CSU degree program code and one corresponding CIP code. If an appropriate CSU code does not appear on the system-wide list at: http://www.calstate.edu/app/resources.shtml you can search CIP 2020 at http://nces.ed.gov/ipeds/cipcode/ to identify the code that best matches the proposed degree program. The Classification of Instructional Programs (CIP) is a National Center for Education Statistics (NCES) publication that provides a numerical classification and standard terminology for secondary and postsecondary instructional programs. The CSU degree program code (based on old HEGIS codes) and CIP code will be assigned when the program is approved by the Chancellor.

27.0501 (Statistics – General)
3. Program Overview and Rationale

   a. Provide a brief descriptive overview of the program citing its 1) purpose and strengths, 2) fit with the institutional mission or institutional learning outcomes, and 3) the compelling reasons for offering the program at this time.

The purpose of the Masters of Science in Statistics program is to provide advanced training to students preparing for careers in statistics and data analysis. The proposed program consists of advanced coursework that lays conceptual and methodological foundations, as well as applied skills such as statistical computing. The degree also includes a significant amount of independent research, including consulting with external clients and collaborating on interdisciplinary projects across campus. This is a unique program that fits Cal Poly’s “Learn by Doing” mission, giving students hands-on experience with applying statistical theory to real problems. Students will be partners with faculty in building cross-campus, interdisciplinary collaborations, which will benefit both students and faculty---not just in the Statistics department but across the entire university.

One notable strength of the proposed program is the faculty. The Statistics Department at Cal Poly is renowned nationally: faculty regularly publish work and present at major conferences, and four of our faculty members have been elected Fellows of the American Statistical Association. It is one of only two standalone Statistics departments in the CSU, with 20 tenure-track faculty members whose training, research, and expertise is specifically in statistics and data analysis. Thus, we are well-positioned to train students for the growing number of jobs in these areas.

In 2019, the College of Science and Math contracted Hanover Research to conduct market research based on our preliminary proposal for a Masters program. It found that the demand in the job market for statisticians with advanced degrees vastly outstrips the supply, both in California and nationwide. The gap is projected to widen over the next 10 years. Hanover Research concluded that the market was highly favorable for a Masters program like ours.

Although the Statistics Department already offers an undergraduate degree in Statistics and a cross-disciplinary studies minor in Data Science, many data-driven jobs now require advanced degrees. Our proposed Master’s program would equip students with the skills and qualifications necessary to step directly into high-level data analysis jobs. This opportunity would greatly benefit current undergraduates at Cal Poly, as well as provide an option for students in the Central Coast region who completed their undergraduate degree elsewhere.

   b. Provide the proposed catalog description. The description should include:

   i. a narrative description of the program

The Masters of Science in Statistics program is designed to provide advanced training to students preparing for careers in statistics and data analysis. The program consists of coursework that lays the conceptual and methodological foundations of the discipline, as well as consulting and research experiences.
The program is intended for students with an undergraduate major or minor degree in Statistics. It requires completion of a core curriculum (covering theory and applications), a thesis, and directed electives for a total of 45 units.

**ii. admission requirements:**

All students must have taken the equivalent of:
- MATH 206 (linear algebra),
- MATH 241 (multivariable calculus),
- CSC 101 (introductory computer science), and
- STAT 302 (second course in statistics).

In addition, students are expected to have taken the equivalent of:
- STAT 323 (design of experiments)
- STAT 331 (statistical computing in R)
- STAT 334 (applied linear models)

Students without these courses may be admitted conditionally, taking up to 12 units (not applicable to the degree) in these areas to make up for any deficiencies.

**iii. a list of all required courses for graduation including electives, specifying course catalog numbers, course titles, prerequisites or co-requisites (ensuring there are no “hidden prerequisites” that would drive the total units required to graduate beyond the total reported in 2e above), course unit requirements, and any units associated with demonstration of proficiency beyond what is included in university admission criteria**

- **Core Courses (37 units)**
  - STAT 425: Probability Theory (4 units)
    Prerequisites: MATH 206, MATH 241, STAT 302
    *(all admissions requirements)*
  - STAT 426: Estimation and Sampling Theory (4 units)
    Prerequisites: STAT 425
  - STAT 427: Mathematical Statistics (4 units)
    Prerequisites: STAT 426
  - STAT 550: Generalized Linear Models (4 units)
    Prerequisites: STAT 334, STAT 427
  - STAT 551: Statistical Learning with R (4 units)
    Prerequisites: STAT 331 or 531, STAT 334, STAT 305 or STAT 350
  - STAT 566: Graduate Consulting Practicum (2 units)
    Prerequisites: STAT 466
  - STAT 590: Graduate Seminar (3 units)
  - STAT 599: Thesis (8 units)

- **Elective Courses (8 units)**
  - STAT 541: Advanced Statistical Computing with R (4 units)
    Prerequisites: STAT 331, STAT 334, STAT 426
○ STAT 543: Advanced Design and Analysis of Experiments (4 units)
  Prerequisites: STAT 323 or 523, STAT 334 or 534
○ STAT 545: Applied Stochastic Processes (4 units)
  Prerequisites: MATH 206 or MATH 244, STAT 426
○ STAT 500: Independent Study (1-4 units)
  Prerequisites: Consent of graduate advisor
○ CSC 566: Topics in Advanced Data Mining (4 units)
  Prerequisites: CSC 466
○ CSC 582: Introduction to Natural Language Processing (4 units)
  Prerequisites: CSC 466
○ MATH 550: Real Analysis (4 units)
  Prerequisites: Consent of instructor

● Prerequisite Courses (0-12 units, depending on student background)
  ○ STAT 323: Design and Analysis of Experiments I (4 units)
  ○ STAT 331: Statistical Computing with R (4 units)
  ○ STAT 334: Applied Linear Models (4 units)

* Students who complete 400-level Core Courses as part of their Bachelor’s Degree or Minor Degree may substitute any 500-level elective course, or any approved 400-level elective course. (See Supplement 2: Approved Electives for a list of approved courses.)

iv. total units required to complete the degree:

45

v. if a master’s degree, catalog copy describing the culminating experience requirement(s)

This degree culminates in completion of a thesis, which gives students experience in completing an original research project. The findings of this thesis should be of a quality commensurate with publication in a peer-reviewed scientific journal.

4. Curriculum

(These requirements conform to the revised 2013 WASC Handbook of Accreditation)

a. These program proposal elements are required:

• Institutional learning outcomes (ILOs)
• Program learning outcomes (PLOs)
• Student learning outcomes (SLOs)

Describe outcomes for the 1) institution, 2) program, and for 3) student learning. Institutional learning outcomes (ILOs) typically highlight the general knowledge, skills, and dispositions all students are expected to have upon graduating from an institution of higher learning. Program learning outcomes (PLOs) highlight the knowledge, skills, and dispositions students are expected to know as graduates from a specific program. PLOs are more narrowly focused than
ILOs. Student learning outcomes (SLOs) clearly convey the specific and measureable knowledge, skills, and/or behaviors expected and guide the type of assessments to be used to determine if the desired level of learning has been achieved.

(WASC 2013 CFR: 1.1, 1.2, 2.3)

Institutional Learning Outcomes:

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, respect for diversity, and awareness of issues related to sustainability
7. Engage in lifelong learning

Program Learning Outcomes:

After completing the MS Statistics, students will be able to

1. Demonstrate mastery of core statistical theory;
2. Demonstrate proficiency in statistical methodology and data analysis;
3. Select, justify, and apply appropriate inferential and predictive methods;
4. Responsibly interpret results and output of statistical analyses;
5. Communicate effectively (written and oral) and organize/manage projects in collaborative settings (within and between disciplines);
6. Write code for statistical applications in one or more languages;
7. Gather and manage data from a variety of sources;
8. Collaborate with researchers and clients to solve data-oriented problems that arise in other disciplines; and,
9. Conduct independent learning and research.

Student Learning Outcomes:

All students will

1. Serve the needs of one or more research clients or collaborators by identifying, implementing, and mathematically defending the use of appropriate statistical methodology;
2. Practice self-learning skills to maintain currency in statistical and associated computing methodology through reading, discussion, and peer presentations of current practices as reflected in statistical literature;
3. Build and evaluate inferential and predictive models to analyze data with both numeric and categorical responses using statistical programming; and
Master of Science in Statistics (MS-STAT) SLO PLO Mapping Matrix.

<table>
<thead>
<tr>
<th>SLO 1</th>
<th>PLO 1</th>
<th>PLO 2</th>
<th>PLO 3</th>
<th>PLO 4</th>
<th>PLO 5</th>
<th>PLO 6</th>
<th>PLO 7</th>
<th>PLO 8</th>
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<td>SLO 3</td>
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<td>SLO 4</td>
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<td>x</td>
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</tbody>
</table>

b. These program proposal elements are required:

- Comprehensive Assessment Plan addressing all assessment elements
- Matrix showing where student learning outcomes are introduced (I), developed (D), and mastered (M)

Key to program planning is creating a comprehensive assessment plan addressing multiple elements, including a strategy and tool to assess each student learning outcome. SLOs operationalize the PLOs and serve as the basis for assessing student learning in the major. Constructing an assessment matrix, showing the relationship between all assessment elements, is an efficient and clear method of displaying all assessment plan components.

Creating a curriculum map matrix, identifying the student learning outcomes, the courses where they are found, and where content is “introduced,” “developed,” and “mastered” insures that all student learning outcomes are directly related to overall program goals and represented across the curriculum at the appropriate times. Assessment of outcomes is expected to be carried out systematically according to an established schedule, generally every five years.

Comprehensive Program Assessment Plan:

The Statistics Department has a standing Assessment Committee that will evaluate MS program assessment elements identified in the comprehensive assessment plan. The Assessment Committee will summarize its assessment activities at the end of each academic year and will then report the results to the full Statistics Department faculty. The Assessment Committee will make recommendations on how the degree program can be improved based on the assessment results. The Department will decide upon and perform additional curricular follow-ups to all assessment activities, which may involve consultation with external bodies.
Direct Assessment:

The Statistics department will use the following as direct assessment of the master’s program:

- Embedded questions in exams linked to specific SLOs/PLOs.
- Homework assignments, projects, oral presentations, statistical consulting, and written reports. We will use rubrics developed around certain criteria for specific learning outcome to be assessed. Each course will have artifacts linked to SLOs and PLOs.

Capstone Experience: Thesis Project:

Progress through the MS degree provides a cumulative experience beginning with foundational coursework and culminating with implementation of a research thesis. Students can experience this milestone through completion of the research thesis course (STAT 599) and publication of a written thesis report in a digital archive and/or peer review journal. Written reports will be evaluated using an appropriate rubric to assess many of the PLOs. The comprehensive assessment plan provides a structure to evaluate achievement of PLOs. The assessment plan aligns the Institutional Learning Outcomes, and the Program Learning Outcomes with the assessment activities, tools, schedule, reports, program findings and closing the loop strategies for program assessment and improvement.

Indirect Assessment:

The following methods will be used to collect data that reflects indirect assessment:

- Surveys/Interviews: The MS degree program will survey graduating students and alumni to gather data and feedback for assessment of program objectives.

- Postgraduate employer/advisory survey: External indicators can serve as excellent feedback that the MS degree is meeting its program goals. The postgraduate employer/advisory survey will help determine the success of graduates in securing positions in academia, private sector, governmental agencies, and non-profits.

Full Comprehensive Program Assessment Matrix:

Please refer to Appendix 1A – Program Assessment Matrix.
Curriculum Map Matrix:

<table>
<thead>
<tr>
<th>SLO 1: Serve the needs of one or more research clients or collaborators by identifying, implementing, and mathematically defending the use of appropriate statistical methodology</th>
<th>STAT 425/6/7 Statistical Theory Sequence</th>
<th>STAT 550 Generalized Linear Models</th>
<th>STAT 551 Statistical Learning with R</th>
<th>STAT 565 Graduate Consulting Practicum</th>
<th>STAT 590 Graduate Seminar</th>
<th>STAT 599 Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>I/D</td>
<td>D</td>
<td>D</td>
<td>M</td>
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</table>

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<tr>
<th>SLO 2: Practice self-learning skills to maintain currency in statistical and associated computing methodology through reading, discussion, and peer presentations of current practices as reflected in statistical literature</th>
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<th>D/M</th>
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<tbody>
<tr>
<td>I</td>
<td>I</td>
<td></td>
<td></td>
<td>D/M</td>
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</tbody>
</table>

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<thead>
<tr>
<th>SLO 3: Build and evaluate inferential and predictive models to analyze data with both numeric and categorical responses using statistical programming</th>
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</tr>
</thead>
<tbody>
<tr>
<td>I/D</td>
<td>D/M</td>
<td>D/M</td>
<td></td>
<td></td>
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</tbody>
</table>

| SLO 4: Complete a written thesis and oral thesis defense | | | | | |
|---|---|---|---|---|
| I | | | D | D | M |

Program content is introduced (I), developed (D), and/or mastered (M).

c. **Indicate total number of units required for graduation.**

45 quarter units
d. Include a justification for any baccalaureate program that requires more than 120-semester units or 180-quarter units. Programs proposed at more than 120 semester units will have to provide either a Title 5 justification for the higher units or a campus-approved request for an exception to the Title 5 unit limit for this kind of baccalaureate program.

(Not applicable to MS Program.)

e. If any formal options, concentrations, or special emphases are planned under the proposed major, identify and list the required courses. Optional: You may propose a CSU degree program code and CIP code for each concentration that you would like to report separately from the major program.

(Not applicable to MS Program.)

f. List any new courses that are: (1) needed to initiate the program or (2) needed during the first two years after implementation. Include proposed catalog descriptions for new courses. For graduate program proposals, identify whether each new course would be at the graduate- or undergraduate-level.

STAT 500 – Independent Study (1-4) – New Course*

Individual research or advanced study planned and completed under the direction of a departmental faculty member. Total degree credit limited to 4 units. Total credit limited to 12 units.
Prerequisite: Consent of graduate advisor.

STAT 541 - Advanced Statistical Computing with R (4) – New Course*

Advanced techniques for efficient use of R software to perform statistical computations, analyze large amounts of data, and develop new software. Includes version control systems; code design, documentation, and unit testing; modern data and database software; dynamic data visualizations; special data types; efficient processing of big data; functional programming and recursion; numerical integration and optimization; and. Use of R throughout the course. 4 lectures.
Prerequisites: C- or better in STAT 331 or 531, STAT 334, and STAT 426.

STAT 543 - Advanced Design and Analysis of Experiments (4) – New Course*

$2^k$ and $3^k$ factorial and fractional factorial designs, balanced and partially balanced incomplete block designs, nested designs, split-plot designs, response surfaces, repeated measures, and other design approaches. Design matrices. Random and mixed effects models, confounding, different parameterizations.
Prerequisites: C- or better in STAT 323 or 523 and STAT 334 or 534.

STAT 545 - Applied Stochastic Processes (4) – New Course*

Properties, simulation, and application of stochastic processes. Discrete-time and continuous-time Markov chains, Poisson processes, Gaussian processes,
continuous-state Markov processes. Markov chain Monte Carlo (MCMC) simulation methods and applications. Fitting stochastic process models to data. Prerequisites: MATH 206 or MATH 244; and C- or better in STAT 426.

STAT 550 - Generalized Linear Models (4) – New Course

Theory and application of linear and generalized linear models, including modeling correlated responses, overdispersion, random effects models, mixed effects models, Bayesian generalized linear models, generalized additive models, model selection and model checking. Use of statistical software for implementation of methods. Prerequisites: C- or better in STAT 334 and STAT 427.

STAT 551 - Statistical Learning with R (4) – New Course*

Modern methods in predictive modeling and classification. Splines, smoothing splines, ridge regression, LASSO, regression and classification trees, generalized additive models, logistic regression, and linear discriminant analysis. Model assessment and selection using cross validation, bootstrapping, AIC, and BIC. Use of the R programming language throughout. Prerequisites: C- or better in STAT 334, STAT 331 or 531, and STAT 305 or STAT 350.

STAT 566 - Graduate Consulting Practicum (2) – New Course

Practice in statistical consulting. Observing faculty-led consulting sessions. Organizing and leading consulting projects with faculty supervision. Discussion of statistical consulting cases in a seminar format. 2 seminar. Prerequisite: STAT 466 and graduate standing.

STAT 590 - Graduate Seminar (1) – New Course

Seminar built around topics in advanced statistics selected by the faculty. Discussion of current research papers in statistics. Course may be repeated for up to 3 units. Prerequisite: Graduate standing and consent of instructor.

STAT 599 – Thesis (4) – New Course

Selection by individual or group, with faculty guidance and approval, of topic for independent research or investigation resulting in a thesis or project to be used to satisfy the degree requirement. An appropriate experimental or analytical thesis or project may be accepted. Total credit limited to 8 units. Prerequisite: Graduate standing and consent of instructor.

* These courses replace existing 400-level courses.

g. Attach a proposed course-offering plan for the first three years of program implementation, indicating likely faculty teaching assignments.
(WASC 2013 CFR: 2.2b)

Fall 2023:
STAT 425  Probability Theory (4) (Carlton)
STAT 541  Advanced Statistical Computing with R (4) (Bodwin)

Winter 2024:
STAT 426  Estimation and Sampling Theory (4) (Sun)
STAT 545  Applied Stochastic Processes (4) (Ross)
STAT 551  Statistical Learning with R (4) (Bodwin)

Spring 2024:
STAT 427  Mathematical Statistics (4) (Sun)
STAT 466  Statistical Consulting (4) (Schaffner)
STAT 543  Advanced Design and Analysis of Experiments (4) (McGaughey)
STAT 550  Generalized Linear Models (4) (Walker)

Fall 2024:
STAT 425  Probability Theory (4) (Carlton)
STAT 541  Advanced Statistical Computing with R (4) (Bodwin)
STAT 566  Graduate Consulting Practicum (2) (various faculty)
STAT 590  Graduate Seminar (1) (Sun)

Winter 2025:
STAT 426  Estimation and Sampling Theory (4) (Sun)
STAT 545  Applied Stochastic Processes (4) (Ross)
STAT 551  Statistical Learning with R (4) (Glanz)
STAT 590  Graduate Seminar (1) (Carlton)
STAT 599  Thesis (4) (various faculty)

Spring 2025:
STAT 427  Mathematical Statistics (4) (Sun)
STAT 466  Statistical Consulting (4) (Smith)
STAT 550  Generalized Linear Models (4) (Walker)
STAT 590  Graduate Seminar (1) (Bodwin)
STAT 599  Thesis (4) (various faculty)

Fall 2025:
STAT 425  Probability Theory (4) (Carlton)
STAT 541  Advanced Statistical Computing with R (4) (Bodwin)
STAT 566  Graduate Consulting Practicum (2) (various faculty)
STAT 590  Graduate Seminar (1) (Sun)

Winter 2026:
STAT 426  Estimation and Sampling Theory (4) (Sun)
STAT 545  Applied Stochastic Processes (4) (Ross)
STAT 551  Statistical Learning with R (4) (Bodwin)
STAT 590  Graduate Seminar (1) (Carlton)
STAT 599  Thesis (4)
Spring 2026:
STAT 427 Mathematical Statistics (4) (Sun)
STAT 466 Statistical Consulting (4) (Schaffner)
STAT 550 Generalized Linear Models (4) (Walker)
STAT 590 Graduate Seminar (1) (Bodwin)
STAT 599 Thesis (4)

Note: This schedule to be revised in accordance with the University’s timeline for conversion to a semester system.

h. For master’s degree proposals, include evidence that program requirements conform to the minimum requirements for the culminating experience, as specified in Section 40510 of Title 5 of the California Code of Regulations.

(1) The completion of a specified pattern of study approved by the appropriate campus authority.

[Administrative reviews pending.]

(2) A minimum of thirty semester units of approved graduate work completed within a maximum time to be established by each campus.

The MS degree requires completion of 45 quarter units, equivalent to 30 semester units.

(A) Not less than 21 semester units (32 quarter units) shall be completed in residence.

The MS degree requires at least 32 quarter units be completed in residence.

(B) Not less than one-half of the units required for the degree shall be in courses organized primarily for graduate students.

The MS degree requires a minimum of 27 quarter units of 500 level courses. (This accounts for 60% of total required units)

(C) Not more than six semester units shall be allowed for a thesis or project.

The MS degree does not allow more than 9 quarter units for a thesis or project.

(3) Satisfactory completion of a thesis, project, or comprehensive examination.

The MS degree requires completion of a thesis (8 quarter units)

(4) A grade point average of 3.0 (grade of B) or better in all courses taken to satisfy the requirements for the degree, except that a course in which no letter grade is assigned shall not be used in computing the grade point average.

The MS degree requires a grade point average of 3.0 or better.
i. For graduate degree proposals, cite the corresponding bachelor’s program and specify whether it is (a) subject to accreditation and (b) currently accredited.

(WASC 2013 CFR: 2.2b)

The Cal Poly bachelor’s program in Statistics is the primary bachelor’s program corresponding to the proposed MS in Statistics. This program is not subject to accreditation.

j. For graduate degree programs, specify admission criteria, including any prerequisite coursework.

(WASC 2013 CFR: 2.2b)

Minimum requirements for applicants to be considered are:

- Filing of an application for Graduate Admission (https://www2.calstate.edu/apply) by the deadlines specified at http://admissions.calpoly.edu/applicants/
- Submission of Graduate Record Exam (GRE) General Test scores electronically to Institution Code: R4038. While no minimum GRE scores have been established, they will be used along with other factors (statement of purpose, transcripts, recommendations, etc.) by Graduate Admissions Committee as they consider student applications
- Submission of three letters of recommendation from a source that can attest to the academic capabilities of the applicant. All letters of recommendation must be uploaded through Cal State Apply
- Statement of purpose describing the student’s background and future goals in statistics
- Completion of a bachelor’s degree from an accredited college/university with a minimum grade point average of 3.0 and completion of the following undergraduate coursework:
  - Statistics: At least two courses
  - Mathematics: Multivariable calculus (equivalent to Cal Poly MATH 241) and linear algebra (equivalent to Cal Poly MATH 206)
  - Computer Science: At least course, equivalent to Cal Poly CPE 101

Beyond the minimum requirements, the following considerations are relevant:

- Completion of undergraduate coursework in probability, regression, experimental design, and R. An applicant who lacks prerequisite coursework may be admitted as a conditionally classified student and must make up any deficiencies (12 unit limit) before advancement to classified graduate standing.

All applicants who do not speak and write English as their primary language are required to complete the Test of English as a Foreign Language (TOEFL), taken within the last 2 years with a minimum score of 550 (paper version), 213 (computerized version), or 80 (internet based). Submit scores electronically to Institution Code: 4038. This requirement does not apply if country of citizenship is listed on Cal Poly Admissions website: http://admissions.calpoly.edu/applicants/international/checklist.html

k. For graduate degree programs, specify criteria for student continuation in the program.
Each quarter students are enrolled, satisfactory progress on the Formal Study Plan is expected to be made. Satisfactory academic progress shall be defined as maintaining a 3.0 GPA on all courses listed on the formal study plan. In addition, per University requirement, “graduate students are required to maintain continuous enrollment from the time of first enrollment in a graduate program until completion of the degree. Continuous enrollment is defined as being enrolled during Fall, Winter, and Spring quarters each year. Students can maintain continuous enrollment either by being enrolled as a regular student; obtaining approval for an education or medical leave prior to the quarter when such a leave would begin; or by registering in a special course designated for this purpose, during quarters in which they are not regularly enrolled. Students who fail to fulfill this continuous enrollment requirement will be not be permitted to graduate even if all degree requirements have been completed until payment has been made for all quarters of non-enrollment. In addition, all graduate students must be enrolled the quarter they graduate.”

1. For undergraduate programs, specify planned provisions for articulation of the proposed major with community college programs.

(Not applicable to MS Program.)

m. Provide an advising “roadmap” developed for the major.

(Not directly applicable to MS Program)
See “Supplement 5: Degree Flowchart” for additional degree roadmap details.

n. Describe how accreditation requirements will be met, if applicable, and anticipated date of accreditation request (including the WASC Substantive Change process).

(WASC 2013 CFR: 1.8)

(Not applicable to this MS Program.)

5. Societal and Public Need for the Proposed Degree Major Program

a. List other California State University campuses currently offering or projecting the proposed degree major program; list neighboring institutions, public and private, currently offering the proposed degree major program.

The following CSU campuses offer an M.S. in Statistics:
   East Bay, San Jose, Fullerton, Long Beach, and San Diego.

In the broader Central Coast region, UC Santa Barbara also offers an M.A. in Statistics.

b. Describe differences between the proposed program and programs listed in Section 5a above.

Cal Poly San Luis Obispo is one of only two CSUs to have a standalone Statistics department, with 20 tenure-track faculty members whose training and research is
specifically focused in statistics and data analysis. The CSU campuses currently offering
graduate degrees in statistics are all located very far from the Central Coast, so we expect
our program to fill a geographical gap. As the flagship CSU, Cal Poly SLO is well suited
to offer a rigorous Master’s program, comparable to those at large research institutions.

Locally, the only comparable program is the M.A. in Statistics at UC Santa Barbara. This
program is comparable in focus; however, it is housed at a large research university,
alongside a Ph.D. program in Statistics, and thus will be culturally distinct from the
proposed degree at Cal Poly SLO. Additionally, employment data suggests that the
demand for advanced statistics degrees far outstrips the current supply of degree programs.
We view the proximity of UC Santa Barbara as an opportunity for cross-institutional
research and collaboration.

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

The only loosely comparable graduate program on the San Luis Obispo campus is the M.S.
in Business Analytics offered by the Orfalea College of Business. Although this program
offers some coursework in statistical analysis and visualization, its primary focus is data-
based decision making in business and marketing. The proposed M.S. in Statistics would
provide direct training in statistical skills and thought, for application in a variety of fields.

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

No community participation is needed for the planning process. However, the creation of
the M.S. in Statistics is partially informed by a survey of 104 alumnae of the B.S. in
Statistics at Cal Poly, which included questions to potential employers regarding the
marketability of a Statistics M.S. degree. (See below)

e. Provide applicable workforce demand projections and other relevant data.

Statistics is one of the fastest-growing areas of job demand in the United States. A recent
market analysis study performed for the College of Science and Mathematics (CSM) by
Hanover Research found 6,365 statistics-related job postings in California in the past 6
months alone. Of these, approximately 1,000 were direct statistician/biostatistician
positions, which typically require graduate degrees. The market research study also found
a projected growth rate for statistics-related jobs in California from 2016 to 2026 is of 19%.
This trend, and the trend holds regionally in the West (18.7%) and nationally (18.1%) as
well. The Hanover study further indicates that statisticians in government, business, and
industry earn between $17,000 and $50,000 more per year if they hold a Master’s degree.

These findings are supported by other national studies: Glassdoor has ranked “data
scientist” the #1 job in America several years in a row, with a median salary of $110,000,
and it is estimated that the demand for data science skills will increase by over 90% in the
next 2 years. The Bureau of Labor Statistics also reports an increasing demand for Master’s
level statistics skills, and the annual survey of the American Statistical Association notes a
marked salary increase for statisticians with a Master’s degree.
Locally, there is also strong evidence for the market value of a graduate degree. In a recent survey of alumni of the Cal Poly Statistics Department (to which 104 people responded), 82% of those employed in industry stated that their workplace would be “somewhat more” or “much more” likely to hire an applicant with a Master’s degree. Most respondents cited the need for specialized data skills as the reason for this preference. Respondents also frequently cited training in specific skills and experience producing independent research as attractive features to prospective employers.

The Statistics Department at Cal Poly has a reputation for producing graduates who are prepared to succeed in the workforce immediately upon graduation. However, as analyses of data-based questions become more complex, the skills required for the most desirable jobs become more specialized. By offering an M.S. program in Statistics, Cal Poly would vastly improve the employment opportunities and job quality of its graduates.

6. 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.

The recent market analysis study performed by Hanover Research concluded that we should move forward with a master’s program in Statistics partly because of the strong student demand for such a program across all geographic levels. Hanover Research cites an average annualized growth rate for master’s degrees in Statistics in California nearly three times the growth rate for all master’s degrees in California. Explicitly, master’s degrees conferrals in Statistics grew at an annualized rate of 9.6 percent 2013 to 2017, much faster than the rate for master’s degrees across all fields (3.3 percent). Trends at the regional and national levels are even stronger, with 9.8 percent and 14.7 percent growth, respectively. Similarly, bachelor’s degrees in statistics programs are also experiencing rapid growth, indicating a strong outlook for Cal Poly’s current undergraduate program, as well as growing prospective student market for the proposed master’s program in Statistics.

The integrated postsecondary education data system (IPEDS) indicates 18 master’s level and 16 bachelor’s level Statistics programs in California in 2017. Regionally, there are 24 master’s level and 16 bachelor’s level Statistics programs in the Far West. In considering the very strong growth at both degree levels, Cal Poly is well positioned to launch a new master’s degree in Statistics.

To ascertain student demand for and interest in a master’s program in Statistics, in fall 2018 we surveyed our current students as well as alumni. Out of the 104 alumni who responded, 47.6% indicated that they pursued advanced degrees elsewhere after graduating from Cal Poly, and 79.6% said they would have been “somewhat” or “very” likely to enroll in an M.S. in statistics at Cal Poly if one had been offered. Similarly, out of the 62 current Cal Poly statistics majors who responded, 73.1% (46 students) indicated that they would be
likely to pursue such a program. Both alumni and current students frequently cited the need for further training in specific skills and experience producing independent research as reasons for their interest. Several current students also emphasized the increased job availability as a factor in their decision. The surveyed alums and current students also provided positive written comments on the prospects, utility and career impact of the proposed program (see appendix 3 for their complete and verbatim comments).

Furthermore, the Statistics Department collects data on graduating seniors every year for program assessment. Over the years, we have gathered encouraging information on student demand and interest for a master’s program. For instance, out of the 29 graduating seniors surveyed in 2017, 86.2% indicated that they would “likely” or “definitely” consider a master’s program in applied Statistics as an academic option. Similarly, out of the 31 graduating seniors surveyed in 2018, 83.9% indicated that they would “likely” or “definitely” consider a master’s program in applied Statistics as an academic option. A high percentage of the 2017 (62.1%) and 2018 (64.5%) graduating seniors surveyed indicated that they would “definitely” consider such a program.

In this light, the department will recruit prospective master’s students from three sources:
1) existing undergraduate Statistics majors,
2) existing Statistics and Data Science minors, and
3) external students through the general Cal Poly graduate admissions process.
Based on our current and forecasted tenured/tenure-track faculty density, we anticipate our graduate program can sustain approximately 20 graduate students per cohort. We estimate that at least 15 of our existing undergraduate majors and minors will be recruited for the master’s program along with at least 5 external candidates.

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.

We are committed to achieving a diverse student group in the MS program. The Cal Poly undergraduate students most likely to enroll in the new program are already gender-diverse. A growing M.S. program with funded research projects will provide an opportunity to recruit individuals from diverse ethnic backgrounds and lower socioeconomic status. Because the proposed program involves on-campus delivery of courses, issues of access for non-traditional students cannot be solved via a distance M.S. program approach. However, we will accommodate when possible non-traditional students such as those in the workforce who may take a longer path to completion of the M.S. degree. In particular, students may enter the program via existing partnerships of the Statistics Departments with local or Bay Area companies such as Google, MindBody JupyterLabs, etc. In these cases, we will be flexible with curriculum design and work closely with students’ supervisors to create a plan of study that is feasible within the constraints of workforce demands.
c. For master’s degree proposals, cite the number of declared undergraduate majors and the degree production over the preceding three years for the corresponding baccalaureate program, if there is one.

<table>
<thead>
<tr>
<th>Undergraduate enrollment (Fall Census)</th>
<th>Total degrees awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Statistics majors</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Year</strong></td>
<td><strong>2019/2020</strong></td>
</tr>
<tr>
<td>2019/2020</td>
<td>176</td>
</tr>
</tbody>
</table>


d. Describe professional uses of the proposed degree program.

In 2015, the Bureau of Labor Statistics named “Statistician” as one of the fastest-growing jobs in the United States. There are countless opportunities for holders of Master’s degree in statistics. Our graduates will be equipped with a singular set of analytical skills that will make them valuable in industry, government, academia and almost every area of science. Below are some of the main career paths for prospective graduates from our program:

- Statistician (research analyst for a corporation or a federal/state/local agency, such as the U.S. Census Bureau)
- Data Scientist (for tech companies, such as Google, and other corporations)
- Biostatistician (research analyst for a corporation, such as Amgen, or a federal/state/local agency, such as the CDC or a county public health department)
- Sports statistician
- University lecturer
- MS as preparation for PhD in Statistics, Biostatistics, or Data Science

According to the Hanover Research market analysis, California employers advertised 5,365 statistics-related jobs between July 2018 and December 2018.

e. Specify the expected number of majors in the initial year, and three years and five years thereafter. Specify the expected number of graduates in the initial year, and three years and five years thereafter.

We anticipate the following student enrollments with an average degree completion time of 2 years.

<table>
<thead>
<tr>
<th>Number of Majors (Annual)</th>
<th>At Initiation</th>
<th>After 3 Years</th>
<th>After 5 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Graduates (Cumulative)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>
7. Existing Support Resources for the Proposed Degree Major Program

   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. Note: For all proposed graduate degree programs, there must be a minimum of five full-time faculty members with the appropriate terminal degree. (Coded Memo EP&R 85-20)

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank/Title</th>
<th>Degree</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Andrew Schaffner</td>
<td>Professor, Chair</td>
<td>Ph.D. Statistics</td>
<td>Public Health&lt;br&gt;Ecology (sampling, monitoring, models), Agriculture&lt;br&gt;Consulting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>University of Washington, Seattle 1997</td>
<td></td>
</tr>
<tr>
<td>Dr. Allan Rossman</td>
<td>Professor</td>
<td>Ph.D. Statistics</td>
<td>Statistics education&lt;br&gt;Curriculum development&lt;br&gt;Interviews with statistics educators</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Carnegie Mellon University 1989</td>
<td></td>
</tr>
<tr>
<td>Dr. Kelly Bodwin</td>
<td>Assistant Professor</td>
<td>Ph.D. Statistics</td>
<td>Data mining&lt;br&gt;Machine learning&lt;br&gt;Big data&lt;br&gt;Statistical computing&lt;br&gt;Applications in text analysis, social science, and biology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>University of North Carolina, Chapel Hill 2017</td>
<td></td>
</tr>
<tr>
<td>Dr. Matt Carlton</td>
<td>Professor</td>
<td>Ph.D. Mathematics</td>
<td>Applied probability&lt;br&gt;Statistics education&lt;br&gt;Predictive modeling for higher-education outcomes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>University of California, Los Angeles 1999</td>
<td></td>
</tr>
<tr>
<td>Dr. Beth Chance</td>
<td>Professor</td>
<td>Ph.D. Operations Research</td>
<td>Curriculum development and assessment in statistics education&lt;br&gt;Statistics education research</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cornell University 1994</td>
<td></td>
</tr>
<tr>
<td>Dr. Jimmy Doi</td>
<td>Professor</td>
<td>Ph.D. Statistics</td>
<td>Categorical Data Analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Institution</td>
<td>Specializations</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------</td>
<td>--------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Dr. Samuel Frame</td>
<td>Professor</td>
<td>North Carolina State University 2003</td>
<td>Biostatistics, Statistical Computing, Statistics Education</td>
</tr>
<tr>
<td>Dr. Hunter Glanz</td>
<td>Associate Professor</td>
<td>Boston University 2014</td>
<td>Statistical Computing Education, Data Science Education, Remote Sensing, Machine Learning</td>
</tr>
<tr>
<td>Dr. Giri Gopalan</td>
<td>Assistant Professor</td>
<td>University of Iceland 2017</td>
<td>Hierarchical and Bayesian statistical modeling, Spatio-temporal statistics, Applications to the natural sciences and engineering (e.g., glaciology)</td>
</tr>
<tr>
<td>Dr. Bret Holladay</td>
<td>Assistant Professor</td>
<td>University of California, Santa Barbara 2016</td>
<td>Theory of Estimation, Confidence Intervals, Statistics Education</td>
</tr>
<tr>
<td>Dr. Ulric Lund</td>
<td>Professor</td>
<td>University of California, Santa Barbara 1998</td>
<td>Circular Statistics, Motor Vehicle and Bicycle Accident, Data Analysis, Statistical Computing, Statistical Consulting</td>
</tr>
<tr>
<td>Dr. Karen McGaughey</td>
<td>Professor</td>
<td>University of California, Santa Barbara 2003</td>
<td>Design of experiments, Statistics education, Statistical consulting, Applications of statistics to engineering</td>
</tr>
<tr>
<td>Dr. Zoe Rehnberg*</td>
<td>Assistant Professor</td>
<td>University of</td>
<td>Biostatistics and genetics</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Institution and Dates</td>
<td>Research Interests</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------------------</td>
<td>----------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Dr. Steve Rein</td>
<td>Associate Professor</td>
<td>Michigan 2022 (expected)</td>
<td>Time series analysis and statistical applications in the biological sciences</td>
</tr>
<tr>
<td>Dr. Emily Robinson*</td>
<td>Assistant Professor</td>
<td>University of Nebraska at Lincoln 2022 (expected)</td>
<td>Statistical Education</td>
</tr>
</tbody>
</table>
| Dr. Kevin Ross     | Associate Professor            | University of North Carolina at Chapel Hill 2006 | Probability and stochastic processes and applications  
|                    |                                |                                        | Probability and statistics education                                        |
| Dr. Soma Roy       | Professor                      | The Ohio State University 2008         | Statistics Education - Curriculum development  
|                    |                                |                                        | Design and Analysis of Experiments  
|                    |                                |                                        | Statistics in Health Sciences and Social Sciences |  
| Dr. Anelise Sabbag | Assistant Professor            | University of Minnesota 2016           | Statistics education  
|                    |                                |                                        | Assessment development  
|                    |                                |                                        | Educational measurement  
|                    |                                |                                        | Online teaching |  
| Dr. Jeff Sklar     | Professor                      | UC Santa Barbara 2003                  | Survival analysis  
|                    |                                |                                        | Educational statistics and measurement  
|                    |                                |                                        | Nonparametric regression |  
| Heather Smith      | Lecturer                       | Florida State University 1989          | Statistical consulting and collaboration  
|                    |                                |                                        | Engineering and industrial statistics  
|                    |                                |                                        | Quality management  
|                    |                                |                                        | Enology and viticulture research  
|                    |                                |                                        | Experimental design and survey |  

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Education</th>
<th>Research Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Dennis Sun**</td>
<td>Associate Professor</td>
<td>Ph.D. Statistics Stanford University 2015</td>
<td>Data science, Statistical software, Statistics education, Audio signal processing</td>
</tr>
<tr>
<td>Dr. Allison Theobold</td>
<td>Assistant Professor</td>
<td>Ph.D. Statistics Education Montana State University 2017</td>
<td>Data science, Statistical software, Statistics education</td>
</tr>
<tr>
<td>Dr. John Walker</td>
<td>Professor</td>
<td>Ph.D. Statistics Cornell University 1995</td>
<td>Statistical computing, Statistical consulting, Statistics education, Linear models</td>
</tr>
</tbody>
</table>

* New hire; expected start date Fall 2022
** Also affiliated with Cal Poly Department of Computer Science and Google.

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

Cal Poly has 5.8 million square feet in 149 major buildings to support educational activities. The majority of the courses for this MS 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.

The Statistics Department has one studio computer lab, with a capacity of 35 students at individual computer workstations.

See: Supplement 8: Strategic Enrollment Management Letter of Support

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

Kennedy Library computer resources: (http://lib.calpoly.edu/use-tech-and-print/borrow-laptops-ipads-and-more/)

See: Supplement 9: Kennedy Library Letter of Support

d. *Describe available academic technology, equipment, and other specialized materials.*

Faculty and Students have access to the following:
8. Additional Support Resources Required

a. Describe additional faculty or staff support positions needed to implement the proposed program.

Our support needs were initially determined under the assumption of 21 full-time tenured or tenure-track faculty during the academic year prior to the implementation of the MS program. At inception, we anticipated a need for one additional tenured or tenure-track faculty member (bringing the total to 22) for administrative duties, supervision of graduate research, and instruction of newly proposed graduate courses in the curriculum of the program. We also anticipated a need for an additional tenured or tenure-track faculty member in the first three to five years, to allow for growth in the M.S. program as well as the Data Science program.

As of Winter 2022, the Statistics Department consists of 21 full-time tenured or tenure-track faculty members and two newly hired tenure-track faculty members with an anticipated start date of Fall 2022. (See Supplement 6: New Position Approval.)

We do not foresee a need for any additional lecturer or staff positions in relation to the MS program in the short term.

b. Describe the amount of additional lecture and/or laboratory space required to initiate and to sustain the program over the next five years. Indicate any additional special facilities that will be required. If the space is under construction, what is the projected occupancy date? If the space is planned, indicate campus-wide priority of the facility, capital outlay program priority, and projected date of occupancy. Major capital outlay construction projects are those projects whose total cost is $610,000 or more (as adjusted pursuant to Cal. Pub. Cont. Code §§ 10705(a); 10105 and 10108).

Because the MS coursework consists primarily of elevations of existing classes, we do not anticipate a need for additional space immediately at inception.

However, the addition of the MS program - in combination with anticipated growth in the undergraduate degree program and ever-increasing enrollment in statistics service courses
– increases demand for Studio Classroom space. We anticipate a need for an additional Studio classroom within the first 3-5 years of the MS program.

c. Include a report written in consultation with the campus librarian which indicates any necessary library resources not available through the CSU library system. Indicate the commitment of the campus to purchase these additional resources.

No additional library resources are required to implement the program, nor is any such need anticipated during the first few years of the program.

d. Indicate additional academic technology, equipment, or specialized materials that will be (1) needed to implement the program, and (2) needed during the first two years after initiation. Indicate the source of funds and priority to secure these resource needs.

No additional academic technology, equipment or specialized materials are required to implement the program, nor is any such need anticipated during the first few years of the program.

9. Self-Support Programs

N/A
<table>
<thead>
<tr>
<th>ILOs</th>
<th>PLOs</th>
<th>SLOs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILO 1: Think critically and creatively</td>
<td>PLO 5: Communicate effectively (written and oral) and organize/manage projects in collaborative settings (within and between disciplines)</td>
<td>SLO 5: Practice self-learning skills to maintain currency in statistical and associated computing methodology through reading, discussion, and peer presentations of current practices as reflected in statistical literature</td>
</tr>
<tr>
<td>ILO 3: Demonstrate expertise in a scholarly discipline and understand that discipline in relation to the larger world of the arts, sciences, and technology</td>
<td>PLO 9: Conduct independent learning and research</td>
<td>STAT 599 Research Proposal Rubric designed for each SLO. Once every two years starting in year two. Report on minimum percentage of students that meet or exceed standards for each SLO.</td>
</tr>
<tr>
<td>ILO 4: Work productively as individuals and in groups</td>
<td>PLO 1: Demonstrate mastery of core statistical theory</td>
<td>SLO 1: Serve the needs of one or more research clients or collaborators by identifying, implementing, and mathematically defending the use of appropriate statistical methodology</td>
</tr>
<tr>
<td></td>
<td>PLO 2: Demonstrate proficiency in statistical methodology and data analysis</td>
<td>SLO 2: Practice self-learning skills to maintain currency in statistical and associated computing methodology through reading, discussion, and peer presentations of current practices as reflected in statistical literature</td>
</tr>
<tr>
<td></td>
<td>PLO 3: Select, justify, and apply appropriate inferential and predictive methods</td>
<td>SLO 3: Build and evaluate inferential and predictive models to analyze data with both numeric and categorical responses using statistical programming</td>
</tr>
<tr>
<td></td>
<td>PLO 4: Responsibly interpret results and output of statistical analyses</td>
<td>SLO 4: Complete a written thesis and oral thesis defense</td>
</tr>
<tr>
<td></td>
<td>PLO 5: Communicate effectively (written and oral) and organize/manage projects in collaborative settings (within and between disciplines)</td>
<td>STAT 599 Written Thesis Rubric designed for each SLO. Once every two years starting in year two. Report on minimum percentage of students that meet or exceed standards for each SLO.</td>
</tr>
<tr>
<td></td>
<td>PLO 6:</td>
<td></td>
</tr>
</tbody>
</table>

### Closing the Loop Strategies

- The assessment committee will review the data and identify where improvement is needed.

- Assessment data will be reported to Academic Planning and Programs. The University Academic Assessment Council will review the reports and provide feedback. Feedback will be used to improve assessment for the following year.
<table>
<thead>
<tr>
<th>ILO 1: Think critically and creatively</th>
<th>PLO 1: Demonstrate mastery of core statistical theory</th>
<th>STAT 599</th>
<th>Oral Defense</th>
<th>Once every two years starting in year two.</th>
<th>Report on minimum percentage of students that meet or exceed standards for each SLO.</th>
<th>The thesis committee and faculty members in attendance will grade assessment using rubric developed for this assignment. The University Academic Assessment Council will review the reports and provide feedback. Feedback will be used to improve assessment for the following year.</th>
<th>The assessment committee will review the data and identify where improvement is needed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILO 2: Communicate effectively</td>
<td>PLO 2: Demonstrate proficiency in statistical methodology and data analysis</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>ILO 3: Demonstrate expertise in a scholarly discipline and understand that discipline in relation to the larger world of the arts, sciences, and technology</td>
<td>PLO 3: Select, justify, and apply appropriate inferential and predictive methods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILO 4: Work productively as individuals and in groups</td>
<td>PLO 4: Responsibly interpret results and output of statistical analyses</td>
<td></td>
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</tr>
<tr>
<td>ILO 6: Make reasoned decisions based on an understanding of ethics, a respect for diversity, and an awareness of issues related to sustainability</td>
<td>PLO 5: Communicate effectively (written and oral) and organize/manage projects in collaborative settings (within and between disciplines)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>ILO 7: Engage in lifelong learning</td>
<td>PLO 8: Collaborate with researchers and clients to solve data oriented problems that arise in other disciplines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILO 7: Engage in lifelong learning</td>
<td>PLO 9: Conduct independent learning and research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILO 7: Engage in lifelong learning</td>
<td>PLO 1: Demonstrate mastery of core statistical theory</td>
<td>PLO 2: Demonstrate proficiency in statistical methodology and data analysis</td>
<td>PLO 3: Select, justify, and apply appropriate inferential and predictive methods</td>
<td>PLO 4: Responsibly interpret results and output of statistical analyses</td>
<td>PLO 5: Communicate effectively (written and oral) and organize/manage projects in collaborative settings (within and between disciplines)</td>
<td>PLO 6: Write code for statistical applications in one or more languages</td>
<td>PLO 7: Gather and manage data from a variety of sources</td>
</tr>
<tr>
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<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>SLO 1: Serve the needs of one or more research clients or collaborators by identifying, implementing, and mathematically defending the use of appropriate statistical methodology</td>
<td>PLO 1: Demonstrate mastery of core statistical theory</td>
<td>Postgraduate employer survey</td>
<td>Survey</td>
<td>Once every two years starting in year two</td>
<td>Report on minimum percentage of students that meet or exceed standards for each SLO</td>
<td>The graduate program coordinator will assign, administer and analyze data from survey</td>
<td>Assessment data will be report to Academic Planning and Programs. The University Academic Assessment Council will review the reports and provide feedback. Feedback will be used to improve assessment for the following year</td>
</tr>
</tbody>
</table>
M.S. Statistics – Statement of Support

Statistics Department Curriculum Committee

The Statistics Department Curriculum Committee strongly supports the MS in Statistics. The program, as well as each course, has been reviewed and approved by the committee. The degree program offers a comprehensive curriculum with an emphasis in real world applications, including computing and consulting. Students graduating with an M.S. in Statistics from Cal Poly State University, San Luis Obispo will be prepared to contribute immediately upon entering the workforce.

This M.S. in Statistics aligns with the mission of the Statistics Department, complementing our strong B.S. in Statistics. It provides an opportunity for both faculty and undergraduates to engage with a challenging graduate curriculum that will enhance the department, creating more opportunities for collaboration and contribution to the university and beyond. We see the implementation of this degree program as a positive contribution to our department, Cal Poly and the CSU and strongly support the implementation of this degree program.
Approval by College of Science and Math Curriculum Committee

**From:** Elena Keeling <ekeeling@calpoly.edu>
**Sent:** Thursday, January 27, 2022 7:29 PM
**To:** Andrew A. Schaffner <aschaffn@calpoly.edu>; Gregory Shannon Bohr <gbohr@calpoly.edu>
**Cc:** Kelly N. Bodwin <kbodwin@calpoly.edu>; John H. Walker <jwalker@calpoly.edu>
**Subject:** Re: CCC and ASCC confirmation of review for MS Statistics

Hello Andrew,

You still have approval from the CSM Curriculum Committee.

Elena Keeling
Biological Sciences Department
Cal Poly, San Luis Obispo
ekeeling@calpoly.edu

Approval by Academic Senate Curriculum Committee

**From:** Gregory Shannon Bohr <gbohr@calpoly.edu>
**Sent:** Thursday, January 27, 2022 8:15 PM
**To:** Andrew A. Schaffner <aschaffn@calpoly.edu>; Elena Keeling <ekeeling@calpoly.edu>
**Cc:** Kelly N. Bodwin <kbodwin@calpoly.edu>; John H. Walker <jwalker@calpoly.edu>
**Subject:** RE: CCC and ASCC confirmation of review for MS Statistics

Hi Andrew –

The Academic Senate Curriculum Committee discussed this at our meeting today, and we confirm our support for the MS Statistics proposal.

Would you like a memo to that effect, or is this email sufficient?

Best,
Greg

Dr. Gregory S. Bohr
Associate Professor of Geography, Social Sciences Department
Chair, Academic Senate Curriculum Committee
Cal Poly, San Luis Obispo
(805) 756-1322, Building 47 - 12C
M.S. Statistics - Approved 400-Level Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Name</th>
<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATA 402</td>
<td>Mathematical Foundations of Data Science</td>
<td>3</td>
<td>CSC 466, STAT 334, DATA 301; Concurrent DATA 401, DATA 403</td>
</tr>
<tr>
<td>DATA 403</td>
<td>Data Science Process Laboratory</td>
<td>1</td>
<td>Concurrent DATA 401, DATA 402</td>
</tr>
<tr>
<td>CSC 448</td>
<td>Bioinformatics Algorithms</td>
<td>4</td>
<td>CSC 349</td>
</tr>
<tr>
<td>CSC 466</td>
<td>Knowledge Discovery from Data</td>
<td>4</td>
<td>CSC 349</td>
</tr>
<tr>
<td>CSC 477</td>
<td>Sci and Info Visualization</td>
<td>4</td>
<td>CSC 349</td>
</tr>
<tr>
<td>MATH 406</td>
<td>Linear Algebra III</td>
<td>4</td>
<td>MATH 306</td>
</tr>
<tr>
<td>MATH 412</td>
<td>Introduction to Analysis I</td>
<td>4</td>
<td>MATH 306</td>
</tr>
<tr>
<td>MATH 413</td>
<td>Introduction to Analysis II</td>
<td>4</td>
<td>MATH 412</td>
</tr>
<tr>
<td>MATH 414</td>
<td>Introduction to Analysis III</td>
<td>4</td>
<td>MATH 413</td>
</tr>
<tr>
<td>MATH 451</td>
<td>Numerical Analysis I</td>
<td>4</td>
<td>MATH 242</td>
</tr>
<tr>
<td>MATH 453</td>
<td>Numerical Optimization</td>
<td>4</td>
<td>MATH 306 and MATH 451</td>
</tr>
<tr>
<td>STAT 410</td>
<td>Statistics Education</td>
<td>4</td>
<td>STAT BS</td>
</tr>
<tr>
<td>STAT 415</td>
<td>Bayesian Reasoning and Methods</td>
<td>4</td>
<td>STAT BS</td>
</tr>
<tr>
<td>STAT 416</td>
<td>Stat Analysis of Time Series</td>
<td>4</td>
<td>STAT BS</td>
</tr>
<tr>
<td>STAT 417</td>
<td>Survival Analysis Methods</td>
<td>4</td>
<td>STAT BS</td>
</tr>
<tr>
<td>STAT 419</td>
<td>Applied Multivariate Statistics</td>
<td>4</td>
<td>STAT BS</td>
</tr>
<tr>
<td>STAT 421</td>
<td>Survey Sampling and Method</td>
<td>4</td>
<td>STAT BS</td>
</tr>
<tr>
<td>STAT 440</td>
<td>SAS Certification Prep</td>
<td>2</td>
<td>STAT BS</td>
</tr>
<tr>
<td>STAT 441</td>
<td>SAS Adv Certification Prep</td>
<td>2</td>
<td>STAT 440</td>
</tr>
</tbody>
</table>

Notes:

As a prerequisite "STAT BS" indicates the prerequisite courses are required as part of the BS in Statistics.

STAT 414 and 418 are deliberately omitted from this list; students considering an M.S. should enroll in STAT 550 in lieu of these courses.
### Survey of current students

<table>
<thead>
<tr>
<th>What would be the main factors in your decision to apply or not?</th>
</tr>
</thead>
<tbody>
<tr>
<td>How mathematically rigorous it is</td>
</tr>
<tr>
<td>Completion Time, Faculty</td>
</tr>
<tr>
<td>If the program exists</td>
</tr>
<tr>
<td>quality of teaching, local work opportunities</td>
</tr>
<tr>
<td>Whether I got competitive job offers after graduation</td>
</tr>
<tr>
<td>Availability</td>
</tr>
<tr>
<td>I would definitely apply because I intend on pursuing my masters.</td>
</tr>
<tr>
<td>I would 100% apply. No questions asked.</td>
</tr>
<tr>
<td>I want to go somewhere else. Try different things. Meet new people. People keeps talking about 4+1 and get out early to get a job. I just want to challenge myself and enjoy life.</td>
</tr>
<tr>
<td>How developed the program is and what is has to offer for a future career</td>
</tr>
<tr>
<td>GPA</td>
</tr>
<tr>
<td>Length of masters (preferably &lt;= 12 months), scope of material (more applied than theoretical)</td>
</tr>
<tr>
<td>I was planning on getting my masters in statistics after graduating so it would be great if it was offered here!</td>
</tr>
<tr>
<td>cost and whether I need a masters</td>
</tr>
<tr>
<td>Funding</td>
</tr>
<tr>
<td>Course offerings / cost / field of study</td>
</tr>
<tr>
<td>if it is 4+1 program</td>
</tr>
<tr>
<td>If it's available by the time I graduate</td>
</tr>
<tr>
<td>how expensive it is, and if it would increase my chances at getting a good job</td>
</tr>
<tr>
<td>I'm not looking to go get a master's degree since I'm focused on passing actuarial exams and working after graduation. If I were not pursuing an actuarial career, I would be getting a graduate degree. I would apply to Cal Poly if I were planning to get a Master's in Statistics.</td>
</tr>
<tr>
<td>It would be great to stay at Cal Poly and work with the same professors in a familiar environment</td>
</tr>
<tr>
<td>I don't know much about other statistics masters programs, so I would want to do research on other programs and apply to others also</td>
</tr>
<tr>
<td>Depending on the number of actuary tests I have passed</td>
</tr>
<tr>
<td>The main factor fir me would be how long it would take, as well as the cost.</td>
</tr>
<tr>
<td>If I actually decide that I want to pursue grad school</td>
</tr>
<tr>
<td>The career I have in mind at the moment doesn't require a master's degree.</td>
</tr>
<tr>
<td>I am not completely sure what I want to do yet.</td>
</tr>
<tr>
<td>If I want to further my education</td>
</tr>
<tr>
<td>Details of the Program</td>
</tr>
<tr>
<td>I would be more likely to apply if it was a 4+1 program.</td>
</tr>
<tr>
<td>Coursework</td>
</tr>
<tr>
<td>Actuarial path won't need masters</td>
</tr>
<tr>
<td>If I could get a job right out of undergrad or not</td>
</tr>
<tr>
<td>I'm looking to apply for a PhD program, and probably not in pure statistics, so it's kind of irrelevant for me. However, if I were planning on getting a masters in statistics, things I would consider include: is it a 2 year program or 4+1 with the stats major? What's the curriculum like? Is it flexible (are there different</td>
</tr>
</tbody>
</table>
tracks or electives)? Also I would take into account the rankings of other programs.
Focus of study available
If I can do 4 + 1
I was born and raised in SLO. My family lives here.
Want to get other degree
Seeing if I want to earn a Master's degree in something other than statistics
It might be too late to apply. However I do plan to work for a little bit first so we will see
How much I am getting out of the program for how much I am paying
Cost, how important a masters degree is for stat in terms of employability, length of program
I haven't looked into other masters programs, but if this one is good and I know other people staying at Cal Poly that I like, I'll be interested.

Survey of Alumni

<table>
<thead>
<tr>
<th>In your opinion, how would an M.S. in Statistics change an applicant's opportunities at your place of work?</th>
</tr>
</thead>
<tbody>
<tr>
<td>An M.S. in (Bio)statistics with a focus on healthcare is required at a minimum for the majority statisticians at the City of Hope.</td>
</tr>
<tr>
<td>The amount of departments that they would be applicable would expand, and their starting level would likely be higher.</td>
</tr>
<tr>
<td>Having an M.S. in Statistics would give the applicant a much greater chance of being hired above Entry Level status and allow an applicant to be hired into a more technical position.</td>
</tr>
<tr>
<td>You can not apply without a Masters at a minimum.</td>
</tr>
<tr>
<td>Depending on the job they are applying for it would greatly increase their chances of getting the position. Many of my colleagues have a graduate degree of some kind.</td>
</tr>
<tr>
<td>We only have a few jobs that are specifically for statisticians. But it would greatly increase your possibility of getting such a job.</td>
</tr>
<tr>
<td>An M.S. in statistics would likely result in higher pay and more responsibility at my place of work.</td>
</tr>
<tr>
<td>Where I was before getting my PhD someone without a masters wasn't considered.</td>
</tr>
<tr>
<td>Within my company statistics is not necessarily a sought after field, the fact a potential hire has the &quot;MS&quot; title is an advantage merely because it is a higher level of education and knowledge.</td>
</tr>
<tr>
<td>It is a requirement to have a MS in statistics or related field</td>
</tr>
<tr>
<td>Would greatly increase an applicants chances or being offered the position. At my place of work however, a M.S. in Statistics would not increase an applicants chances any more than an MBA would.</td>
</tr>
<tr>
<td>it would increase opportunities</td>
</tr>
<tr>
<td>Work in a slightly different department doing slightly different work on the same project.</td>
</tr>
<tr>
<td>All positions on my biostatistics team require an M.S. in biostatistics or statistics to be eligible for hire.</td>
</tr>
<tr>
<td>Entry level actuarial work is highly competitive in the SF bay area. It may make the candidate stand out if the applicants have the same # of exams.</td>
</tr>
<tr>
<td>It is incredibly helpful to have an MS in statistics. It shows intelligence and a willingness to work. It also shows that an applicant thinks like a masters student.</td>
</tr>
<tr>
<td>A minimum of MS is required for the statistician title, although we do offer Research Assistant positions to BS of all type (and obviously BS in Statistics candidates have more opportunity for us than a BS in psych, chem, history, english, etc..)</td>
</tr>
</tbody>
</table>
Reduces the number of years of professional experience needed to reach same position as someone with a BS only
It would open more doors to research level jobs and things like experimental design.
In our company, having a Masters does not increase your chances of hire much, and is not required to work your way up in the company.
More opportunities to start at a higher position/pay. Easier to get interviews directly out of college with a master's degree
I still like to have an MS or greater when hiring a Data Scientist - I need to have an individual comfortable with going deeper into the theory behind the algorithms & have a better-rounded statistical knowledge + a little more seasoning in discussions with our customers; there are ML engineer roles that require more programming and less theory and for that, a BS is sufficient.
When hiring me they did not seem to put much weight on specific high degrees but rather knowledge and interest
The applicant would have a better opportunity working in the data analytics group of our actuarial practice.
Responsibilities change and a faster path to project forward.
Greatly improve.
It would help you meet the qualifications for data science/statistics related roles.
Applicants with a Masters degree would be more qualifies for the advanced analysis teams rather than the business analysis teams. They would have more opportunity and be able to pick which field they would want to be in.
more analysis-related opportunities, more contributions to reports/manuals/publications
You may be overqualified and salary expectations may not be in line with reality.
We only offer roles as Biostatisticians to Applicants with MS degrees. Anyone with an undergraduates degree is welcome to apply for any of the programming positions.
We don't hire analysts without at least a M.S. in a quantitative discipline. It would greatly increase the applicant's opportunities.
A monumental change. Applicants with only a B.S. are barely considered, an M.S. is pretty much required at this point.
While I've been in academia for the last 5 years, the previous 14 years were in private sector and federal govt. In both cases I think a BS only would be a tough sell for hiring unless the candidate had a lot of practical experience (5+ years of demonstrated high quality work and a healthy toolbox)
i would hope they have stronger knowledge in statistics, and their resume would more easily get through to the recruiters
A master's allows opportunities in more sectors the company is involved in
For a data science position a MS would at least get your foot in the door.
Hard to say.
I lead a program for graduate students in statistics, in which I recruit, hire, and train them for full-time employment as research statisticians. When I'm presenting on campus, I make it clear that the ticket for entry into our advanced analytics groups is a Master's.
Today, machine learning and statistics are considered a specialization requiring focused training, so having a MS reduces the friction in the hiring process where you must explain your level of education and expertise in the subject.
Negligible impact
The depth of knowledge and critical thinking, in general, is higher from those with Master's than those with just a Bachelor's. Also, at least in data science, most job reqs require a PhD with a Master's being entry level.

SUPPLEMENT 3
For data engineering or business reporting, a bachelor's and business domain knowledge can go far. Data science and machine learning relies on the ability to stay up to date with recent advancements, only accessible through graduate level research papers and discussions. A lot more computer science is necessary as well.

Top of the list of applicants
We hire both levels of education. Masters level applicants are typically much stronger and we want more, but we take a lot of BS applicants to fill in teams of analysts. We have drastically expanded the size of our data team in the last year.

An MS would show that the applicant has a high capability to learn and be taught new concepts. My department focuses on a Analytics and Reporting which requires statistical literacy, mainly in the form of providing good and informative data visualizations.

It really depends on the level of the position...

Depends on actual work experience as well. Someone with a BS and more work experience is weighted heavier than someone with an MS but no work experience.

As a high school teacher, I would additionally qualify to teach at a community college.

An elevated starting position, higher starting salary, more autonomy
They would have more opportunities, they would be considered for more technical roles (Data scientist as opposed to just analyst)

All data scientists (other than me) hold at least an M.S., I do not think that applicants with only a Bachelor's degree are considered for data scientist positions at this point.

For the most part, it would not change an applicant's opportunities. Our firm is more interested in progress with actuarial exams than an M.S in Statistics.

I work in a small department within Callaway Golf where only 1 manager is needed. Therefore, at this moment a masters in statistics would not help an applicants considerably.

might be my own personal bias, because i don't think my masters (from UCSB ) did much for me in terms of my ability to do my job incrementally beyond what I got from poly, but for me whether someone has a MS or not wouldn't have much bearing on my likelihood of getting them past the resume status or affect my hiring decision.

Opportunity for a larger starting income
In the Bay Area, your prospects change dramatically when you have a Masters degree. Many positions require it, and even if they don't the pay will likely be much higher. I think that if you are going for a highly technical position in SF it's becoming more of a requirement.

More leverage for higher pay
We look for applicants who have a wide breadth of education and experience, but a Master's degree in Statistics could only be beneficial. As we strive to be a more data-driven organization I could see this being even more impactful in the future.

It probably wouldn't - this might be a rare case but I am one of two Data Scientists in my company, neither of us has Master's degrees, but I could see how they might be helpful. However this is a startup company, they saw me as an asset not only because of my background in Statistics but also my personality, which is a major factor in a small company. I had applied to larger companies in the past and in those cases, the Master's Degree stands out more and seems more of a requirement. So it definitely would open doors for some folks.

More time to learn about theory of stats. Under grad seems like such a small slice of the pie
It would give them a greater chance to be hired. In my company the incentive is that they can immediately be billed out at a higher rate than those without a masters degree. (Therefor they should also get a higher starting salary even with no industry experience.)

Pay grade and types of consultations assigned. Because I have a B.S. in statistics, I'm on a separate
career track than those who have an M.S. (which includes slightly lower pay). Also projects involving large grants, for example, are usually given to statisticians with a graduate degree or more experience. In my work, a masters degree is less about statistical rigor and rather more about the applicants character, work ethic and commitment to the analytical space. In some cases though, a masters could be a deterrent if the applicant lacks job experience which points to the importance of internships or industry experience between an undergrad and master programs.

N/A, I'm not pursuing a career in statistics at the moment. However, I think it would absolutely change opportunities for any statistics-related career. They would have more opportunities and a higher degree of autonomy on analysis

Yes, it would allow for a wider range of positions

Not too much. Maybe a little increase of odds.

Open up avenues to different departments of the company, to more advanced positions.

I hire for entry level positions that do not require any kind of Masters degree. If my company was specifically looking for a statistician or high level data analyst, an applicant with a MS in Statistics would be much more desirable than one without an MS.

No current place of work to comment on. However, in most jobs I have looked at a Master's degree seems to be the equivalent of 2+ years of work experience (i.e. jobs require 2+ years of experience OR a Master's degree).

It may help achieve a higher position potentially but the company I work for is small so I'm not sure how much of a difference a master's degree would make.

One would likely be able to move up and around departments more.

Hard to say, for actuaries it wouldn't make much of a difference, but for data science/analytics roles it could benefit them

If they did not have actual work experience in analytics at a company, then a person with an M.S. in Stats would be better than a B.S. in Stats, but 2-3 years working in stats/data/analytics will win over an M.S. in Stats and no work experience.

We would be able to allow someone to do work fairly independently of us, not a lot of supervision would be necessary.
Academic Senate Curriculum Committee  
California Polytechnic State University  

Dear Academic Senate Curriculum Committee,

This is a letter to indicate support for the Masters of Science in Statistics program that has been proposed by the Statistics Department in the College of Science and Mathematics at California Polytechnic State University.

This program is seen as a strong extension of our undergraduate Statistics program, as well as a complement to our cross disciplinary studies minor (CDSM) in Data Science, which is a joint program between our Statistics Department and the Computer Science Department in the College of Engineering. The proposed program is applied in nature and follows our university’s philosophy of learn-by-doing. It was explicitly designed to foster the growth of our existing undergraduate and graduate programs by providing new professional pathways in this highly sought out field and faculty expertise to enhance our existing degree programs.

The MS in Statistics program has been well mapped out, the rational is solid, the proposal is strong with good documentation of the need and marketability of the program. The quality of the program is undergirded by the faculty of our Statistics Department, who are well known and respected nationally, having made significant contributions to their scholarly disciplines and having deep engagement in classroom instruction. Moreover, Hanover Research conducted a thorough market analysis reporting that this program is in high demand by both students and industry.

Taken together, we are very supportive of this MS degree program and have allotted the resources to make it a success. Indeed, we successfully recruited this year a new faculty member that will contribute to the program and as we move beyond the budget challenges presented by COVID-19 pandemic the MS in Statistics is among our college’s highest prioritized programs for adding additional faculty. We believe we can make that happen and we feel strongly that this program will benefit the entire University, by attracting new students and making them more employable. We are happy to follow up for any questions or clarifications needed.

Thank you,

Dean Wendt  
Dean, College of Science and Mathematics  
California Polytechnic State University

Kellie Green Hall  
Associate Dean  
College of Science and Mathematics
M.S. Statistics – Degree Flowcharts

Pre-requisite map of remedial courses, 400-level required courses, 500-level required courses, and new 500-level Electives:

Example Paths to Degree

2-year with maximum 12 credit remediation

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stat 425</td>
<td>Stat 426</td>
<td>Stat 427</td>
</tr>
<tr>
<td></td>
<td>Stat 331</td>
<td>Stat 323</td>
<td>Stat 466</td>
</tr>
<tr>
<td></td>
<td>Stat 334</td>
<td>Stat 550</td>
<td>500-level elective</td>
</tr>
<tr>
<td>Year 2</td>
<td>Stat 566</td>
<td>Stat 590</td>
<td>Stat 590</td>
</tr>
<tr>
<td></td>
<td>Stat 551</td>
<td>500-level elective</td>
<td>Stat 599</td>
</tr>
<tr>
<td></td>
<td>Stat 590</td>
<td>Stat 599</td>
<td></td>
</tr>
</tbody>
</table>
2-year without remediation

<table>
<thead>
<tr>
<th></th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>• Stat 425</td>
<td>• Stat 426</td>
<td>• Stat 427</td>
</tr>
<tr>
<td></td>
<td>• Stat 551</td>
<td>• Stat 550</td>
<td>• Stat 466</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• 500-level elective</td>
</tr>
<tr>
<td>Year 2</td>
<td>• Stat 566</td>
<td>• Stat 590</td>
<td>• Stat 590</td>
</tr>
<tr>
<td></td>
<td>• 500-level elective</td>
<td>• Stat 599</td>
<td>• Stat 599</td>
</tr>
<tr>
<td></td>
<td>• Stat 590</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Blended program**

Taken during B.S., as part of 180-credit degree requirement:

Stat 425, Stat 426, Stat 427, Stat 466

Taken during B.S., not counted towards 180-credit degree requirement:

6 electives (of which two must be 500-level)

Taken during M.S. graduate standing:

<table>
<thead>
<tr>
<th></th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>• Stat 551</td>
<td>• Stat 550</td>
<td>• Stat 590</td>
</tr>
<tr>
<td></td>
<td>• Stat 566</td>
<td>• Stat 590</td>
<td>• Stat 599</td>
</tr>
<tr>
<td></td>
<td>• Stat 590</td>
<td>• Stat 599</td>
<td></td>
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</tbody>
</table>
## REQUISITION INFORMATION

<table>
<thead>
<tr>
<th>Internal Team:</th>
<th>SL-CSM-Statistics - 115300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment Process:*</td>
<td>SL - Faculty Tenure Track</td>
</tr>
<tr>
<td>Job Code/Employee Classification:*</td>
<td>Instr Fac AY</td>
</tr>
<tr>
<td></td>
<td>Job Code: 2360</td>
</tr>
<tr>
<td>Salary Range/Grade:*</td>
<td>2360-ASSISTANT PROFESSOR-Grade-3</td>
</tr>
<tr>
<td></td>
<td>Minimum: $ 5,046.00</td>
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<tr>
<td></td>
<td>Maximum: $ 11,197.00</td>
</tr>
<tr>
<td>CSU Working Title:*</td>
<td>Tenure Track Position - Statistics</td>
</tr>
<tr>
<td>Campus:*</td>
<td>San Luis Obispo</td>
</tr>
<tr>
<td>Division:*</td>
<td>Academic Affairs-Provost</td>
</tr>
<tr>
<td>College/Program:*</td>
<td>CSM-College of Science &amp; Math</td>
</tr>
<tr>
<td>Department:*</td>
<td>CSM-Statistics - 115300</td>
</tr>
<tr>
<td>Requisition Number:</td>
<td>504467</td>
</tr>
</tbody>
</table>

## OPEN POSITIONS

<table>
<thead>
<tr>
<th>Positions:*</th>
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<tr>
<td>1</td>
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<td>Position no: SL-00011032</td>
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## REQUISITION DETAILS

| Reason:* | New Position |
Justification for Recruitment:*  

The Statistics Department would like to recruit for one or more tenure-track faculty members to begin in Fall 2021 to support the development of our proposed MS program as well as campus-wide data science efforts. Expectations for both positions include high-quality teaching of courses in Statistics (major, service, and support courses) and engagement in continuing scholarly work and professional development.

These positions are necessary for three reasons. First, we need additional faculty experience and expertise to assist with the delivery of the Cross-Disciplinary Minor in Data Science; and, if approved by the Academic Senate next Fall, the Cross-Disciplinary Minor in Bioinformatics. Our department is collaborating closely with Computer Science on both of these programs. We have three faculty members extensively contributing to these programs: Kelly Bodwin, Hunter Glanz, and Dennis Sun; however, with the growth of interest in our DATA and computing courses (and our major in general) we are having difficulty meeting demand with only these three faculty delivering the computing portions of our curriculum.

Second, we have proposed an M.S. program in statistics that is ready for final campus approval and Chancellor’s office review. Our ability to deliver the proposed curriculum is contingent on a commitment to hire an additional needed tenure-line faculty member.

Third, we continue to offer more and more sections of Statistics courses to more and more students. Many of these students are in service and support courses, but we’ve also seen a marked increase in the number of students taking upper-level courses for Statistics majors and minors in the past few years (see tables below). In particular, the number Statistics majors, and the number of students taking our 300-level courses for Statistics majors and minors, has more than tripled in the past eight years. Our ability to meet demand with qualified part-time faculty is extremely difficult, largely due to our somewhat remote location and high cost of living on the Central Coast. Another tenure-track faculty member is essential to help with meeting student demand for courses.

To see the following tables, please refer to the document attached on the "Documents" tab.

Table 1: Student Credit Units (SCUs) taught by Statistics in Fall with faculty headscounts and tenure density. Note listed year is Dashboard AY, so 2012 refers to Summer 2011 – Spring 2012. (hc = headscount)

Over this period (2012-2021) five TT faculty separated from the department prior to going up for tenure. One faculty separated due to being denied tenure.

Table 2: Enrollments in courses that heavily support our minors in statistics and data science: STAT 325/305 (Introduction to Probability and Simulation), STAT 313 (Applied Experimental Design and Regression Models) STAT 323 (Experimental Design and Analysis), 324/334 (Applied Regression Analysis), STAT 330 (Statistical Computing with SAS), STAT 331 (Statistical Computing with R), and STAT 419 (Multivariate Analysis). Note listed year is Dashboard AY, so 2012 refers to Summer 2011 – Spring 2012.

* Due to budget concerns, we reduced planned offerings of several courses that support our minor this year.

Table 3: Number of STAT majors. Note listed year is Dashboard AY, so 2012 refers to Summer 2011 – Spring 2012.

During COVID, in 2020-21, we had 138 students with declared minors in statistics, 13 in Actuarial Science, and 46 in the Cross-Disciplinary Studies minor in Data Science. These number are similar to counts from 201-20 where we had 140 students minoring in Statistics, 25 minoring in Actuarial Science Preparation, and 53 in the Cross-Disciplinary Studies minor in Data Science. We had In contrast, in 2016 we had 54 students minoring in Statistics and only 3 minoring in Actuarial Science. Our Data Science program was only just introduced and had no official students at that time. We continue to expect that the number of students interested in pursuing undergraduate majors in Statistics will continue to increase in coming years, based on the rapidly increasing numbers taking AP Statistics and very favorable employment prospects.

Previous/Current Incumbent:  

--

Work Type:*  

Instructional Faculty – Tenured/Tenure-Track

Hiring Type:*  

Probationary

Job Status:*  

Regular

Time Basis:*  

Full Time

Hours Per Week:  

--

FLSA Status:  

Exempt
Job Summary/Basic Function: The Statistics Department in the College of Science and Mathematics at California Polytechnic State University, San Luis Obispo, is seeking a full-time, academic year, tenure-track position, with appointment beginning September 12, 2022. Appointment at the Assistant Professor rank is anticipated; higher ranks will be considered. Rank and salary are commensurate with qualifications and experience.

Primary responsibilities will include teaching undergraduate statistics classes to non-statistics majors as well as teaching introductory and upper-level statistics and data science classes for statistics majors and minors. If a proposed master’s program in statistics is approved, responsibilities may also include teaching master’s level statistics courses and supervising graduate students.

It is expected that the successful applicant is committed to quality undergraduate and master’s level teaching, continued scholarly activity, and service to the University. Candidates with an interest in and ability to pursue scholarly projects with students at both the bachelor’s and master’s level are preferred. Applicants with data science and computing experience are especially encouraged to apply.

Minimum Qualifications: --

Required Qualifications:

- Ph.D. in Statistics or closely related discipline.
- Demonstrated experience and commitment to student-centered learning and teaching, as well as the ability to collaboratively work in multidisciplinary settings.
- Demonstrated proficiency in written and oral use of the English language.

Preferred Qualifications:

- Experience with data science and computing.
- Experience in working with diverse populations and fostering a collaborative, supportive and inclusive environment.

Special Conditions: The person holding this position is considered a 'mandated reporter' under the California Child Abuse and Neglect Reporting Act and is required to comply with the requirements set forth in CSU Executive Order 1083 as a condition of employment.

Following a conditional offer of employment, a background check (including a criminal records check) must be completed satisfactorily before any candidate may start work with Cal Poly, San Luis Obispo. Failure to satisfactorily complete the background check may result in the withdrawal of the offer of employment. Note: Cal Poly cannot deny an applicant a position solely or in part due to a criminal conviction history until it has performed an individualized assessment and linked the relevant conviction history with specific job duties in the position being sought.

Please note: Current employees who are offered positions on campus will be required to undergo a background check for any position where a background check is required by law or that Cal Poly has designated as sensitive. Sensitive positions are those requiring heightened scrutiny of individuals holding the position based on potential for harm to children, concerns for the safety and security of people, animals, or property, or heightened risk of financial loss to Cal Poly or individuals in the university community.

For health and well-being, Cal Poly is a smoke & tobacco-free campus. The university is committed to promoting a healthy environment for all members of our community.

License / Certifications: --

Supervises Employees:* ○ Yes ☐ No

Mandated Reporter:* Limited - The person holding this position is considered a limited mandated reporter under the California Child Abuse and Neglect Reporting Act and is required to comply with the requirements set forth in CSU Executive Order 1083, revised July 21, 2017.

Conflict of Interest:* None

NCAA: ○ Yes ☐ No

BUDGET DETAILS

Benefit Eligible?: ☐ Yes ☐ No

Anticipated Hiring Range: --

Budget Chart field/Account string: SL001-115300

Pay Plan: AY

Pay Plan Months Off: --

POSTING DETAILS

Posting Type:* Open recruitment
### Review Begin Date:

Oct 11, 2021

### Advertising Summary:

The Statistics Department in the College of Science and Mathematics at California Polytechnic State University, San Luis Obispo, is seeking a full-time, academic year, tenure-track position, with appointment beginning September 12, 2022. Appointment at the Assistant Professor rank is anticipated; higher ranks will be considered. Rank and salary are commensurate with qualifications and experience.

### Job Summary

The Statistics Department in the College of Science and Mathematics at California Polytechnic State University, San Luis Obispo, is seeking a full-time, academic year, tenure-track position, with appointment beginning September 12, 2022. Appointment at the Assistant Professor rank is anticipated; higher ranks will be considered. Rank and salary are commensurate with qualifications and experience.

Primary responsibilities will include teaching undergraduate statistics classes to non-statistics majors as well as teaching introductory and upper-level statistics and data science classes for statistics majors and minors. If a proposed master’s program in statistics is approved, responsibilities may also include teaching master’s level statistics courses and supervising graduate students.

It is expected that the successful applicant is committed to quality undergraduate and master’s level teaching, continued scholarly activity, and service to the University. Candidates with an interest in and ability to pursue scholarly projects with students at both the bachelor’s and master’s level are preferred. Applicants with data science and computing experience are especially encouraged to apply.

At California Polytechnic State University, San Luis Obispo, we believe that cultivating an environment that embraces and promotes diversity is fundamental to the success of our students, our employees and our community. Bringing people together from different backgrounds, experiences and value systems fosters the innovative and creative thinking that exemplifies Cal Poly’s values of free inquiry, cultural and intellectual diversity, mutual respect, civic engagement, and social and environmental responsibility. Cal Poly’s commitment to diversity informs our efforts in recruitment, hiring and retention. California Polytechnic State University is an affirmative action/equal opportunity employer.

### Required Qualifications

- Ph.D. in Statistics or closely related discipline.
- Demonstrated experience and commitment to student-centered learning and teaching, as well as the ability to collaboratively work in multidisciplinary settings.
- Demonstrated proficiency in written and oral use of the English language.

### Preferred Qualifications

- Experience with data science and computing.
- Experience in working with diverse populations and fostering a collaborative, supportive and inclusive environment.

### Special Conditions

The person holding this position is considered a ‘mandated reporter’ under the California Child Abuse and Neglect Reporting Act and is required to comply with the requirements set forth in CSU Executive Order 1083 as a condition of employment.

Following a conditional offer of employment, a background check (including a criminal records check) must be completed satisfactorily before any candidate may start work with Cal Poly, San Luis Obispo. Failure to satisfactorily complete the background check may result in the withdrawal of the offer of employment. Note: Cal Poly cannot deny an applicant a position solely or in part due to a criminal conviction history until it has performed an individualized assessment and linked the relevant conviction history with specific job duties in the position being sought.

Please note: Current employees who are offered positions on campus will be required to undergo a background check for any position where a background check is required by law or that Cal Poly has designated as sensitive. Sensitive positions are those requiring heightened scrutiny of individuals holding the position based on potential for harm to children, concerns for the safety and security of people, animals, or property, or heightened risk of financial loss to Cal Poly or individuals in the university community.

For health and well-being, Cal Poly is a smoke & tobacco-free campus. The university is committed to promoting a healthy environment for all members of our community.

### About the Department

The foremost mission of the Statistics Department at Cal Poly is high-quality teaching. The Statistics Department offers a B.S. in Statistics and also minor programs in statistics, data science, and actuarial preparation. An M.S. in Statistics is under review and may begin enrolling students as soon as September 2023. The department also provides support courses for most majors at Cal Poly, as well as some graduate programs, and contributes many courses to the general education program. In support of campus scholarship activities, the department also runs a statistical consulting service. The department faculty is comprised of 20 tenured/tenure-track faculty and 10 lecturers.
About the University

Founded in 1901, Cal Poly is one of only five comprehensive polytechnic universities in the nation, with approximately 22,000 undergraduates, 120 postbaccalaureate, and 900 graduate students. U.S. News and World Report has ranked Cal Poly #1 among public master's universities in the western United States for 28 consecutive years. A primarily undergraduate university, Cal Poly offers academically focused students 66 baccalaureate degrees and 27 master's degrees. Operating on the quarter calendar system, Cal Poly takes pride in its "Learn-by-Doing" approach to teaching and learning, which has characterized Cal Poly since its founding. One of the 29 campuses of the California State University system, Cal Poly has a statewide mandate as a polytechnic university. Cal Poly is one of the largest land-holding universities in the nation and uses all of its land holdings in active support of its educational programs. Cal Poly is located in historic San Luis Obispo, a city of 47,000, 12 miles from the Pacific Ocean and midway between San Francisco and Los Angeles on California's scenic Central Coast. With excellent public education resources, recreational facilities and an expanding dedication to the arts, the area is known for its scenic landscapes and extraordinarily temperate climate.

How to Apply

Interested candidates must attach (1) a cover letter, (2) resume/curriculum vitae, (3) diversity statement, (4) teaching philosophy statement, (5) research statement, and (6) a copy of unofficial graduate transcripts. Please be prepared to provide three professional references with names and email addresses when completing the online faculty application. Review of applications will begin October 13, 2021 and will continue until the position is filled.

SEARCH DETAILS

Search Committee Chair: Karen McGaughey
Email address: kmcgaugh@calpoly.edu

Search Committee Members:
Recipient
SL-CSM-Statistics - 115300:
Kelly Bodwin
Matthew Carlton
Ulric Lund
Karen McGaughey
Andrew Schaffner
Jeffrey Sklar

SELECTION CRITERIA

There are no items to show

USERS AND APPROVALS

Administrative Support: Kimberly Barton
Email address: kabarton@calpoly.edu

Compliance Panel Facilitator: --
No user selected.

Additional viewers:
Recipient
No Additional viewers selected.

Hiring Administrator:* Cassie Stevenson
Email address: csteve03@calpoly.edu

Approval process:* SL - Faculty Tenure Track Archived 2021
| 1. Department Head/Chair:            | Andrew Schaffner  ✓ Approved Aug 30, 2021 |
| 2. College Personnel Manager:       | Sharon Arnold ✓ Approved Aug 31, 2021     |
| 3. College Budget Manager:          | Derek Gragson ✓ Approved Aug 31, 2021     |
| 4. Dean:                            | Dean Wendt ✓ Approved Aug 31, 2021        |
| 5. OUDI:                            | Denise Isom ✓ Approved Aug 31, 2021       |
| 6. Provost Budget Review:           | Edward Rainbolt ✓ Approved Sep 13, 2021   |
| 7. Provost:                         | Cynthia Jackson-Elmoore ✓ Approved Sep 13, 2021 |
| 8. Academic Personnel Representative: | Jennifer Myers ✓ Approved Sep 13, 2021 |

HR/Faculty Affairs Representative:* Jennifer Myers

Email address: jmyers@calpoly.edu

*Powered by PageUp*
From: John Hausaman <jhausaman@wscuc.org>
Date: Thursday, January 23, 2020 at 11:51 AM
To: Bruno Giberti <bgiberti@calpoly.edu>
Subject: Substantive Change Screening Determination: No further review of program needed

Dear ALO:

Thank you for submitting the Substantive Change Screening form. Following a review of the information submitted, it has been determined that no substantive change review will be necessary for the proposed program.

Program Implementation Notification Required
You are required to confirm implementation of the program in order for the program or location to be listed on the WSCUC website for purposes of financial aid eligibility verification by the U.S. Department of Education.

Login to the Accreditation Management Portal and the Master of Science in Statistics as Active within 30 days of implementation. Failure to report implementation may result in the suspension of financial aid eligibility for enrolled students.

CONFIDENTIAL COMMUNICATIONS: This email and any files transmitted with it are intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking any action in reliance upon this information by persons or entities other than the intended recipient is strictly prohibited. If you received this message in error, please contact the sender at the WASC Senior College and University Commission immediately and delete the material.

SUPPLEMENT 7
The following is a brief physical space assessment for the proposed MS in Statistics. The review is based on the submitted proposal in addition to email correspondence with the team in Statistics responsible for the proposal.

**Office Space:**

1. CSM has indicated that they have private faculty office space for the two new tenure-track positions they have hired.
2. Graduate Students will not need office space as they will not be serving as TAs. They will share existing collaboration/research space already assigned to CSM.

**Classroom/Lab Space:**

1. Proposers have indicated that in addition to their existing studio lab in 38-123, CSM is providing a new shared space 180-272 to accommodate the increase in sections offered to support the MS program.
2. Proposers indicate that they expect 2-4 additional sections per year of elective statistics courses may need to be offered in university classrooms depending on student choice. Undergraduates enrolling in these sections as electives will bring some efficiency.

**Summary:** Given that CSM has committed to providing most of the instructional space needed to support this proposal, there is minimal impact on university space resources. Statistics has indicated, however, that should demand for their data science curriculum grow they will have a need for an additional studio lab space. Such a space has not been identified by CSM, and until such a space is identified, management of any such increased demand may be necessary to limit adverse impacts on the MS program and existing university space resources.
To: Andrew Schaffner, Professor, Statistics Department Chair  
Date: March 1, 2022  
From: Jeanine Scaramozzino, College of Science and Mathematics Librarian  
Subject: Library Resources Supporting Proposed MA in Statistics

SUMMARY

The library’s existing collections and selection practices will support the proposed MS in Statistics. The curriculum proposal states that required admission to the program and degree course requirements are currently being offered within the university in Statistics, Mathematics, and Computer Software Engineering. The licensed campus GIS and data software and library licensed data sources, reference, and infrastructure support can accommodate the needs of this program. The library’s current collections budget and resources will support existing courses and may accommodate new quarter and semester Statistics courses; however, given the current budget climate it is unlikely that the library will be able to increase or enhance licensing of additional information resources for this program.

DESCRIPTION OF COLLECTIONS SUPPORTING DEGREE

Books and Journals
Collection development practices favor online materials to increase accessibility of information. In addition, Cal Poly students may borrow ebook chapters and journal articles through Interlibrary Loan Services. Physical books may be borrowed through CSU+ and books not available through CSU+ may be ordered through Interlibrary Services. The primary core and supporting Library of Congress Subject Headings include: HA – Statistics, HD – Include Business Consulting, Q – Science (General), QA – Mathematics, QA75.5-76.95 –Computer Science.

The library has a core collection of ebooks (16,765 titles), print books (1,107 titles), e-journals (686 titles), and print journals (9 titles) in subjects that support a Master’s of Science in Statistics specifically preparing students in careers in statistics and data analysis.

Scholarly Databases and Additional Electronic Resources
The library offers the following databases and resource packages to support the program. With additional content resources listed in the topical research guides listed below. Articles that are not available directly from the library may be ordered by students, staff and faculty through Interlibrary Loan Services. Cal Poly and the Chancellors Office provision electronic resources that enable text and data mining (TDM) projects. Researchers may contact the library concerning eligible databases and any publisher requirements for TDM projects.
Topical Research Guides:
- Mathematics & Statistics: https://guides.lib.calpoly.edu/math
- Computer Science: https://guides.lib.calpoly.edu/csc
- Science Resources: https://guides.lib.calpoly.edu/cosam
- Data Sources & Repositories: https://guides.lib.calpoly.edu/datasources
- Government Information and Resources: https://guides.lib.calpoly.edu/governmentinformation

First Line Resources for Math and Statistics:
- **Web of Science (All Databases)**
  Web of Science All Databases (1864-present) provides the most comprehensive results from +10 databases that primarily cover the sciences plus social sciences and humanities. Databases include the following and more: Science Citation Index (1955-present); Social Sciences Citation Index (1956-present; Emerging Sources Citation Index (2015-present); and Arts & Humanities Citation Index (2004-present).
- **MathSciNet via EBSCOhost**
  MathSciNet is a searchable database of reviews, abstracts and bibliographic information for mathematical sciences literature, including journals, conference proceedings, and books.
- **arXiv.org**
  arXiv is a curated research-sharing platform hosting nearly two million scholarly articles in the fields of physics, mathematics, computer science, quantitative biology, quantitative finance, statistics, electrical engineering and systems science, and economics. arXiv offers researchers a broad range of services: article submission, compilation, production, retrieval, search and discovery, web distribution for human readers, and API access for machines, together with content curation and preservation. This source provides in-progress research, preliminary data, etc. that has NOT been peer-reviewed. This platform allows for other researchers to comment and ask questions about the research before it is ready for formal publication.

First Line Resources for Data/Data Sets:
- **Statista**
  Statista is a statistics portal which provides direct access to quantitative data on media, business, finance, politics, and a wide variety of other areas of interest or markets. The database features unlimited downloads, source citations and direct use or export of results in PowerPoint, Excel PDF and Graphic (PNG) formats.
- **RAND California**
  RAND California provides information, research reports and statistics on the California economy and public policy issues, as well as access to selected policy reports, statistics, and information at the national and international scale.
- **Dataset Search via Google**
  Dataset Search is a search engine for datasets. Using a simple keyword search, users can discover datasets hosted in thousands of repositories across the Web.
- **Data.gov**
  The home of the US government’s open data. A comprehensive index of datasets from the US government, including other state, local, and international
agencies. Includes tools and resources to conduct research, develop web and mobile applications, design data visualizations, and more.

First Line Resources for Computer Software Engineering:

- **Engineering Village (Compendex)**
  Compendex is a comprehensive bibliographic database of scientific and technical engineering research, covering all engineering disciplines. It includes millions of bibliographic citations and abstracts from thousands of engineering journals and conference proceedings.

- **IEEE/IET Electronic Library (IEL)**
  The IEEE/IET Electronic Library provides access to full-text documents from publications in electrical engineering, computer science, telecommunications, electronics and related disciplines, including journals, ebooks, standards, and conference proceedings from the Institute of Electrical and Electronics Engineers (IEEE), the Institution of Engineering and Technology (IET), John Wiley & Sons, and MIT Press.

- **O'Reilly Online Learning**
  Formerly known as Safari Books, O'Reilly Online Learning provides access to professional books on topics including UX design, leadership, project management, teams, agile development, analytics, and core programming. In addition to ebooks, learning paths, case studies, and video courses are available.

cc: Tim Strawn, Executive Director, Collection Strategies, Access & Systems
    Katherine O'Clair, Associate Dean for Academic Services
    Adriana Popsecu, Dean, Library Services
    Sarah Lester, CENG Librarian
Impact on Existing Policy: None

WHEREAS, Assembly Bill 928 (AB 928), the “Student Transfer Achievement Reform Act of 2021: Associate Degree for Transfer Intersegmental Implementation Committee,” was signed into legislation in October 2021; and

WHEREAS, AB 928 requires a common lower-division General Education (GE) transfer pathway that will meet transfer requirements into both the California State University (CSU) and University of California (UC) systems; and

WHEREAS, AB 928 requires the establishment of the “Intersegmental Committee of Academic Senates” (ICAS) to develop the common GE pathway for transfer students by May 31, 2023, which is expected to impact IGETC; and

WHEREAS, The Standards, Policies & Procedures for Intersegmental General Education Transfer Curriculum says “...some individual colleges or majors within a UC campus may not accept or recommend Intersegmental General Education Transfer Curriculum (IGETC) to fulfill all of their general education requirements” (UC guidance by campus/college/program); and

WHEREAS, It is likely the ICAS will recommend dropping two lower-division courses from CSU GE policy because the IGETC path for the UC requires only 11 lower-division GE courses for transfer students, unlike its stipulation of 12 courses for the CSU (note that CSU GE Breadth, which requires 13 courses, is different from IGETC in its addition of GE Area E); and
WHEREAS, AB 928 states that the UC Regents have a choice whether to adopt a resolution regarding a singular lower division GE pathway, while the CSU does not have a choice; and

WHEREAS, The CSU has announced that, following the development of the common GE transfer pathway, the CSU will revise its GE breadth requirements by summer 2024 to comply with the common GE transfer pathway; and

WHEREAS, The Academic Senate appreciates that the CSU must comply with AB 928 for transfer students but notes that the CSU does make exceptions for transfer students using coded memoranda; and

WHEREAS, CSU Coded Memorandum ASA-2018-06 (“Systemwide Credit for External Examinations”) directs campuses how to award GE credit for AP (Advanced Placement), IB (International Baccalaureate), and CLEP (College-Level Examination Program) exams to GE-certified transfer students; and

WHEREAS, The same Coded Memorandum states “Note that each CSU campus determines how it will apply external examinations toward credit in the major. For students not already certified in General Education (GE) and/or American Institutions, the campus also determines how to apply credit from such exams toward the local degree requirements”; and

WHEREAS, This Coded Memorandum clearly establishes a precedent for CSU campuses to maintain the CSU GE curriculum for fulltime freshmen admits, while also prescribing allowances for transfer students’ seamless articulation of GE credits; and

WHEREAS, Cal Poly also currently waives CSU Area E for IGETC-certified transfer students by using an additional GE course; and

WHEREAS, The Academic Senate is committed to improving transfer pathways for transfer students both through GE and by rethinking, where possible, major-required lower-division courses not generally available at community colleges; therefore, be it

RESOLVED: That the Academic Senate urge the Office of the Chancellor to satisfy AB 928 compliance requirements via a 12-course IGETC pathway or, alternatively, via coded memorandum that exempts prospective transfer students from taking all 12 IGETC lower-division courses and, instead, deems them to be transfer ready with only 11 lower-division courses; and be it further
RESOLVED: That this resolution be forwarded to the Office of the Chancellor, all CSU Academic Senate Chairs, and the Academic Senate Statewide Executive Committee.

Proposed by: General Education Governance Board
Date: March 18, 2022

---

1 (1) Describe how this resolution impacts existing policy on educational matters that affect the faculty. Examples include curricula, academic personnel policies, and academic standards.
(2) Indicate if this resolution supersedes or rescinds current resolutions.
(3) If there is no impact on existing policy, please indicate NONE.
RESOLUTION ON AB 928 AND CSU GE GOLDEN FOUR

Impact on Existing Policy: None

WHEREAS, Assembly Bill 928 (AB 928), the “Student Transfer Achievement Reform Act of 2021: Associate Degree for Transfer Intersegmental Implementation Committee,” was signed into legislation in October 2021; and

WHEREAS, AB 928 requires a common lower-division General Education (GE) transfer pathway that will meet transfer requirements into both the California State University (CSU) and University of California (UC) systems; and

WHEREAS, AB 928 requires the establishment of the “Intersegmental Committee of Academic Senates” (ICAS) to develop the common GE pathway for transfer students by May 31, 2023; and

WHEREAS, For the Intersegmental General Education Transfer Curriculum (IGETC), the UC system seems to require 11 lower-division courses while the CSU requires 12 lower-division courses; and

WHEREAS, The CSU has announced that, following the completion of the common GE pathway for transfer students, systemwide GE policy will be changed to conform with the common GE pathway by summer 2024; and

WHEREAS, It is likely the ICAS will recommend an 11-course lower-division GE transfer pathway; and

WHEREAS, The current CSU GE policy requires that all students successfully complete the “Golden Four” (A1: Oral Communication, A2: Written Communication, A3: Critical Thinking, and B4: Quantitative Reasoning); and
WHEREAS, It is the impression of many CSU faculty and Academic Senates that the Chancellor’s Office, based on the ICAS template, will consolidate some of the learning outcomes of the Golden Four; and

WHEREAS, In particular, CSU Oral Communication (Area A1) is suspected to be absorbed by some of the other courses in the Golden Four because the UC does not require a course in oral communication; and

WHEREAS, Other possible courses to be dropped from CSU GE are Area E: Lifelong Learning and Self-Development, which is outside of the Golden Four, and Area A3: Critical Thinking (even though critical thinking is part of the UC IGETC pathway) (UC transfer IGETC advice); and

WHEREAS, Courses in these areas are important to student learning because they provide students with employable skills, teach them how to advocate for social justice, function as an equalizer for students from all backgrounds and experiences, and help to prepare students to respond to misinformation; and

WHEREAS, Both oral communication and critical thinking are core competencies for WASC Senior College and University Commission (WSCUC), the CSU and UC accrediting agency (WSCUC Core Competencies); and

WHEREAS, The remaining two courses in the Golden Four are already full of content in order to satisfy their learning objectives and cannot absorb the A1: Oral Communication or the A3: Critical Thinking learning objectives in an educationally effective manner; and

WHEREAS, The Academic Senate notes that it is misleading to say that the UC requires 11 lower-division courses for IGETC because very few UC campuses actually require 11 lower-division courses for transfers; and

WHEREAS, Complying with AB 928 by dropping one or two courses from the CSU IGETC list will not and can not secure a common transfer pathway for transfer students as long as IGETC decisions can be made not just at a UC campus level, but at a UC college level, let alone consideration of the UC “Basic Requirements”; therefore be it

RESOLVED, The disciplines in the CSU Golden Four represent essential, foundational learning not only for the GE curriculum, but for every major curriculum as well; and be it
RESOLVED, That in light of the decades-long educational value the CSU has many times confirmed, courses in oral communication, lifelong learning, and critical thinking should be upheld, and the Golden Four disciplines should be retained as distinct areas within CSU GE and IGETC; and be it

RESOLVED: That this resolution be forwarded to the Office of the Chancellor, all CSU Academic Senate Chairs, and the Academic Senate Statewide Executive Committee.

Proposed by: General Education Governance Board
Date: March 18, 2022

---

(1) Describe how this resolution impacts existing policy on educational matters that affect the faculty. Examples include curricula, academic personnel policies, and academic standards.
(2) Indicate if this resolution supersedes or rescinds current resolutions.
(3) If there is no impact on existing policy, please indicate NONE.