Meeting of the Academic Senate  
Tuesday, April 16 2013  
UU 220, 3:10 to 5:00pm

I. Minutes:  
Approval of minutes for the Academic Senate meetings of March 5 and March 12 2013: (pp. 2-5).

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

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

IV. Special Reports:

V. Consent Agenda:

<table>
<thead>
<tr>
<th>Program Name or Course Number, Title</th>
<th>ASCC recommendation/Other</th>
<th>Academic Senate (AS)</th>
<th>Term Effective</th>
</tr>
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<tr>
<td>CM 317 Sustainability and the Built Environment (4), 4 lectures, GE Area F (New course earlier approved for 2013-15 catalog and now proposed to be offered online.)</td>
<td>Reviewed 3/7/13 and additional information was requested from department. Reviewed department response and recommended for approval on 3/14/13.</td>
<td>Placed on consent agenda for 4/16/13 meeting.</td>
<td>Summer 2013</td>
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VI. Business Items(s):  
A. Election of Chair and Vice Chair for 2013-2014 (nominations received from Steve Rein (Chair) and Dustin Stegner (Vice Chair)).  
B. [Revised] Resolution on Student Evaluations Policy: Stegner, chair of Instruction Committee, second reading continued (pp. 6-9).  
C. Resolution on Conflict of Interest in the Assignment of Course Materials: Stegner, chair of Instruction Committee, first reading (p. 10).  
D. [TIME CERTAIN 4:30pm] Resolution on Proposal for the Establishment of the Cal Poly Cybersecurity Center: Bik/Larson/Vakalis, presenters, first reading (pp. 11-21).

VII. Discussion Item(s):

VIII. Adjournment:
CALIFORNIA POLYTECHNIC STATE UNIVERSITY  
San Luis Obispo, California 93407  
ACADEMIC SENATE  

MINUTES OF THE  
ACADEMIC SENATE MEETING  
Tuesday, March 5 2013  
UU220, 3:10 to 5:00pm

I. Minutes: The minutes of February 12, 2013 were approved as presented.

II. Communication(s) and Announcement(s): Academic Senate election results for 2013-2014 included on agenda.

III. Reports: 
A. Academic Senate Chair: Rein reminded everyone that the Academic Senate is accepting nominations for Academic Senate and University committees. Information is available at http://www.academicsenate.calpoly.edu/content/documents The following four items were discussed at the Statewide Academic Senate Chairs meeting in Long Beach. (1) As of January 1, there is a new state law called the California Child Abuse and Neglect Reporting Act. This change in the law was adopted by the state legislature in Sacramento, and requires all CSU employees to report suspected incidents of child abuse or neglect. If you suspect child abuse, you must call campus police immediately and then file a report with Human Resources. (2) Four names have been moved forward to the governor for consideration to serve as faculty trustees. (3) The discussion on 180-units centered on the approval process for requesting an exception. It is not clear if that is a local- or Chancellor-level decision. There is an expectation that the Academic Senate will be involved in the process of approving the exceptions. (4) The CSU Online program does not seem to be large enough to be viable; however, because the governor and others in Sacramento are pushing to have additional online offerings, they will be requiring individual campuses to donate another $50,000 to get a million dollars to continue CSU Online and to develop the program. There is an admission that the CSU Online degrees will be priced at about 40% higher per degree than enrolling in a regular institution through the CSU. The belief is that students who cannot attend a regular university are going to other online institutions and paying considerably more than what the CSU Online degree will cost. San Jose State, in conjunction with Udacity, is offering MOOCs “Massive Online Open Courses” which will be open to everyone allowing a large number of students to enroll for a relative nominal price. At San Jose State, Udacity subsidized the cost to $150 per unit.

B. President’s Office: none.

C. Provost: none.

D. Vice President for Student Affairs: Allen announced that the Cal Poly will be celebrating its 20th open house on April 18-20.

E. Statewide Senate: Foroohar reported that as part of its three-day meeting, Statewide Academic Senate will be celebrating its 50th anniversary. Celebration activities include presentations on shared governance and the history of the Academic Senate
by former Academic Senate chairs. LoCascio announced that legislation is being proposed, but not expected to be approved, that would establish a fourth higher-learning system in California.

F. CFA Campus President: Thorncroft reported that the CSU campus presidents and Chancellor White met to discuss equity II raises which are contingent on the governor’s budget.

G. ASI Representative: Morrow reported that the Mustang Way Committee has been meeting regularly and will be launching a website soon. In the coming months ASI will be focusing on the personal safety of students by providing outreach, education, and self-defense classes. In addition, 62 candidates have filed for ASI Board of Director positions and 4 have filed for the ASI president position.

IV. Special Reports: none.

V. Consent Agenda: none.

VI. Business Item(s):
   A. Resolution on Proposed New Degree Program for Master’s of Professional Studies in Diary Products Technology (Curriculum Committee): Pedersen and Golden presented the resolution, which requests that the Academic Senate approve the proposal and that the proposal be sent to the Chancellor’s Office for final approval. Resolution will return as a second reading item.

   B. Resolution on Policy on Student Evaluations (Instruction Committee): Stegner presented the resolution, which requests the approval of the Instruction Committee’s report, and that the Academic Senate approve that colleges and programs and faculty members have the ability to design their own student evaluation questions. Resolution will return as a second reading item.

VII. Discussion Item(s): none.

VIII. Adjournment: 5:00 pm

Submitted by,

Gladys Gregory
Academic Senate
I. Minutes: none.

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

III. Reports:
   A. Academic Senate Chair: none.
   B. President’s Office: Kinsley reported that faculty listening sessions with President Armstrong and Provost Enz Finken will be scheduled for April.
   C. Provost: Enz Finken announced that student enrollment target for next year has been set at 16,250 for state students. The target is a result of conversations with all colleges and departments and collaboration from the admissions office. Additionally, Cal Poly will be able to increase its enrollment by 1.2% above the original target. This is due in part to changes at the Chancellor’s Office and the belief that the governor’s budget will be successful.
   D. Vice President for Student Affairs: Humphrey announced that Stephen Lamb, Director for Student Life & Leadership, has retired. Annie Holmes has been named Executive Director of Diversity and Inclusivity. Student office hours will be Mondays from 4-5 in 01-209.
   E. Statewide Senate: LoCascio reported that at the last health advisory meeting there was some concern and discussions on the insurance cost for students and new vendors are being considered.
   F. CFA Campus President: Thomcroft reported that CFA debated its responsibilities and the contract issues that affect calendar conversion.
   G. ASI Representative: Harr reported that student government is working on a new feedback system online and two-way communication where students can post a question or issue of concern and other students can answer. The plan is for this feedback system to be up and running before the end of the year.

IV. Special Reports: none.

V. Consent Agenda: none.
VI. Business Item(s):
A. **Resolution on Proposed New Degree Program for Master’s of Professional Studies in Dairy Products Technology (Curriculum Committee):** Schaffner presented the resolution, which requests that the Academic Senate approve the proposal and that the proposal be sent to the Chancellor’s Office for final approval. M/S/P to approve the resolution.

B. **Resolution on Student Evaluations Policy (Instruction Committee):** Stegner presented the resolution, which requests the approval of the Instruction Committee’s report, and that the Academic Senate permits colleges, programs, and faculty members to have the ability to design their own student evaluation questions. Resolution will return as a second reading item.

VII. Discussion Item(s): none.

VIII. Adjournment: 4:40 pm

Submitted by,

[Signature]

Gladys Gregory
Academic Senate
WHEREAS, The 2012-2014 CSU-CFA Collective Bargaining Agreement states that “[w]ritten or electronic student questionnaire evaluations shall be required for all faculty unit employees who teach” (15.15.); and

WHEREAS, The Collective Bargaining Agreement states that periodic evaluation review of tenured, tenure-line, and temporary faculty unit employees will include student evaluations (15.23, 15.28-29, 15.32, and 15.34); and

WHEREAS, The CSU, CSU Academic Senate, and CFA Joint Committee “Report on Student Evaluations” (March 12 2008) recommended that “[c]ampuses should use a well-designed student evaluation instrument (with demonstrable validity and reliability) in providing diagnostic information and feedback, and those involved in evaluations should have an understanding of their formative as well as summative uses” (p. 9); and

WHEREAS, The “Report on Student Evaluations” stated that “[t]he faculty on each individual campus have the right, through their governance process, to develop the campus-based program of student evaluations of teaching” (p. 7); and

WHEREAS, The objectives of student evaluations are to contribute to the continuous improvement of instruction and students’ learning; therefore, be it

RESOLVED: That the Academic Senate requires that student evaluations include university-wide questions and the opportunity for students to provide written comments on teaching effectiveness; and that they may also include (1) college- and/or department-level questions and (2) faculty generated questions student evaluation policy which includes four components: 1. University-wide questions; 2. College and/or department questions; 3. Faculty generated questions; 4. Student discursive comments on teaching effectiveness; and be it further

RESOLVED: That the Academic Senate approve the Instruction Committee’s report that establishes two university-wide student evaluation questions, scale, and metric used for summarization of these questions; and be it further
RESOLVED: That the Academic Senate designate the Instruction and Faculty Affairs Committees as the appropriate committees for making potential revisions to university-wide student evaluation questions in the future; and be it further

RESOLVED: That the Academic Senate approve that colleges, departments, and/or programs may require the inclusion of additional student evaluation questions, based on their respective faculty-based governance procedures the faculty of colleges and programs have the ability to design student evaluation questions; and be it further

RESOLVED: That the Academic Senate approve that faculty members may include student evaluation questions for their own classes have the ability to design student evaluation questions; and be it further

RESOLVED: That the Academic Senate approve that all student responses (numeric and/or written) to faculty generated questions may be excluded from inclusion in the faculty member’s personnel action file (PAF) at the discretion of the faculty member; and that the calculated mean of student evaluations and not required any summary measures that may be calculated, and that those scores are not required for inclusion in the faculty member’s personnel action file (PAF); and be it further

RESOLVED: That the Academic Senate approve that colleges, departments, and/or programs may require the inclusion of students’ optional written comments in a faculty member’s personnel action file (PAF), based on their respective faculty-based governance procedures..

Proposed by: Academic Senate Instruction Committee
Date: February 12 2013
Revised: February 19 2013
Revised: March 17 2013
Academic Senate Instruction Committee  
Report on Student Evaluations at Cal Poly  
February 12 2013  

Background:  
In Fall 2013, the Academic Senate Executive Committee, at the request of Provost Kathleen Enz Finken, charged the Instruction Committee to examine the structure of student evaluations at Cal Poly. In particular, the Committee was asked to consider the benefits of university-wide student evaluation questions.

Findings:  
The Academic Instruction Committee gathered course evaluations from across the University and compiled their questions in order to identify common evaluation questions. The data were divided between 27 departments across the Colleges Architecture and Environment Design, Liberal Arts, and Science and Mathematics, and three colleges—Colleges of Engineering, Agriculture, Food and Environmental Sciences, and Business—that use common evaluation forms. UNIV evaluation forms were not included because they tend to be focused on specific faculty members teaching the course.

There exists a significant amount of difference between the length and scope of current student evaluations, ranging from 2 questions in one department to over 40 in others.

Since there exists no clear metric to account for comparing college-wide evaluation forms and departmental forms, the information included below distinguishes between the two. The following evaluation questions were the most commonly asked across the University:

1. Student’s class level  
2. Requirement vs. elective course  
3. Instructor’s overall quality  
4. Instructor’s communication or presentation of material  
5. Instructor’s preparation and/or organization  
6. Instructor’s knowledge of subject matter  
7. Student’s interest in the course or subject matter  
8. Instructor communicated course objectives  
9. Overall quality of the course  
10. Instructor’s interest and/or enthusiasm for the course

Recommendations:  
After considering the data gathered from across the University and several universities nationwide, the Instruction Committee recommends that the Academic Senate approve two university-wide evaluation questions:

1. Overall, this instructor was educationally effective.
2. Overall, this course was educationally effective.
Limiting the scope of the university-wide questions provides the greatest amount of flexibility for colleges, departments, and faculty to determine the content of student evaluation questions. Since these two questions are summative, the committee recommends that colleges, departments, and faculty should generate discipline specific formative evaluation questions.

The Committee recommends that a five-point Likert-type scale be used for university-wide questions and all numeric student evaluation questions. This scale would be divided as follows: 1. Strongly agree; 2. Agree; 3. Neither agree nor disagree; 4. Disagree; 5. Strongly disagree. Currently, student evaluation forms used across the University are largely based on such a rating scale (the ratings are typically labeled as A-E, 0-4, or 1-5). The Committee recommends that the University continue to use this same scale in order to provide continuity with previous evaluations and Retention, Promotion, and Tenure (RPT) cycles. This will be particularly important when evaluations are administered online rather than the current Scantron forms. The Committee also recommends that any summaries of Likert-scale numeric scores are reported as tabled distributions rather than their mean and standard deviation.

The committee supports the conclusion of the San José State University “Student Opinion of Teaching Effectiveness (SOTE) Guide 2011,” which states that “statistically significant” differences exist between colleges and departments and, “[i]n light of this, it is important that RTP committees evaluating candidates from different departments and colleges (University level RTP) compare instructors to colleagues within their own departments and colleges” (p. 10). The importance of contextualizing student evaluation data has also been supported by the CSU, CSU Academic Senate, and CFA Joint Committee “Report on Student Evaluations” (March 12 2008) and Cal Poly Research and Professional Development Committee (AS-690-09). Such contextualization should also apply to the comparison of the different types of courses (for instance, large lecture courses as opposed to small seminars) to avoid conflating evaluation data from different course settings. Furthermore, data from university-wide questions should not be taken as actionable information as to why a student rated an instructor or course more or less effective. Colleges and departments should ask more specific questions to achieve those kinds of results. This is especially important given that research of student evaluations cautions that using non-contextualized student evaluations for faculty review “remains open for serious debate” (Craig, Merrill, Kline 2012).
RESOLUTION ON CONFLICT OF INTEREST IN THE ASSIGNMENT OF COURSE MATERIALS

WHEREAS, Section 244 (F) in the current Campus Administrative Manual (CAM) allows faculty members to accept a royalty of up to 10% of the local sale price of self-authored coursepacks; and

WHEREAS, CAM Section 244 (F) addresses print-based duplication and distribution of coursepacks through the University bookstore rather than online production, sales, and distribution of coursepacks through third-party vendors and other electronic outlets; and

WHEREAS, When a faculty member personally receives a financial benefit from the assignment of self-authored course materials, there is potential for a real or perceived conflict of interest; and

WHEREAS, Cal Poly is in the process of creating a new set of Campus Administrative Policies (CAP) and phasing out the current CAM; therefore be it

RESOLVED: That the Campus Administrative Policies (CAP) address conflicts of interest in the assignment of self-authored course materials; and be it further

RESOLVED: That faculty members are prohibited from personally profiting from the sale of self-authored course materials, such as coursepacks, study guides, or lab manuals, to Cal Poly students, in both printed and digital formats; and be it further

RESOLVED: That this restriction does not apply to published course materials such as textbooks that are published for general (that is, national or international) use and/or that have been peer reviewed; and be it further

RESOLVED: That with approval by the faculty's department, royalties from the sale of course materials to Cal Poly students may be directly assigned to the faculty member's college or department, student organizations, student scholarship funds, or other university-affiliated entities, as long as the faculty member does not financially benefit from doing so; and be it further

RESOLVED: That such royalties from the sale of course materials may not exceed 10% of the sale price of the self-authored course materials; and be it further

RESOLVED: That it is the responsibility of faculty members to comply with all existing and applicable copyright laws in preparation of their course materials.

Submitted by: Academic Senate Instruction Committee
Date: March 17 2013
Revised: April 2 2013
RESOLUTION ON
PROPOSAL FOR THE ESTABLISHMENT OF THE CAL POLY
CYBERSECURITY CENTER

RESOLVED: That the Academic Senate of Cal Poly endorse the attached proposal for the establishment of the Cybersecurity Center.

Proposed by: Russell Bik (President’s Cabinet Member), Debra Larson, Ph.D. (College of Engineering, Dean), & Ignatios Vakalis, Ph.D. (College of Engineering, Chair, Computer Science Department)

Date: March 26, 2013
Proposal to Establish a Cybersecurity Center
California Polytechnic State University

Submitted by: Russell Bik (President's Cabinet Member), Debra Larson, Ph.D., & Ignatios Vakalis, Ph.D.

March 26th, 2013
Introduction

"Cybersecurity includes preventing damage to, unauthorized use of, or exploitation of electronic information and communications systems and the information contained therein to ensure confidentiality, integrity, and availability. Cybersecurity also includes restoring electronic information and communications systems in the event of a terrorist attack or natural disaster."¹

The Cybersecurity Center at California Polytechnic State University (Cal Poly) will provide students, faculty, and industry partners with collaborative opportunities to engage in basic or applied research, cybersecurity training, workshops, internships, and curriculum development.

"Cybersecurity" is a broad term that includes systems and practices to prevent and mitigate cyber attacks and cyber crimes aimed at global, national, organizational, or personal cyber spaces. The National Infrastructure Protection Plan identifies cyber crimes and attacks as a leading threat to national security.

Scholars, industry experts, and the media identify a pressing need for cybersecurity experts within the United States. Some experts have suggested that in the western part of the world, we still have not grasped how "unbridled" the cyber threats are.² Government and industry experts estimate that we will need approximately "60,000 cybersecurity experts in the next three years" and that "There will be a shortage."³

In partnership with public and private organizations, Cal Poly is poised to become a leading supplier of cyber professionals through the development of comprehensive and collaborative programs that span our polytechnic university. Cal Poly intends to be a major contributor of qualified, cybersecurity-ready, and cybersecurity experts (i.e., defenders, warriors, innovators). The proposed Cybersecurity Center will serve as one catalyst in reaching this goal. Cal Poly is uniquely poised to provide students with Learn by Doing experiences that will prepare them to make rewarding contributions in the field of cybersecurity.

College of Engineering (CENG) department chairs and program directors ranked establishing a cybersecurity center 3rd out of 10 possible initiatives in a 2012 campaign assessment survey. In addition, Cal Poly engineers have been working for some time on an array of cybersecurity initiatives. These include: development of curriculum (currently: an undergraduate and a graduate course in computer/cyber security which has been offered multiple times during the last two years), development of the Raytheon security lab

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(Bonderson #204), the establishment of an ever increasing in size student club, “white hats,” the recruitment of a new faculty member with expertise in cybersecurity, the forthcoming state of the art Northrop Grumman Cyber Lab, as well as “white papers.” The Cal Poly Cybersecurity Center will be among the primary platforms from which faculty, students, and industry partners can explore the intersectionality of a wide range of complex and varied cybersecurity issues.

Mission

The Cybersecurity Center will provide Cal Poly students, faculty, and industry partners with 21st century cybersecurity pedagogical and research opportunities. It will build on the multidisciplinary nature of the field of cybersecurity. The Cybersecurity Center will be a non-partisan, self-supporting center governed by the highest principles of academic freedom.

Funding

Key Cybersecurity Center personnel (i.e., Director in collaboration with the faculty and industry Council for the Cybersecurity Center) will work with Cal Poly Advancement to partially fund the Cybersecurity Center. Other funding will result from contracts, grants and participating industry partners.

Background and Context

One important challenge in addressing potential breaches in cybersecurity is that the threat goal post is constantly changing. Adam Vincent, CTO-public-sector at Layer 7 Technologies explains:

"The threat is advancing quicker than we can keep up with it. The threat changes faster than our idea of the risk. It's no longer possible to write a large white paper about the risk to a particular system. You would be rewriting the white paper constantly."  

Compounding the constantly evolving nature of cyber threats is the complexity of software (let alone the complexity of hardware and networks). Robert C. Armstrong and Jackson R. Mayo explain:

"Complexity of software is an artifact of the complex things we require computers to do. Their capacity for computation is inextricably connected to the fact that they are also unpredictable, or rather capable of unforeseen emergent behavior. Vulnerabilities are one of those behaviors."  

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Cyber-experts, then, need to navigate between emergent vulnerabilities of software, as well as vulnerabilities in hardware and networks. Additionally, a well-trained cyber-expert takes a multi-disciplinary approach to solving problems and developing defensive and protective tools. This is because the quickly emerging field of cybersecurity aims to understand and anticipate more than technological vulnerabilities. The cyber-expert needs also to understand people, both the victims and the perpetrators of cyber crimes and cyber threats. Therefore, the cyber-expert needs to understand the habits and psychology of people who, tricked by hackers and other cyber criminals, unknowingly succumb to threats. Even more challenging, the cyber-expert needs to understand the habits and psychology of a very wide range of types of cyber criminals due to the wide range of attack targets cyber criminals have.

Our dependency on information systems permeates what seem to be innumerable aspects of our lives. On personal computers we store information that, if obtained by hackers, could potentially and dramatically negatively impact our quality of life. Additionally, we all have a vested interest in ensuring that information obtained by banks, internet retail operations, Social Security, Internal Revenue Service, the military, and the government, etc., is protected with the highest levels of confidentiality and integrity.

The emphasis we place at Cal Poly on the importance of helping students to learn from their successful problem-solving experiences, but also, to learn from failure, positions our faculty and students to be among the most "cyber-educated" citizens and professionals universities can create. The Learn by Doing approach we take at Cal Poly is ideal for training savvy cyber-experts who are holistic in solving cybersecurity problems.

A holistic hands on approach is crucial to understanding just how open-textured cybersecurity problems are. For instance, sometimes, specific kinds of cyber attacks can be in part explained by national borders. Richard Bejtlich, chief security officer of the Alexandria, Virginia based cybersecurity company Mandiant explains:

"In the West ... attacks are aimed at military facilities and intelligence communities. But Chinese hackers go after civilian targets, such as media organizations, banks, defense contractors, and law firms (if a particular company is too difficult to break into, Bejtlich says, ‘they go to [their] law firm or a supplier’ for information). One reason for this difference in perspective: in China, these groups are state-owned, unlike in the West."

Addressing cybersecurity in the global context involves more than understanding regional and national differences in attack approaches because the profile of the cyber criminal is so diverse. He or she can live in and attack from the house next door, or any home anywhere in the world, work for a major corporation, a government, an army, or a terrorist organization.

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Since the nature and identification of cyber vulnerability, cyber crimes, and cyber attacks is always evolving, cybersecurity experts can successfully develop innovative preventative and response strategies to cyber threats only if their activities are governed by clear principles of academic freedom. Thus, a basic tenet of all Cybersecurity Center activities involves a commitment to academic freedom, which includes "the protection of freedom of inquiry, research, expression and teaching both inside and beyond the classroom."  

**Cybersecurity Center: Need and Activities**

Cal Poly needs a Cybersecurity Center to serve as the nexus for a wide range of activities that involve faculty and students partnering and collaborating with private companies, defense industries and government agencies, research labs (Sandia National Labs, Lawrence Livermore National Labs), as well as with experts from other academic institutions. CENG is setting the groundwork to establish Cal Poly as a leading producer of cybersecurity experts. In time, Cal Poly intends to boast thousands of cybersecurity experts, at the undergraduate and graduate level, who can serve the cyber needs of society.

The diverse academic and professional interests of Cal Poly faculty and students strongly suggest that a wide range of possible cybersecurity experts will graduate from our programs. Students in engineering, the sciences, business, and ROTC students are all potential problem solvers and innovators in the complex world of cybersecurity. The Cybersecurity Center will function as a platform and a venue for many types of activities that will allow Cal Poly faculty and students to develop and hone expertise, including:

- Grant writing for cybersecurity projects and research
- Cybersecurity workshops and conferences
- Cybersecurity competitions for students
- Curriculum development
- Applied projects that will be implemented at the Cyber labs at Cal Poly
- Innovative projects that can lead to commercialization of new technologies
- Student internships in private, defense industries, and in government agencies
- Fund raising
- Fostering industry partnerships
- Cybersecurity training

Possible subjects of interest in Cybersecurity Center activities include:

- Cybersecurity and policy
- Cybersecurity ethics
- Cyber-warfare
- Cyber-resiliency

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7 AS-709-10 Resolution on Private Donors
• Cyber-crime
• Cyber-terrorism
• Cyber-responsibilities

It is important to note that the Cybersecurity Center presents, for faculty participants, an exciting opportunity to implement the teacher-scholar model at Cal Poly. There already exists a significant amount of excitement and energy for increasing our cybersecurity expertise and experiences among many of our engineers. The Cybersecurity Center, which will engage with colleagues across the University and colleagues in industry, government, and the military, promises to help our faculty “create vibrant learning experiences for students” while enjoying enriching careers that allow for a strong connection between teaching and scholarship. Additionally, through the wide range of Cybersecurity Center activities, our faculty and students will also be of service to the interests of the university and society.

**Governance and Staffing**

Please see a proposed Cybersecurity Center Organizational Chart on the following pages.

A Cybersecurity Center Director will be responsible for management and oversight of all Cybercenter activities. The Director will report to CENG Dean, Debra Larson, and indirectly to the Dean of Research, Dean Wendt.

The Cybersecurity Center Director will seek direction and support from a standing Cybersecurity Council. Professor Ignatios Vakalis and Mr. Russell Bik will serve as the initial co-chairs the Cybersecurity Council.

Professor Ignatios Vakalis has served as Chair of the Computer Science Department in CENG at Cal Poly since 2006. Prior to joining Cal Poly, Professor Vakalis served as the Coordinator of the State-wide Initiative in Computational Science at the Ohio Board of Regents and Ohio Supercomputer Center, Executive Director of the Center for Computational Science at Capital University, and professor in the departments of Math and Computer Science at Capital University. Dr. Vakalis has worked on a cadre of projects in the areas of Computational Modeling and Parallel Computing with the Ohio Supercomputer Center (OSC). He also served as the chair for three international conferences on “Teaching of Undergraduate Mathematics.” Currently he helps shape the multi-prong strategic initiatives in the Computer Science Department, serving as its chair while maintaining passion in teaching.

Mr. Russell Bik was a founding stockholder of Sun Microsystems in 1982, where he served as Sun’s original Vice President of Operations, building the organization from three people to one shipping over a billion dollars a year in revenue. He served concurrently as a member of Sun’s Executive Committee and later became President of Sun Federal, a wholly-

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8AS-725-11 Resolution on Defining and Adopting the Teacher-Scholar Model
owned subsidiary he founded focusing on sales to the CIA and NSA. Since leaving Sun, Mr. Bik has continued to work closely with the venture capital firm of Kleiner, Perkins, Caufield & Byers serving as a corporate officer, CEO, and board member of numerous portfolio companies. Prior to Sun, Mr. Bik was employed by Intel for 7 years where he was one of the first 100 employees of the company's Systems Division. He is a Cal Poly graduate. As a student at Cal Poly he founded several startup businesses. After graduation he enlisted in the navy and later served in the U.S. Naval Air Reserve. Mr. Bik continues to pursue entrepreneurship working with both University of California at Santa Barbara and Cal Poly, where he is an adjunct professor. He has been a member of the Cal Poly "President's Cabinet" advisory council for over a decade and is a licensed instrument pilot.

The Cybersecurity Council will be comprised of Cal Poly faculty and industry representatives. Regular interactions between several faculty members and industry experts on cybersecurity initiatives already occur, so these relationships are healthy and established.

Faculty, students, and industry partners, will work together to accomplish goals that are cybersecurity project specific. Cybersecurity Center participants may depend on the expertise from colleagues working at other Cal Poly centers or institutes, such as the University Center for Innovation and Entrepreneurship or the Institute for Advanced Technology and Public Policy.

The Cybersecurity Director and Cybersecurity Council will ensure that best practices are maintained in all Cybersecurity Center activities. In addition, the Cybersecurity Director will ensure that Cal Poly policies and practices are adhered to in all Cybersecurity Center Activities.

Responsibilities of the Cybersecurity Center Director may include:

- Develop and coordinate initiatives and activities of the Cybersecurity Center in cooperation with industry partners, the Cybersecurity Council, Computer Science Advisory board, Dean of Engineering and the Chair of the Computer Science Department
- Spearhead the development of mutually beneficial partnerships with industry, agencies, key national forums and other institutions
- In cooperation with the Cybersecurity Council, develop specific measurable goals and objectives in general and, in particular, the use of resources committed to the Center
- Actively seek funding to support the operations of the Cybersecurity Center including equipment, grants, and faculty endowments
- Work to secure involvement of industry experts who can deliver specialty courses
- Uphold the highest principles of academic freedom
- In collaboration with faculty, develop strategic directions for curriculum development in the cybersecurity area
- Work with industry partners to secure student internship positions
• Seek sponsored research projects in collaboration with faculty and industry partners
• Be aware and supportive of the development of entrepreneurial opportunities within the cybersecurity area
• Participate in and represent Cal Poly in key professional meetings in the cybersecurity area

**Faculty members already involved in cybersecurity activities/projects**

- Philip Nico
- Franz Kurfess
- David Janzen
- Hisham Assal

More faculty members will be involved soon. For instance, the Computer Science Department recently hired a new faculty member with expertise in this cybersecurity.

**Companies and industry partners already interested in partnering (partial list)**

**Group #1**

- Northrop Grumman
- Raytheon
- Parsons
- McAfee

**Group #2** (Partial list of companies as potential candidates for representation)

- Lockheed Martin
- Boeing
- PG&E
- Apple
- Intel
- Symantec
- Chevron
- Cisco
- VMWare
- Sandia National Labs
- Lawrence Livermore National Labs
- US Airforce

**Assessment**
As required by the California State University system, the Cybersecurity Center will be reviewed regularly in accordance with Cal Poly center and institute program review policies, practices, and timelines. Assessment of the Cybersecurity Center is tied to its mission. Therefore, the primary assessment question will be: what is the center supposed to accomplish? The quality and outcomes of center activities will be reported in program review. Faculty involved with the Cybersecurity Center will develop performance metrics for student engagement that measures output (e.g., how many students involved?) and outcomes (learning achievements). In addition, faculty will develop appropriate metrics for their activities within the center, such as the number of grants developed, workshops held, industry involvement, contracts, donations, and student projects.