I. Minutes: Approval of Academic Senate minutes for the meetings of October 1 and October 29, 2002 (pp. 2-7).

II. Communication(s) and Announcement(s):
   A. Free Expression (Draft) Policy available for viewing at: http://policy.calpoly.edu/capdraft/100/CAP180draft.htm (p. 8).
   B. Resolution on Support for Proposition 47 (AS-590-02/EC) approved by President Baker on October 18, 2002.
   C. Memo re "Jointly Sponsored Volume of Articles on Academic Technology in the CSU (p. 9).
   D. At the December 3, 2002 Academic Senate meeting, the following Trustees will be present to discuss educational issues affecting the state and the CSU: Roberta Achtenberg (Trustee), Debra Farar (Chair, CSU Board of Trustees), Harold Goldwhite (Faculty Trustee).

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

IV. Consent Agenda:

V. Business Hem(s):
   A. Agribusiness Department Curriculum Proposal: second reading, Hannings, chair of the Curriculum Committee (pp. 10-16).
   B. College of Business Curriculum Proposal: first reading, Hannings, chair of the Curriculum Committee (pp. 17-37).

VI. Discussion Hem(s):

VII. Adjournment:
I. Minutes: None.

II. Communications and Announcements: Announcement from Senator Elrod: The new Center for Teaching and Learning has developed a series of new courses and workshops. A new teacher training workshop had over 90 new faculty, lecturers, and graduate teachers in attendance. Quarter-long courses are being offered as well as a workshop series of three courses offered on Friday afternoons from 12-2pm. For more information log on to http://www.academics.calpoly.edu/ctllindex.htm. Myron Hood will be having major surgery tomorrow at Sierra Vista. Please sign one of the four cards being circulated around the room. The cards along with flowers graciously provided by the Horticulture and Crop Science Department (facilitated by Professor Hannings) will be delivered to him tomorrow.

III. Reports:
A. Academic Senate Chair: (Menon) a) The new ASI representatives are Doug Paasch from Ag Engineering and Dan Schrupp from Political Science. b) ACR 73 - Assembly Concurrent Resolution #73 - urges the CSU to develop a plan to raise the percentage of tenure and tenure track faculty to at least 75%. Members of the CSU ACR 73 task force will be on campus later this year for further discussions. c) The CSU joint task force of Provosts and CSU Senators that focuses on facilitating improved graduation rates is making rapid progress. The added impetus of trustees' participation in this task force may lead to specific recommendations during this year. Trustees Debra Farar (Board of Trustees' chair), Roberta Achtenberg and Harold Goldwhite will be on our campus for the December 3 Academic Senate meeting.

B. President's Office: (Baker) The three main issues that were discussed last week during fall conference were student success, diversity, and civility on the campus will be addressed briefly. Student Success - The WASC report very vividly pointed out that our graduation rates may be admirable with respect to the averages of the CSU but when you look at the cohort of students that we should be comparing ourselves with, we are not doing as well. The hope is to revisit some of the studies that have been done by senate committees so that the senate can focus on them and come up with a series of action plans to improve graduation rates. A plan has to be submitted to the Chancellor's office this spring.

Diversity - Is important to revisit diversity on our campus from time to time. The issues with respect to racial and ethnic diversity on our campus, when compared with the racial and ethnic diversity of the state, are quite contrasting. Our ratio of ethnic diversity on campus, in regards to the student body, is about half that of what the states is. It is important to embrace the concept of diversity.

Civility - We need to strive to create and preserve a civil environment on the campus; in the way we work and speak with one another, the way we accept and tolerate our differences. Cal Poly needs to create an environment that will foster open and frank discussions without the fear of being treated in an uncivil way.

College-based fee initiative - The purpose of this fee was to improve quality and access to classes. Original discussions began from a long-standing recognition that the university is under-funded and that is reflected in faculty workload, number of classes available, etc. Each department has a web site up and posts the results of their accountability. Students were
involved in deciding the process of distribution therefore we need to make sure that as time goes on we retain that high level of accountability and student involvement.

Budget - See attached handout of CSU 2003-2004 Trustees request budget, which was reviewed in detail. This year's budget is still uncertain. This year the budget shortfall at Cal Poly ended up being $1.1 million, half of that was met centrally, and the other half was distributed among programs in the various divisions of the University.

Proposition 47 is on the ballot this year and will produce nearly $40 million for Cal Poly and will replace outdated facilities on the campus. Please make yourself familiar with this proposition.

C. Provost's Office: None.
D. Statewide Senators: None.
E. CPA Campus President: None.
F. ASI Representatives: None.
G. Other: None.

IV. Consent Agenda: None.

V. Business Items:

A. Approval of curriculum program and course changes: Hannings, Chair of the Curriculum Committee. New Degree proposals are not included in this process. Program changes will go through first and second reading procedures at the October 1 meeting. Individual changes to curriculum and courses will be placed on the consent agenda on October 29 unless a request to pull them is made in writing or by email to the Academic Senate office before October 15. Those programs pulled will be listed as business items on the October 29 agenda unless a request to modify above state procedure by having all pulled items to be treated as first reading items instead of second reading. All first reading items presented today will return as second reading consent agenda items at the next meeting, except for any specific proposal that are pulled by request from senators prior to the October 15 deadline.

B. Resolution on Support for Proposition 47 (Kindergarten-University Public Education Facilities Act of 2002): Menon, on behalf of Myron Hood and the Executive Committee, first reading. The Statewide Academic Senate unanimously passed this resolution in support of Proposition 47, which is intended to help the entire education system. By passing this resolution, Cal Poly will be added to the list of supporters for the "YES on Proposition 47" campaign. This resolution is a bond measure, which will be used to fund facilities improvements throughout the education system. MISIP to move resolution to a second reading. MISIP to approve the resolution.

VI. Discussion Item(s): None.

VII. Meeting adjourned at 5:00 pm.

Submitted by,

Gladys Gregory,
Academic Senate
2003/04 CSU Support Budget - Executive Council Version 1 (5% Enrollment Growth)

Sources of Funds

Partnership Funding Agreement Base Budget Calculation

\[
\text{2002/03 Final General Fund Budget} \quad \text{\$2,680,280,000}
\]

\[
\text{Less: Lease Bond Payments and Deferred Maintenance Borrowing Debt Service Payments} \quad (65,697,000)
\]

\[
\text{Plus: Restore Funding for 2002/03 One-Time Long-Term Need Reduction} \quad 43,000,000
\]

\[
\text{Total, CSU 2003/04 Base Budget General Fund Support} \quad \text{\$2,657,583,000}
\]

Partnership Agreement

\[
\text{4\% Increase for General Operations (\$2,657,853,000 x .04)} \quad \text{\$106,303,000}
\]

\[
\text{1\% Increase for Long-Term Need (\$2,657,853,000 x .01)} \quad 26,576,000
\]

\[
\text{Full State Marginal Cost for 5\% Enrollment Growth @ \$6,890 per FTES} \quad 110,633,000
\]

\[
\text{State Marginal Cost Supplement for YRO Conversion} \quad 7,713,000
\]

Partnership Revenue Agreement

\[
\text{Revenue from Enrollment Growth} \quad 28,238,000
\]

\[
\text{Revenue from YRO Conversions (@ 2002/03 marginal cost rate)} \quad 2,065,000
\]

\[
\text{Buy Out Revenue from Increase in State University Fee Rates} \quad 16,294,000
\]

\[
\text{SUBTOTAL, PARTNERSHIP REVENUE ESTIMATE 2003/04} \quad \text{\$297,822,000}
\]

2002/03 Unfunded Partnership Revenue

\[
\text{\$115,840,000}
\]

Total Sources of Funds

\[
\text{\$413,662,000}
\]

Use of Funds

Mandatory Costs

\[
\text{Full-Year Cost of Faculty (Unit 3) Compensation Agreement (2.64\% Increase)} \quad \text{\$29,920,000}
\]

\[
\text{Full-Year Cost of Non-Faculty Compensation Agreement (18\% Increase)} \quad 1,917,000
\]

\[
\text{Cost of Unit 6 2003/04 Compensation Agreement (2\% Increase)} \quad 979,000
\]

\[
\text{Health Benefits Rate Increase} \quad 31,723,000
\]

\[
\text{Workers Compensation Increase} \quad 7,000,000
\]

\[
\text{New Space} \quad 6,480,000
\]

\[
\text{Total, Mandatory Costs} \quad \text{\$78,019,000}
\]

Enrollment Growth - 16,057 FTES (5\% Increase)

\[
\text{\$124,586,000}
\]

Enrollment Growth YRO Conversions - 1,683 FTES

\[
\text{\$9,778,000}
\]

Financial Aid - New Enrollment Growth

\[
\text{\$9,413,000}
\]

Long-Term Need

\[
\text{Technology-Network Equipment} \quad 10,000,000
\]

\[
\text{Libraries} \quad 8,000,000
\]

\[
\text{Deferred Maintenance} \quad 8,576,000
\]

\[
\text{Total, Long-Term Need} \quad \text{\$26,576,000}
\]

Non-Faculty Compensation Adjustment for Parity with Faculty Agreement (2.46\% Increase)

\[
\text{\$26,573,000}
\]

General Compensation Increase; 1\% Increase for all employees (excludes Unit 6)

\[
\text{\$22,877,000}
\]

\[
\text{SUBTOTAL, 2003/04 PARTNERSHIP FUNDING AGREEMENT} \quad \text{\$297,822,000}
\]

Compensation (3\% effective July 1 = \$37 million Faculty; \$32.6 million non-faculty - excludes 1\% Unit 6)

\[
\text{\$69,609,000}
\]

ACR 73 First Year Cost Requirement

\[
\text{Maintain Faculty Position Base} \quad \text{\$5,800,000}
\]

\[
\text{Marginal Cost Supplement for Enrollment Growth Faculty at Average New Hire Rate} \quad 16,791,000
\]

\[
\text{SFR 18.0 to 1 First Year Phase In Cost} \quad 13,024,000
\]

\[
\text{Total, First Year ACR 73 Cost Requirement} \quad \text{\$35,615,000}
\]

Off-Campus Centers (at \$750,000 per Center over 500 FTES)

\[
\text{\$2,250,000}
\]

High Cost Academic Programs (Nursing, Agriculture, Engineering, Computer and Bio Technology)

\[
\text{\$8,366,000}
\]

Total Use of Funds

\[
\text{\$413,662,000}
\]
I. Minutes: None.

II. Communications and Announcements: (Menon) Introduced: Dr. Cornel Morton, Vice President for Student Affairs, who is an ex-officio member of the Academic Senate and so we will continue to see him at meetings. Dr. Morton will be presenting a report. Also in attendance were Carol Schaffer, Associate Director of Housing, and Joel Neel from Facilities Planning.

III. Reports:
A. Academic Senate Chair: (Menon) a) Myron Hood is now back home after successful cardiac surgery and is recovering well. The Academic Senate Executive Committee has asked Reg Gooden to be the substitute Statewide Senator until Myron Hood is able to resume his duties.  
b) The next issue of Cal Poly Report will have a CSU call for nominations to replace CSU Faculty Trustee Harold Goldwhite when he completes his term this year. Experience in academic governance is a requirement and almost all past CSU Faculty Trustees have served as Chair of CSU Statewide Senate. 
c) A large team of accreditation evaluators from ABET (Engineering Accreditation Council & Computer Science Accreditation Council) were on campus last week October 19-22nd, for the periodic reviews of all twelve engineering and computer science programs within CENG, CAGR and CAED. The initial feedback from the accreditation team is very positive and they have much praise for the quality of our programs. I wish to place on record the Senate’s appreciation to all faculty, students, support staff and administrators who were involved in various ways, in this very important test of our academic accountability. 
d) The topic of "Facilitating Student Success" with improving graduation rate, as a major component of such success will be emerging in different forms during this academic year, both here at Cal Poly and CSU wide. I will keep the Senate informed as this initiative begins to gain momentum.

B. President's Office: (Howard-Greene via email which was read out verbatim by Chair Menon) we continue to move forward with the development of the Free Expression Policy. Since my visit with the Senate Executive Committee, I have circulated a fresh draft among the members of the summer ad hoc group. With the benefit of some additional input from members of the group, I am finalizing a draft for review by the CAP Committee this Friday. I expect to get the draft out to the CAP Committee (copy to the ad hoc group) by tomorrow morning at the latest. Following the CAP Committee's meeting, the policy draft will then be formally available for wider campus review and comment, prior to a second review by the CAP Committee in December. The policy will likely then be sent on for legal review, further administrative review, and ultimate Presidential review/approval. Through all these review phases, there will be an open door for individuals and groups to weigh in with comments and suggestions.

C. Provost's Office: (Zingg) a) The ABET review last week involved the College of Engineering, College of Agriculture, and College of Architecture and Environmental Design. It was extremely gratifying and very positive to hear the comments on our students and colleagues in the programs reviewed which underscores why we have the top ranked public undergraduate
engineering school in the country. For the record "my appreciation to all of those who contributed to an effort that has been going on for three years, preparing for this visit."  b) As required by the Chancellor's Office, Cal Poly has now submitted the preliminary request on enrollment targets for next year and our request is to roll back our enrollment to the point that they were at two years ago. We want to restore the balance of resources with enrollments and the number that we submitted would enable that to occur and it will also create alignment between what our physical plan capacity is and the resources that we get from state funding. Systemwide there is a sense that we are all over enrolled. c) There will be no budgetary actions for the remainder of the calendar year and there is no expectation of retroactive budgetarial reduction.

D. Statewide Senators: (Menon) Statewide Senators are meeting next week, Wednesday for committee sessions and Thursday/Friday for full senate plenary sessions. More information will be available after the meetings.

E. CFA Campus President: (Foroohar) there was a Board of Directors meeting October 18-20 in Los Angeles. CFA is discussing many different issues but the important one is preparing for re-opener contract negotiation. It will start next April and right now a faculty survey is being prepared to find out what issues are important to faculty. Two other issues that were discussed but basically we have no control over, are health care issue for rural areas and the "golden handshake." CFA is considering filing an unfair labor practice suit, since the Chancellor has rejected our meet-&-confer meeting request with CFA to discuss the possibility of a golden handshake as authorized by the governor for all state agencies.

F. ASI Representatives: (Schrupp) the issue of civility was discussed with the ASI Board and the question of action required is not specific and needs clarification. Menon mentioned that the charge assigned to ASI at this time is to look at ideas that have emerged and issues of civility from ASI point of view. Essentially, we are looking for ASI to designate the student representatives to join faculty members in an Ad Hoc joint ASI-Senate committee to be formed which will then be given a formal charge jointly by Menon and Parnell.

G. Other Reports by: Dr. Cornel Morton, Vice President for Student Affairs. Carol Schaffer, Associate Director of Housing, and Joel Neal from Facilities Planning. (Morton) I have spent 6 years at Penn State University as Associate Vice President for Student Support Services and several years in other locations in higher education. The work provided by student affairs is largely that of student advocate and in our work, we are partners with academic colleagues, with those who work in labs, studios, classrooms, etc and we look for opportunities to help students round out their experiences. Many of us are looking for opportunities to broaden the definition of student success by including the larger array of experiences that shape the life of an individual over 4, 5, 6 years and have her or him leave the university a changed person and able to engage a democratic society responsibly. We view the notion of student success in a larger context that helps us to understand that success defined as progress to degree, change of major, transferring, senior projects are all critically important and have to be made more student friendly. They are all important dimensions of success. In regards to housing, the phase I project, which includes 800 new beds, is a very meaningful step in the right direction in this community since it will make for a more rich and complete residential experience for our students. Student now want greater control over their space and look forward to a more contemporary arrangement. Phase I is configured as apartment, private bedrooms, common living space, laundry facilities, and in a very beautiful setting. Phase II, which will be complete Fall 2006, includes a more traditional residential facility with 700 beds with a degree of privacy and convenience. The Cal Poly Care Team handout describes a student support system inside the division of student affairs that represents various departments throughout the university community. We are looking for opportunities to learn from the faculty how we might help those students who appear to be in need of help. (Schaffer) Handouts provided on housing are self explanatory with a lot of information and blueprints. There is a 5,000 sq. ft. community building as part of the project and will be utilized as socialization space for the 800 residents. Grand opening will be Fall of 2003 and we are looking at current student population to fill it.
(Neel) We are in the process of working out the next phase for 700 beds with an expected opening date of Fall 2006.

IV. Consent Agenda:
All curriculum and course changes (except for items A and B under Business Items below) as shown at: [http://www.academics.calpoly.edu/curriculum/index.htm](http://www.academics.calpoly.edu/curriculum/index.htm). Hannings, chair of the Curriculum Committee. Business 396 and 397 and 398 courses are withdrawn from the consent agenda but will be reviewed by the Executive Committee next Tuesday. MISIP to approve the consent agenda as amended.

V. Business Items:
A. Approval of New Program Proposals for 2003-2005: Hannings, chair of the Curriculum Committee, second reading. MISIP to approve programs as proposed.

B. "Item pulled from the Consent Agenda": Hannings, chair of the Curriculum Committee, first reading. Ag Business has requested to replace the requirement of Math 118 or Math 221 with Math 221. The Curriculum Committee recommended against that proposal because it would be a case of establishing hidden prerequisites. The Academic Senate needs to sustain or not sustain the Curriculum Committee recommendation. After much discussion, the proposal was agendized to return as a second reading item at the next Academic Senate meeting.

C. Computer Science major to use GE Engineering template, required changes in curriculum display: Keams, Chair Computer Science. By approval of the General Education committee, Computer Science will use the Engineering GE template. As a result of this change in GE requirements, Computer Science will make the changes outlined in the memo. The Academic Senate Curriculum committee requests that these changes be approved as part of the consent agenda. MISIP to consider this item part of the consent agenda. Passes unanimously.

VI. Discussion Item(s): None.

VII. Meeting adjourned at 5:00 pm.

Submitted by,

Gladys Gregory,
Academic Senate
SUMMARY REPORT ON THE STATUS OF  
(DRAFT) POLICY ON FREEDOM OF EXPRESSION  
Campus Administrative Policies Section 180

The standard CAP policy review sequence and likely timeline for this policy is now as follows:

- Following the CAP Committee's initial consideration of the policy draft, campus review/comment was invited (and will continue to be invited until the policy is finalized).
- The CAP Committee will consider the policy draft again in December along with any suggested changes, from either committee members or campus constituency group members, and may approve it at that time in "draft form."
- The policy will then be posted to the Web as a "draft" policy (subject to further campus review/comment).
- The policy will next be forwarded to the University Counsel and the Office of the President for legal review, further administrative review, and ultimately review by the President.
- Once the policy has received interim approval by the President (probably in January/February), it will be moved from the "draft" CAP web page to the "interim/final" CAP web page where it will retain interim official status for one month. Then...
- If no further community comments/questions are received, it will assume "final official" status.
- If additional comments/questions are received, the CAP Committee will take them up before the policy assumes "final official" status.

The Policy should be finalized by the end of February.

For the next several months, then, as per standard CAP procedures, we are inviting all members of the campus community who may wish to comment on this policy draft to do so. Please feel free to share this draft with any of your colleagues who may be interested in it.
To: Academic Senate Chair

From: David S. Spence, Executive Vice Chancellor and Chief Academic Officer of the CSU
Jacquelyn Ann K. Kegley, Co-chair, Academic Technology Advisory Committee
Scott G. McNall, Co-chair, Academic Technology Advisory Committee and Provost and Vice President for Academic Affairs, CSU Chico

Subject: Jointly sponsored volume of articles on academic technology in the CSU

We wrote to ask your help in compiling a volume of articles that celebrates CSU faculty experiences in the use of academic technology. The volume is being sponsored by the Academic Technology Advisory Committee, the Academic Senate, and the Office of the Chancellor.

We have begun to collect published articles by CSU authors and we would like to ensure that the widest range of relevant articles is considered for inclusion in this volume. We would very much appreciate your assistance in identifying published articles written by faculty from your campus who have effectively integrated academic technology into their teaching. Although we particularly encourage papers that address the use of technology to improve student learning or student access to learning, any article that was written or co-authored by a CSU faculty member and that addresses the use of academic technology in higher education will be considered. Because technology evolves so rapidly, we would prefer articles published since 1998.

A review panel of Academic Senators and faculty members of ATAC will determine which submitted papers will be included in the published volume. Although we would prefer to have reprints of these articles, we would be happy to accept photocopies. All articles received by Friday, December 6, 2002 will be considered for inclusion in the published volume. The volume, whose working title is Contributions of Academic Technology in Teaching and Learning in the CSU, will be shared with campuses throughout the system, and it will be available free of charge. Publication costs will be covered by Academic Affairs, and permission to reprint the articles will be sought from the appropriate sources.

Reprints, copies, and any questions should be directed to

Cheryl Weigand, Ph.D.
Publications Manager, CSU Institute for Teaching and Learning
401 Golden Shore, 6th Floor
Long Beach CA 90802
(562) 951-4752
cweigand@calstate.edu

Please join us in celebrating the achievements in academic technology of faculty authors on your campus and throughout the CSU system.

DSS/clw

c: CSU Presidents
1. AgBusiness Department Math requirement.

Proposal: Replace the current Math requirement of Math 118 or Math 221, with Math 221

Rationale: The department would like their incoming students to be better prepared in Mathematics and believe that requiring Calculus for Business and Economics instead of Pre-Calculus Algebra in their curriculum would accomplish this.

Curriculum Committee Opinion: This would be a case of establishing hidden prerequisites. Data from the Math department shows that only 36% of their incoming freshmen are qualified to enroll in Math 221, while 46% are qualified for Math 118 (the prerequisite for 221), and 18% require remedial Math. We believe that the message they are trying to send would not be received by high school students in time for them to take Math beyond what is required for admission into the CSU.
The Agribusiness Department has submitted a proposal for a change in the department's math requirement from the current Math 118 to Math 221. The Senate's Curriculum Committee has voted to disapprove this change even though it passed the College of Agriculture's Curriculum Committee with a unanimous approval vote.

Agribusiness Department Position

1. To list Math 118 on the curriculum sheet communicates two fallacies to incoming students:
   a. Math 118 is the "expected" level of entering math for incoming students; therefore, preparation that qualifies for calculus is not expected or necessary. Indeed, more BUS and ENG students come into the university prepared for calculus because high school students know higher levels of math are required. Listing 118 does not communicate the higher level and sends a "dishonest" message to students preparing to enter AGB.

   b. Math 118 is a "required" math course for incoming freshmen who will unnecessarily sign up for the lower math even when they are qualified for calculus. Again, another "dishonest" communication to entering students.

2. Math 221 is the appropriate prerequisite for AGB 213.

3. The Agribusiness Department strongly recommends the listing of Math 221 as the math requirement only, and not both Math 118 and Math 221 in the catalog. There is a concern that listing both courses will lead to many of our students unnecessarily taking Math 118.

4. We have clear evidence that entering AGB students who are calculus qualified are not taking Math 221.

5. Our decision on this issue is unanimous within the AGB department. Our faculty, who have historically argued against upping our math requirement now realize that this is, indeed, what is best for the proper preparation of our students.
The Agribusiness Department has submitted a proposal for a change in the department's math requirement from the current Math 118 to Math 221. The Senate's Curriculum Committee has voted to disapprove this change even though it passed the College of Agriculture's Curriculum Committee with a unanimous approval vote.

**Senate Curriculum Committee Position**

Math 118 constitutes a hidden prerequisite and therefore must be listed on the curriculum sheet as a graduation requirement. The curriculum sheet is a contract with students and must honestly list requirements made of students. AGB differs from BUS and ENG because more Agribusiness students come in unprepared for Math 221.

**Agribusiness Department Position**

We agree that hidden prerequisites should be listed. But a hidden prerequisite is a course not listed on the curriculum sheet, taught at the university, and required of all students before graduation. It should not include courses covering materials that incoming students can and should have taken in high school. BUS and ENG do not list Math 118 and AGB should not have to list it either.

To list Math 118 on the curriculum sheet communicates two fallacies to incoming students:

1. Math 118 is the "expected" level of entering math for incoming students; therefore, preparation that qualifies for calculus is not expected or necessary. Indeed, more BUS and ENG students come into the university prepared for calculus because high school students know higher levels of math are required. Listing 118 does not communicate the higher level and sends a "dishonest" message to students preparing to enter AGB.

2. Math 118 is a "required" math course for incoming freshmen who will unnecessarily sign up for the lower math even when they are qualified for calculus. Again, another "dishonest" communication to entering students. We have clear evidence that entering AGB students who are calculus qualified are not taking Math 221.
Math 221 has the following Catalog description: "Calculus for Business and Economics. Polynomial calculus for optimization and marginal analysis." We currently require "math for the major" as a prerequisite to AGB 213. With Math 118 or equivalent as the minimum requirement valuable time is wasted every quarter. For 25 years we've taken two weeks to do a crash course in differential calculus in AGB 213. All the decision rules of economics are based on derivatives. Virtually every intermediate microeconomics text written supplies the mathematical underlay of the marginal decision concepts and illustrates them functionally. Clearly Math 221 is the appropriate prerequisite for this class.

The information in the following tables was provided to the Senate Curriculum Committee as well as to the Agribusiness Department:

20023/20024 AGB Total number = 272
Breakdown of the 272:

<table>
<thead>
<tr>
<th>134</th>
<th>Ready for Bus Calc</th>
<th>~49%</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>Ready for Precalc</td>
<td>~38%</td>
</tr>
<tr>
<td>36</td>
<td>Require Remedial Math</td>
<td>~13%</td>
</tr>
</tbody>
</table>

Breakdown by Class Level:

<table>
<thead>
<tr>
<th>SR (7)</th>
<th>7/7 Ready for Bus Calc</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>R (39)</td>
<td>36/39 Ready for Bus Calc</td>
<td>~92%</td>
</tr>
<tr>
<td></td>
<td>3/39 Ready for Precalc</td>
<td>~8%</td>
</tr>
<tr>
<td>SO (22)</td>
<td>18/22 Ready for Bus Calc</td>
<td>~82%</td>
</tr>
<tr>
<td></td>
<td>4/22 Ready for Precalc</td>
<td>~18%</td>
</tr>
<tr>
<td>FR/EFR (205)</td>
<td>74/205 Ready for Bus Calc</td>
<td>~36%</td>
</tr>
<tr>
<td></td>
<td>95/205 Ready for Precalc</td>
<td>~46%</td>
</tr>
<tr>
<td></td>
<td>36/205 Require Remedial Math</td>
<td>~18%</td>
</tr>
</tbody>
</table>

20023/20024 BUS Total number = 471

<table>
<thead>
<tr>
<th>Breakdown of the 471</th>
<th>415 Ready for Bus Calc</th>
<th>~88%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>55 Ready for Precalc</td>
<td>~12%</td>
</tr>
<tr>
<td></td>
<td>1 Require Remedial Math</td>
<td></td>
</tr>
</tbody>
</table>

Of the 160 SO, JR, SR's: 159 Ready for Bus Calc, 1 Ready for Precalc

<table>
<thead>
<tr>
<th>FRjEFR (311)</th>
<th>256 Ready for Bus Calc</th>
<th>~82%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>54 Ready for Precalc</td>
<td>~17%</td>
</tr>
<tr>
<td></td>
<td>1 Require Remedial Math</td>
<td></td>
</tr>
</tbody>
</table>
The area of greatest difference (and also of primary concern to the Senate Curriculum Committee) is obviously in freshmen, so let us take a closer look at these numbers. We have developed a more detailed look at our freshmen for the 2001-2002 academic year. A request from the agribusiness department for information concerning the qualifications of our incoming students was made to Sheryl O'Neill, Coordinator ELM & Developmental Mathematics. A Brio Query was run by Sheryl O'Neill to examine ELM and MAPE codes of freshman students admitted for Fall 2001. The following is the report.

*There were 153 freshman students admitted to AGB in fall 2001:*
- 44 or 29% entered eligible to take Math 221
- 44 or 29% entered eligible to take Math 118
  - and could have taken the MAPE to try to qualify for Math 221 as their first course
- 15 or 10% passed the ELM exam and were eligible to take either Math 118 or Math 116, and also could have taken the MAPE
- 50 or 33% did not pass the ELM test
  - and had to start in either Math 100 or Math 104

Therefore, there was a minimum of 29% of the incoming freshman students that were qualified to take Math 221. However, if all of the 44 students that were eligible to take the MAPE to qualify for Math 221 took it and passed, there would have been a maximum of 58% of our students eligible to take Math 221.

An analysis of the SAT for the admitted freshman for 2002 shows that 36% of our admitted students have Math SAT Scores of 600 and higher compared to the freshman Class of 2001, 26%. This significant increase in Math SAT for our admitted freshman indicates that it is likely that the freshman class of 2002 will have a significantly higher proportion of students qualified to take Math 221 than the 29% to 58% for the 2001 class.

The Agribusiness Department strongly recommends the listing of Math 221 as the math requirement only, and not both Math 118 and Math 221 in the catalog. There is a concern that listing both courses will lead to many of our students unnecessarily taking Math 118.
Information provided by Wendy Spradlin, CLA Advising, shows that most of our current students are taking lower math courses than necessary. The following is the information provided by Wendy Spradlin.

We printed out the class lists (screen 107) for the 5 sections of AGB 101 for Fall 2001 and then student-by-student looked up the math classes each AGB FR or EFR (freshman or entering freshmen) took since they've been here—most specifically where they started. A tabulation resulted in the math-readiness for 156 AGB FR and EFR.

- Forty or 25% started with Math 100.
- Twenty-two or 14% started with Math 104.
- Thirty-five or 22% started with Math 116;
- Forty-seven or 30% started with Math 118;
- Seven or 4% started with Math 221;
- Two or 1% started with Math 141;
- Three or 2% had Advanced Placement Math Credit.

A comparison of the math readiness scores produced by Sheryl O’Neill, Coordinator ELM & Developmental Mathematics and the actual courses taken produced by Wendy Spradlin, CLA Advising, shows that the while 29% of freshman students were eligible for Math 221 only 7% took a calculus course or had advanced placement math. Further, 58% were qualified for Math 118 (29% qualified for Math 221 and 29% qualified for Math 118) and only 30% took Math 118. Therefore, many of our current students are taking lower math courses than necessary.

More recent information provided by Sheryl O’Neill (E-mail correspondence dated 10/16/2002) indicates this trend continuing for the most recent class of freshmen. She states:

Here is data on the 163 AGB students admitted in 023,024 who are emolled in math classes this fall that might help:
* 19 students are enrolled in Math 116 who qualified for 118 (17/19) or 221 (2/19)
* 20 students are enrolled in Math 118 who qualified for 221
* 26 students who enrolled in 116 and qualified at that level, but may not have been encouraged to take the MAPE to try for a higher level course.
* 28 are currently enrolled in Math 221

Clearly, a minimum of 39/163 or 24% to as many as 65/163 or 40% of our students are taking Math at a lower level than what they are judged to be capable of.
In order to avoid an unnecessarily large group of students taking lower level math courses, the Agribusiness Department strongly recommends a listing of only Math 221 as the required math for our curriculum. We reiterate that it is our belief that Math 118 is the "expected" level of entering math for incoming students; therefore, preparation that qualifies for calculus is not expected or necessary.

It should also be noted that both DC Davis and Fresno State require Calculus for their Agribusiness/Ag Econ programs. This, despite the fact that Fresno State admits students into their Ag Econ program who need only meet minimum Cal State entry requirements.

Finally, we would like to point out that our decision on this issue is unanimous within the AGB department. Our faculty who have historically argued against upping our math requirement now realize that this is, indeed, what is best for the proper preparation of our students.

Thank you for considering this material. We would be happy to answer any questions or concerns you have regarding this issue.
Item Pulled From the Consent Agenda

Orfalea College of Business

Proposal: Three new courses

Bus 396, 397, 398  Network Components I, II, III

Curriculum Committee Opinion: These three courses, as described in the course proposals, are essentially courses listed in the Cisco Academy Curriculum (see 1), a set of training courses leading to the Cisco Certified Network Associate (CCNA) certification. As described, these courses are similar to courses offered in high schools (2), community colleges(3), training institutes (4), university extension (5), and on-line universities (6).

The Curriculum Committee reviewed the proposals for these courses last spring. The original proposals referred to Cisco course material extensively, and included excerpts from Cisco Academy web pages. The committee enquired and was assured by the Associate Dean of the college that the courses are more than the Cisco courses, with lectures and student contacts that provide added value. The committee thereupon requested COB to provide revised course proposals that contain details showing that these courses are more than the Cisco package, and more than the courses available to high school students. In other words, we wanted to know what value Cal Poly was adding to the courses. At a meeting earlier this fall, the committee was presented with the promised revised proposal. However, upon examination, these proposals appear to be identical to the original proposals, with the exception that all references to Cisco were removed. We also asked for more detail on course content, as the proposals were inadequate in this area, and received no additional information.
The courses originally appeared to be prepackaged courses with low-level content. In the absence of the additional information requested by the committee, we have had no evidence to change our minds. We unanimously and strongly feel that accepting these courses as written, for credit, and as upper-division courses, would be an embarrassment to Cal Poly.

The Curriculum Committee strongly and unanimously recommends disapproval of these new course proposals.

References:
5. Extended Education : Open University : Cisco Academy (On-Campus), http://www.calstatela.edu/exed/openuni/ciscoacademy.htm
Item Pulled From the Consent Agenda

Orfalea College of Business

Proposal: Three new courses

   BUS 396, 397, 398 Network Components I, IT, IIIT

College of Business Opinion:

To be distributed at the November 19 Senate meeting.
## Course Description

**Use this for Proposing New Courses or GE/USCP Courses**

You will need to save this document to your computer. Click "File" and then "Save As".

To prepare detailed responses to be included in this document, write each credit and revise in a separate file and then copy and paste it into the appropriate text box.

Note: For information entered in this document, however, information in fields will be lost if "protect document for editing" is then reselected.

---

<table>
<thead>
<tr>
<th>Department: MGT</th>
<th>College: COB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposer: James A. Sena</td>
<td>E-mail: <a href="mailto:jsena@calpoly.edu">jsena@calpoly.edu</a></td>
</tr>
<tr>
<td>Date: 01/07/02</td>
<td></td>
</tr>
</tbody>
</table>

### Experimental: 0  Subtitle: 0  Begin Date: Fall 2002

#### I. Summary Description

1. **Course Prefix, Number, Title:** BUS 398
   - Network Components III

2. **Description (Substantive, but no more than 40 words of content description)**
   - Provides design and network management direction for both LANs and WANs. Examines advanced routing protocols and considers security issues (Access Lists). Discusses WAN encapsulation methods (PPP, ISDN, and Frame Relay).

3. **Total Course Units: 4**
   - Number of units per mode of instruction:
     - Lec 3  Lab 0  Act 0  Sem 1  Supv 0
   - If course has fewer than 4 units and is not an exception, provide a compelling reason.

4. **Grading Type:**
   - Regular ☑  Credit/NC ☑

5. **Distance Education (DE):**
   - No ☑  Yes ☑  If yes, % taught via DE. (see Draft DE Policy, under review)

6. **General Education (GE):**
   - No ☑  Yes ☑  If yes, GE Area:

7. **United States Cultural Pluralism (USCP):**
   - No ☑  Yes ☑  If yes, refer to USCP criteria,

8. **Service Learning (SL):**
   - Proposed SL course? No ☑  Yes ☑  (Criteria under construction,)

9. **Prerequisite/Co-requisites:** (Note: 300-400 level courses must have prerequisite) Prerequisite BUS 397
## I. Crosslisted Course

<table>
<thead>
<tr>
<th>Crosslisted Course:</th>
<th>Yes [ ]</th>
<th>No [X]</th>
<th>If yes, indicate other course prefix and number:</th>
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</thead>
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<tr>
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</table>

## I. Repeatable

<table>
<thead>
<tr>
<th>Repeatable?</th>
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<th>No [X]</th>
<th>Is the course repeatable for multiple credit?</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>If yes, maximum # units:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Is the course repeatable in the same term?</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Variable Course Content (Subtopics with Different Titles):</th>
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<th>No [X]</th>
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<tr>
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## I. Replacement Course:

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<tr>
<th>Replacement Course:</th>
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<th>(meets prior course requirement &amp; repeats)</th>
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<tbody>
<tr>
<td></td>
<td></td>
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<td>If yes, indicate prior course prefix, number, title and units:</td>
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</table>

## I. Course Classification Number(s)

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<th>C/S#:</th>
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<tbody>
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## II. Explanation

### A. Proposed for Major, Minor, Support, Certificate or Credential Program(s)?

<table>
<thead>
<tr>
<th>Major, required (if yes, specify):</th>
<th>Yes [ ]</th>
<th>No [X]</th>
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</thead>
<tbody>
<tr>
<td>Major, elective (if yes, specify):</td>
<td>Yes [ ]</td>
<td>No [X]</td>
</tr>
<tr>
<td>Concentration (if yes, specify):</td>
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<td>No [ ]</td>
</tr>
<tr>
<td>Specialization (if yes, specify):</td>
<td>Yes [ ]</td>
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<td>Minor (if yes, specify):</td>
<td>Yes [ ]</td>
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<tr>
<td>Support for other programs (if yes, specify):</td>
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<td>Certificate programs (if yes, specify):</td>
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</tr>
<tr>
<td>Credential programs (if yes, specify):</td>
<td>Yes [ ]</td>
<td>No [X]</td>
</tr>
</tbody>
</table>

### 8. Need

Briefly explain the need for this new course, and describe how it fits into the programs checked above and their missions and strategic plans.

Expectation of firms utilizing computer-based technology now expects that graduating MIS students will be well versed in Network systems as well as other areas in the MIS field. The mission of the MIS Concentration is to provide students with a comprehensive set of MIS courses that allow our students to immediately make an impact at their place of employment. This course has been taught for the past two years under the BUS 498 Directed Topics rubric.
Prerequisites
Briefly explain the reason for any prerequisites or co-requisites for the course.
This course is intended as part of a series of Network-based elective MIS classes designed for the MIS Concentration. It is assumed that students will be enrolled in the MIS concentration and will have completed the CSC series (currently CSC 101 and 102) and the two MIS preparatory classes (BUS 391 and BUS 390). This is the third of a three part series of Cisco Network Component Classes. Prerequisites BUS 396 and BUS 397.

III. Syllabus

Note
- Excerpts from materials already prepared for accrediting agencies may be used in this section.
- It is understood that the syllabus will be updated and modified as needed.
- For additional information if course is proposed for GE, see www.calpoly.edu/~acadprog/curriccycle/gesyllabus.htm
- For additional information if course is proposed for USCP, see www.calpoly.edu/~acadprog/curriculum/cultural_pluralism.html

For courses with multiple sections, faculty and/or subtopics, describe the consistent principles or key elements that will inform all sections regardless of the subtopic or faculty who will teach the course by providing a representative sample of a syllabus. This course is the last of a three course sequence of Network classes dealing with internetworking technologies.

This course leads the students through the necessary topics for local area networks [LANs] and wide area networks [WANs] to enable them to design and establish networks in a variety of networking environments. Topics include:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>LAN Switching and Virtual LANs</td>
</tr>
<tr>
<td>2</td>
<td>LAN Design</td>
</tr>
<tr>
<td>3</td>
<td>Interior Gateway Routing protocol [IGRP]</td>
</tr>
<tr>
<td>4</td>
<td>Access Control Lists</td>
</tr>
<tr>
<td>5</td>
<td>NovellIPX</td>
</tr>
<tr>
<td>6</td>
<td>WANs and WAN Design</td>
</tr>
<tr>
<td>7</td>
<td>Point-to-Point Protocols</td>
</tr>
<tr>
<td>8</td>
<td>Integrated Services Digital Networks [ISDN]</td>
</tr>
<tr>
<td>9</td>
<td>Frame Relay</td>
</tr>
<tr>
<td>10</td>
<td>Skills Test</td>
</tr>
</tbody>
</table>

A Learning Outcomes
What should students know or be able to do after taking this course?
Students should be educated about network technologies and be aided in understanding how to design and build networks and to configure routers and switches. In this specific course the student should acquire knowledge and practical experience with techniques for LAN and WAN design. In addition students should be well versed in basic security issues and techniques, WAN encapsulation methods and modes of WAN communication.

S Course Content
Provide a week-by-week outline (readings, discussion topics, experiments, activities, assignments, etc.)

<table>
<thead>
<tr>
<th>Week</th>
<th>Day</th>
<th>Topic</th>
<th>Reference</th>
<th>Test</th>
<th>Assignment(s)</th>
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<tr>
<td>1</td>
<td>1</td>
<td>Orientation and Review</td>
<td>Router subnets review - Overview</td>
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<td>2</td>
<td>LAN Switching</td>
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<td>Switch management console - Overview</td>
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<td>1</td>
<td>Virtual LANs</td>
<td>Topic 1</td>
<td>Creating VLANs - Overview</td>
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<tr>
<td>2</td>
<td>2</td>
<td>LAN Design</td>
<td>Topic 2</td>
<td>Switched LAN design - Overview</td>
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<tr>
<td></td>
<td></td>
<td>IGRP</td>
<td>Topic 3</td>
<td>Topic 2</td>
<td>Routed &amp; routing protocols - Overview</td>
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<td>4</td>
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<td>Review of LAN Topics</td>
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<tr>
<td>6</td>
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<td>WANs</td>
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<td>Network Management</td>
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<td>IS Skills Tests</td>
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<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Final Exam</td>
</tr>
</tbody>
</table>

### Assessment Methodologies

List and describe the assessment methodologies that will be used to determine the extent to which students have achieved the learning outcomes listed in Section III.

Students are assessed on four elements: Topic and Final Exam testing; Skills Tests; Journals; Assignments, and Exercises.

### IV. Consultation

**A**
Attach signed concurrence memos from any other departments that will be affected by the new course or its prerequisites.

The only course that corresponds in any with the material covered in these classes is CPE 464 taught in Computer Engineering. We share some facilities with them but there is no competition between that course and those defined for the Network components class. We have already been teaching these courses under the BUS 498 Directed Studies in MIS for the past two years with complete cognizance of the Computer Engineering faculty (Dr. Hugh Smith and Dr. Joe Grimes).

**B**
List all courses that already cover any significant part of the planned subject matter of this course either within the department or from other departments. Explain why duplication of subject matter is necessary. Attach signed concurrence memos from any other departments with which there will be significant duplication. CPE 464 - different audience - computer network engineers - our courses are structured and designed for MIS professionals.

### V. Resources (in consultation with the College Dean/Associate Dean)

**A**
Explain the impact of this new course on allocation of current/new resources.
Equipment (List new equipment needed, and amount and source of funds.)
At the beginning of the Fall 1999 quarter we were given an equipment grant by Cisco of five 2500 series routers and a 2900 series Switch – along with connecting cables. The MIS Area was given ten additional 2500 series routers from ITS. We then purchased a number of hubs, transceivers, Db9 and Ethernet cables and other connectors.

This past fall (2001) we purchased a special Network kit from Fluke Inc. consisting of multimeters, cable analyzers and other testing equipment. All of the above equipment is placed in the COB Network facility located in 03-305.

The MIS area and Computer engineering share access and common facilities in the Advanced Network facility (20-120). This is a million dollar facility continuously refreshed by Cisco containing 35 router, switch and voice-over-ip stations along with advanced routers, wiring and firewall devices. Much of this equipment is not fully utilized by the MIS area.

Given the above abundance of equipment the MIS area will not require any additional equipment resources to continue to run these courses.

Supplies (List new supplies needed, who will need to purchase the supplies [i.e., students, department], and amount and source of funds.)
None

Facilities (List type of teaching environment needed.)
A classroom for instruction containing workstations for each student – we have three to four such classrooms in the COB 3rd floor ITS facility.

A network facility consisting of five routers and one switch along with at least five workstations serving as consoles and workstations – we have three sets of this configuration in the COB Network facility.

Faculty (List faculty members who will initially teach the course, and explain how the time needed for them to teach this course will be made available.)
Dr. Jim Sena will be the primary instructor for these classes. (Several of the MIS faculty (Dr. Ken Griggs and Dr. Dennis Williams) have indicated that they are interested in teaching these courses.

Library or Information Technology (List new periodicals required for initiation and conduct of the course, and number of new volumes of books required; estimate the costs involved. List computer facilities and software needed, and amount and source of funds.)
Through donation and purchases we have a complete library of Networking textbooks. We also have a comprehensive set of specialized testing materials – texts and CDs designed to help the students prepare to take various Network certification exams (if they wish to take such certification independently).

B For Department and College Planning Purposes:

Estimated number of students in one section of this course? 37

Number of sections offered: 1 to 2 each quarter: (three course – three quarter sequence) each year: 1 to 2 per year

VI. Approval Signatures

Department Head/Chair: 

College Curriculum Chair: 

Page 5
For questions and concerns contact Mary Whiteford at 756-2246
Course Description

use this for Proposing New Courses or GE/USCP Courses

You will need to Save this Document on Your Computer. Click "File" then Click "Save As".

To prepare detailed responses to be included in this document, it is best to edit and revise in a separate file and then copy and paste it into the appropriate field here.

Note: Do not import document into TextEditor or Word Processor. However, information in fields will be lost if "Protect Document Format" is then re-selected.

Department: MGT
College: COB
Proposer: James A. Sena
E-mail: jsena@calpoly.edu
Date: 01/07/02

Experimental: 0
Subtitle: 0
Begin Date: Fall 2002

I. Summary Description

1. Course Prefix, Number, Title: BUS 396
   Network Components I

2. Description (substantive, but no more than 40 words of content description)
   Provides an overview and details on the Open Systems Interconnect [OSI] Model. Discusses electronics and media related to network connectivity. Introduces Local Area Networks [LANs] and discusses network design and documentation considerations.

3. Total Course Units:
   Number of units per mode of instruction:
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<th>Lec</th>
<th>Lab</th>
<th>Act</th>
<th>Sem</th>
<th>Supv</th>
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<tbody>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   If course has fewer than 4 units and is not an exception, provide a compelling reason.

4. Grading Type: Regular ☑ Credit/NC 0

5. Distance Education (DE): No ☑ Yes 0 If yes, % taught via DE. (see Draft DE Policy, under review)

6. General Education (GE): No ☑ Yes 0 If yes, GE Area:

7. United States Cultural Pluralism (USCP): No ☑ Yes 0 If yes, refer to USCP criteria.

8. Service Learning (SL): Proposed SL course? No ☑ Yes 0 (Criteria under construction.)

9. Prerequisite/Co-requisites: (note: 300-400 level courses must have prerequisite) Prerequisite BUS 391
   Co-requisite BUS 390 or consent of instructor
### Crosslisted Course
- Yes 0
- If yes, indicate other course prefix and number:

### Repeatable
- Is the course repeatable for multiple credit?
- No 0
- Yes 0
- If yes, maximum # units:

### Is the course repeatable in the same term?
- No 0
- Yes 0

### Variable Course Content (Subtopics with Different Titles)
- No 0
- Yes 0

### Replacement Course
- (meets prior course requirement & repeats)
- No 0
- Yes 0
- If yes, indicate prior course prefix, number, title and units:

### Course Classification Number(s)
- C/S#: C-4

## II. Explanation

### A. Proposed for Major, Minor, Support, Certificate or Credential Program(s)?

- Major, required (if yes, specify): No 0
- Yes 0
- Major, elective (if yes, specify): No 0
- Yes 0
- Concentration (if yes, specify): No 0
- Yes 0
- Specialization (if yes, specify): No 0
- Yes 0
- Minor (if yes, specify): No 0
- Yes 0
- Support for other programs (if yes, specify): No 0
- Yes 0
- Certificate programs (if yes, specify): No 0
- Yes 0
- Credential programs (if yes, specify): No 0
- Yes 0

### B. Need

Briefly explain the need for this new course, and describe how it fits into the programs checked above and their missions and strategic plans.

Expectation of firms utilizing computer-based technology now expects that graduating MIS students will be well versed in network systems as well as other areas in the MIS field. The mission of the MIS Concentration is to provide students with a comprehensive set of MIS courses that allow our students to immediately make an impact at their place of employment. This course has been taught for the past two years under the BUS 498 Directed Topics in MIS rubric.
Prerequisites

Briefly explain the reason for any prerequisites or co-requisites for the course.

This course is intended as part of a series of Network-based elective MIS classes designed for the MIS Concentration. It is assumed that students will be enrolled in the MIS concentration and will have completed the CSC series (currently CSC 101 and 102) and the two MIS preparatory classes (BUS 391 and BUS 390).

### III. Syllabus

**Note**

- Excerpts from materials already prepared for accrediting agencies may be used in this section.
- It is understood that the syllabus will be updated and modified as needed.
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- For additional information if course is proposed for USCP, see www.calpoly.edu/-acadprog/curriculum/culturalpluralism.html

**For courses with multiple sections, faculty and/or subtopics,** describe the consistent principles or key elements that will inform all sections regardless of the subtopic or faculty who will teach the course by providing a representative sample of a syllabus.

This course is the first of a three course sequence of Network classes dealing with internetworking technologies.

This course introduces the student to preliminary concepts and lays the groundwork for internetwork operation and design. Specifically the course treats the OSI (Open Systems Interconnect Model) in depth. This model provides the vocabulary and terminology for the protocols, troubleshooting and network design.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Topic Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The OSI Model</td>
</tr>
<tr>
<td>2</td>
<td>Local Area Networks [LANs]</td>
</tr>
<tr>
<td>3</td>
<td>Layer 1 - Electronics and Signals, Medra, Connections and Collisions</td>
</tr>
<tr>
<td>4</td>
<td>Layer 2 - Concepts and Technologies</td>
</tr>
<tr>
<td>5</td>
<td>Design and Documentation - Structured Cabling Project</td>
</tr>
<tr>
<td>6</td>
<td>Layer 3 - Routing, Addressing and Protocols</td>
</tr>
<tr>
<td>7</td>
<td>Layer 4 - Transport</td>
</tr>
<tr>
<td>8</td>
<td>Layer 5 - Session</td>
</tr>
<tr>
<td>9</td>
<td>Layer 6 - Presentation</td>
</tr>
<tr>
<td>10</td>
<td>Layer 7 - Application</td>
</tr>
</tbody>
</table>

**A. Learning Outcomes**

What should students know or be able to do after taking this course?

Students should be educated about network technologies and be aided in understanding how to design and build networks and to configure routers and switches. In this specific course the student should acquire knowledge and practical experience with the design, configuration and maintenance of local area networks (LANs). Concepts covered enable the student to develop practical experience in skills related to cabling, routing, IP addressing routing Protocols and network troubleshooting.

**B. Course Content**

Provide a week-by-week outline (readings, discussion topics, experiments, activities, assignments, etc.)

<table>
<thead>
<tr>
<th>Week</th>
<th>Day</th>
<th>Topic</th>
<th>Reference</th>
<th>Test</th>
<th>Assignment(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Orientation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>
| 1 | 2 | Computer Basics | Topic 1 | TCP/IP Network Settings
|   |   |   |   | Binary Numbering
| 2 | 1 | The OSI Model | Topic 2 | OSI Model and TCP/IP - Overview
| 2 | 2 | Local Area Networks | Topic 3 | Basic LAN Setup
| 3 | 1 | Electronics & Signals | Topic 4 | Communications Circuit
| 3 | 2 | Layer 2 Concepts | Topic 6 | Topic 3
| 4 | 1 | Layer 2 Technology | Topic 7 | Topic 4
| 4 | 2 | Routing & Addressing | Topic 10 | Subnet Mask
| 5 | 1 | Protocols | Topic 11 | Topic 7
| 5 | 2 | Media, Connections & Collisions | Topic 11 | Protocol Inspector and ARP
|   |   |   |   | Topic 10
| 6 | 1 | Design & Documentation | Topic 8 | Topic 11
| 6 | 2 | Structured Cabling Project | Topic 9 | Demo Cable Testing
| 7 | 1 | The Transport Layer | Topic 12 | Topic 5
| 7 | 2 | The Session Layer | Topic 13 | Protocol Inspector and TCP
| 8 | 1 | The Presentation Layer | Topic 14 | Topic 8
| 8 | 2 | The Session Layer | Topic 13 | Topic 12
| 9 | 1 | The Presentation Layer | Topic 14 | Topic 13
| 9 | 2 | The Application Layer | Topic 15 | Topic 14
| 10 | 1 | Review of Sem 1 Topics | Topic 15 |
| 10 | 2 | Skills Test |   | Final Exam
| 11 |   | Final Exam |   |   |

### C. Assessment Methodologies

List and describe the assessment methodologies that will be used to determine the extent to which students have achieved the learning outcomes listed in Section III.

Students are assessed on four elements: Topics and Final Exam testing; Skills Tests; Journals; and Assignments.

### IV. Consultation

#### A

Attach signed concurrence memos from any other departments that will be affected by the new course or its prerequisites.

The only course that corresponds in any with the material covered in these classes is CPE 464 taught in Computer Engineering. We share some facilities with them but there is no competition between that course and those defined for the Network components classes. We have already been teaching these courses under the BUS 498 Directed Studies in MIS for the past two years with complete cognizance of the Computer Engineering faculty (Dr. Hugh Smith and Dr. Joe Grimes).

#### B

List all courses that already cover any significant part of the planned subject matter of this course either within the department or from other departments. Explain why duplication of subject matter is necessary. Attach signed concurrence memos from any other departments with which there will be significant duplication.

CPE 464 different audience - computer network engineers - our courses are structured and designed for MIS professionals.

### V. Resources (in consultation with the College Dean/Associate Dean)

#### A

Explain the impact of this new course on allocation of current/new resources.

Equipment (Use new equipment needed, and amount and source of funds.)

At the beginning of the Fall 1999 quarter we were given an equipment grant by Cisco of five 2500 series...
At the beginning of the Fall 1999 quarter we were given an equipment grant by Cisco of five 2500 series routers and a 2900 series Switch - along with connecting cables. The MIS Area was given ten additional 2500 series routers from ITS. We then purchased a number of hubs, transceivers, Db9 and Ethernet cables and other connectors.

This past fall (<2001) we purchased a special Network kit from Fluke Inc. consisting of mutimeters, cable analyzers and other testing equipment. All of the above equipment is placed in the COB Network room located in 03-305.

The MIS area and Computer engineering share access and common facilities in the Advanced Network facility (20-120). This is a million dollar facility continuously refreshed by Cisco containing 35 router, switch and voice-over-ip stations along with advanced routers, wiring and firewall devices. Much of this equipment is not fully utilized by the MIS area.

Given the above abundance of equipment the MIS area will not require any additional equipment resources to continue to run these courses.

Supplies (List new supplies needed, who will need to purchase the supplies [i.e., students, department], and amount and source of funds.)
None

Facilities (List type of teaching environment needed.)
A classroom for instruction containing workstations for each student - we have three to four such classrooms in the COB 3rd floor ITS facility.

A network facility consisting of five routers and one switch along with at least five workstations serving as consoles and workstations - we have three sets of this configuration in the COB Network facility.

Faculty (List faculty members who will initially teach the course, and explain how the time needed for them to teach this course will be made available.)
Dr. Jim Sena will be the primary instructor for these classes. (Several of the MIS faculty (Dr. Ken Griggs and Dr. Dennis Williams) have indicated that they are interested in teaching these courses.

Library or Information Technology (List new periodicals required for initiation and conduct of the course, and number of new volumes of books required; estimate the costs involved. List computer facilities and software needed, and amount and source of funds.)
Through donation and purchases we have a complete library of Networking textbooks. We also have a comprehensive set of specialized testing materials - texts and CDs designed to help the students prepare to take various Network certification exams (if they wish to take such certification independently).

For Department and College Planning Purposes:

Estimated number of students in one section of this course? 37

V of sections offered: 1 to 2 each quarter: (three course-three quarter sequence) each year: 1 to 2 per year

VI. Approval Signatures

Department Head/Chair:

College Curriculum Chair:

College Dean:
For questions and concerns contact Mary Whiteford at 756-2246

Last modified November 29, 2001
# Course Description

**use this for Proposing New Courses or GE/USCP Courses**

You will need to Save this Document to your Computer. Click "File" then "Save As" and enter your name and the Date.  

In Word, click "File" then "Save As".  

Note: To remove "Your Name" from the "Record Your Contributions" box.  

However, information in fields will be lost if "Protect Document for Editing" is then re-selected.

---

**Department:** MGT  
**College:** COB  
**Proposer:** James A. Sena  
**E-mail:** jsena@calpoly.edu  
**Date:** 01/07/02

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**Experimental:** 0  
**Subtitle:** 0  
**Begin Date:** Fall 2002

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## I. Summary Description

### 1. Course Prefix, Number, Title: BUS 397

**Network Components II**

### 2. Description *(substantive, but no more than 40 words of content description)*

Provides in-depth direction for the typical Network IOS router command-line interface. Discusses router and switch components and configuration. IP Addressing, routing and routed protocols

### 3. Total Course Units:

<table>
<thead>
<tr>
<th>Mode of Instruction</th>
<th>Lee X</th>
<th>Lab</th>
<th>Act</th>
<th>Sem</th>
<th>Supv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of units</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If course has fewer than 4 units and is not an exception, provide a compelling reason.

### 4. Grading Type:

- Regular ✗  
- Credit UNC 0

### 5. Distance Education (DE):

- No ✗  
- Yes 0  

If yes, % taught via DE. (see Draft DE Policy, under review)

### 6. General Education (GE):

- No ✗  
- Yes 0  

If yes, GE Area:

### 7. United States Cultural Pluralism (USCP):

- No ✗  
- Yes 0  

If yes; refer to USCP criteria.

### 8. Service Learning (SL):

- Proposed SL course? No ✗  
- Yes 0  

(Criteria under construction.)

### 9. Prerequisite/Co-requisites:

*(note: 300-400 level courses must have prerequisite)*  
Prerequisite BUS 396
I. Crosslisted Course: No Yes 0 If yes, indicate other course prefix and number:

Repeatable? Is the course repeatable for multiple credit? No Yes 0 If yes, maximum # units:

Is the course repeatable in the same term? No Yes 0

Variable Course Content (Subtopics with Different Titles): No Yes 0

Replacement Course: (meets prior course requirement & repeats) No Yes 0 If yes, indicate prior course prefix, number, title and units:

Course Classification Number(s) C/S#: C-4

II. Explanation

A. Proposed for Major, Minor, Support, Certificate or Credential Program(s)?

Major, required (if yes, specify): No Yes 0

major, elective (if yes, specify): No Yes 0

concentration (if yes, specify): No Yes 0

specialization (if yes, specify): No Yes 0

Minor (if yes, specify): No Yes 0

Support for other programs (if yes, specify): No Yes 0

Certificate programs (if yes, specify): No Yes 0

Credential programs (if yes, specify): No Yes 0

B. Need

Briefly explain the need for this new course, and describe how it fits into the programs checked above and their missions and strategic plans.

Expectation of firms utilizing computer-based technology now expects that graduating MIS students will be well versed in Network systems as well as other areas in the MIS field. The mission of the MIS Concentration is to provide students with a comprehensive set of MIS courses that allow our students to immediately make an impact at their place of employment. This course has been taught for the past two years under the BUS 498 Directed Topics in MIS rubric.
Prerequisites

Briefly explain the reason for any prerequisites or co-requisites for the course.

This course is intended as part of a series of Network-based elective MIS classes designed for the MIS Concentration. It is assumed that students will be enrolled in the MIS concentration and will have completed the CSC series (currently ESC 101 and 102) and the two MIS preparatory classes (BUS 391 and BUS 390). This is the second of a three part series of Network Component Classes. Prerequisite BUS 396.

III. Syllabus

Note

- Excerpts from materials already prepared for accrediting agencies may be used in this section.
- It is understood that the syllabus will be updated and modified as needed.
- For additional information if course is proposed for GE, see www.caipoly.edu/-acadprog/leged/currcycle/gesyllabus.htm
- For additional information if course is proposed for USCP, see www.caipoly.edu/-acadprog/curriculum/cultural_pluralism.html

For courses with multiple sections, faculty and/or subtopics, describe the consistent principles or key elements that will inform all sections regardless of the subtopic or faculty who will teach the course by providing a representative sample of a syllabus. This course is the second of a three course sequence of Network classes dealing with internetworking technologies.

This course introduces the student to configuring routers and switches and continues the treatment of IP addressing and explores routing and routing protocols as well as introducing techniques for recovery and troubleshooting. Topics include:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Topic Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Examination of WANs and Routers</td>
</tr>
<tr>
<td>2</td>
<td>Introduction to the Command Line Interface [CU]</td>
</tr>
<tr>
<td>3</td>
<td>Router Components, Startup and Setup</td>
</tr>
<tr>
<td>4</td>
<td>Router Configuration</td>
</tr>
<tr>
<td>5</td>
<td>IOS Images</td>
</tr>
<tr>
<td>6</td>
<td>TCP/IP</td>
</tr>
<tr>
<td>7</td>
<td>IP Addressing</td>
</tr>
<tr>
<td>8</td>
<td>Routing and Routing Protocols</td>
</tr>
<tr>
<td>9</td>
<td>Network Troubleshooting</td>
</tr>
<tr>
<td>10</td>
<td>Skills Test</td>
</tr>
</tbody>
</table>

A Learning Outcomes

What should students know or be able to do after taking this course?

Students should be educated about network technologies and be aided in understanding how to design and build networks and to configure routers. In this specific course the student should acquire knowledge and practical experience with the utilization and deployment of the Command Line Interface [CU] to configure and maintain routers as well as methods for setup and recovery. They should also be familiar with the components and purpose of router components.

B Course Content

Provide a week-by-week outline (readings, discussion topics, experiments, activities, assignments, etc.)

<table>
<thead>
<tr>
<th>Week</th>
<th>Day</th>
<th>Topic</th>
<th>Reference</th>
<th>rest</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Orientation &amp; Review</td>
<td>Topic 1</td>
<td></td>
<td>Routers - Overview</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>WANs &amp; Routers</td>
<td>Topic 2</td>
<td></td>
<td>Router user interface - Overview</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Router CLI</td>
<td>Topic 3</td>
<td></td>
<td></td>
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---

**B For Department and College Planning Purposes:**

Estimated number of students in one section of this course? 37

Number of sections offered: 1 to 2 each quarter: (three course-three quarter sequence) each year: 1 to 2 per year

---

**Approval Signatures**

Department Head/Chair: [Signature]
College Curriculum Chair:

College Dean:

(This signature is the Dean’s guarantee that she will provide any additional resources needed to support this course.)

Vice Provost for Academic Programs:

For questions and concerns contact Mary Whiteford at 756-2246

29, 2001