MEETING OF THE ACADEMIC SENATE
Tuesday, January 23, 2007
UU220, 3:10 to 5:00pm

I. Minutes: Approval of minutes for the December 5, 2006 Academic Senate meeting (p. 2).

II. Communications and Announcement(s):

III. Reports:
   Regular reports [Please limit to 3 minutes or less]:
   A. Academic Senate Chair:
   B. President’s Office:
   C. Provost:
   D. Statewide Senate:
   E. CFA Campus President:
   F. ASI Representative:

   Special reports [Please limit to 15 minutes or less]:
   None.

IV. Consent Agenda:
   A. Approval of Physics 141 [Replace PHYS 131 General Physics (3 lectures, 1 lab) with PHYS 141 General Physics IA (4 lectures)]:
      Hannings, chair of Curriculum Committee.
   B. CAED and COE curriculum proposals: Hannings, chair of the Curriculum Committee. Proposals can be viewed at:

V. Business Item(s):
   A. Master of Science in Economics: Hannings, chair of Curriculum Committee, second reading (pp. 3-5).
   B. Resolution on Cal Poly Learning Objectives: Academic Senate Executive Committee, second reading continued (pp. 6-7).

VI. Discussion Item(s):

VII. Adjournment:
CALIFORNIA POLYTECHNIC STATE UNIVERSITY  
San Luis Obispo, California 93407  
ACADEMIC SENATE  
805.756.1258

MINUTES OF  
The Academic Senate  
Tuesday, December 5, 2006  
UU 220, 3:10 to 5:00 p.m.  

(Continuation of November 28, 2006 Academic Senate meeting)  

I. Minutes: The minutes for the October 31 meeting were approved with the following change:  
   I. Minutes: none. The minutes for the October 10 meeting were approved.  

The minutes for the November 28 meeting were approved as presented.  

II. Announcements: The next Social Hour co-hosted by the President’s Office and the Orfalea College of Business will be held on Thursday, December 7, from 4-6 p.m. in the Veranda Café Conference Room.  

III. Reports: none.  

V. Consent Agenda: no items.  

VI. Business Item(s):  

A. Master of Science in Economics (Hannings, chair of the Curriculum Committee, first reading): The goal of this new 45-unit program is to prepare students for careers as professional economists. More information is available at: http://buiznt.cob.calpoly.edu/cob/Econ/MS.degree.proposal.pdf.  

B. Recommendation of Curriculum Committee to approve Physics 141 (Hannings): The Curriculum Committee has proposed the replacement of Physics 131 General Physics (3 lectures, 1 lab) with Physics 141 General Physics 1A (4 lectures). There was extensive discussion of this item. M/S/P to postpone debate until the Academic Senate meeting of January 23, 2007.  

C. Resolution on Cal Poly Learning Objectives (Executive Committee, first reading): The process of developing the objectives started almost two years ago and has included extensive consultation. The resolution will return as a second reading item at the next Academic Senate meeting of January 23, 2007.  

VII. Discussion Item(s): none.  

VIII. The meeting was adjourned at 5:00 p.m.  

Submitted by,  

Gladys Gregory,  
Academic Senate
Master of Science in Economics

Summary of Proposed Degree Program

The goal of the proposed MS in Economics degree program is to train students for careers as professional economists. In the most recent comprehensive study of employment outcomes available, the National Science Foundation’s “Survey of Recent College Graduates” (NSF 1993), 98% of workers employed under the job title of “economist” stated that they held some form of graduate degree. A master’s degree in economics today is the standard entry point into the profession. The proposed MS in Economics degree program is designed to provide students with the high level of technical preparation that is necessary to engage in a professional career in economics. Meeting this goal both supports the mission of Cal Poly to directly involve students with the actual challenges facing their disciplines and affirms the technical character of the university.

The learning objectives for the proposed MS in Economics degree program are: (i) to provide a solid foundation in quantitative methods, (ii) to ground students in the mathematical underpinnings of microeconomic theory and macroeconomic theory, and (iii) to facilitate the integration of economic modeling skills and data analysis techniques in applied research that communicates ideas clearly into hypotheses and apply market data to test them.

The proposed MS in Economics degree program is a 45-unit program designed to be completed in 4 quarters. The program is comprised of: (i) a 20-unit core curriculum of quantitative coursework that emphasizes the methodological approach used by economists to analyze market data (Quantitative Methods, Microeconomics, Macroeconomics, and Econometrics I and Econometrics II); (ii) 17-units of advisor approved electives that allow students to customize the program to suit their career interests; and (iii) an 8-unit culminating experience consisting of either a thesis or coursework combined with a written comprehensive exam. The core curriculum is designed to be completed within the first 3 quarters of study (2 courses in Fall Quarter, 2 courses in Winter Quarter, and 1 course in Spring Quarter), and combined with elective courses in the first three quarters in a manner that allows students to apply economic techniques to examine data in areas aligned with their career interests.
The curriculum for the program is shown below, followed by a brief description of the required courses and elective courses.

**Degree Requirements**

Required Courses .............................................................. 20 units
- ECON 510 Quantitative Methods ................................................. 4 units
- ECON 511 Microeconomic Analysis ............................................ 4 units
- ECON 512 Macroeconomic Analysis .......................................... 4 units
- ECON 520 Advanced Econometrics I ......................................... 4 units
- ECON 522 Advanced Econometrics II ....................................... 4 units

Advisor Approved Electives .................................................. 17 units
Select additional units at the 400 or 500 level as approved by the graduate advisor.

Advisor Approved Electives or Thesis ..................................... 8 units

Total Hours ............................................................................. 45 units

**ECON 510 Quantitative Methods (4)**
A review and discussion of the mathematical tools needed for graduate work in economics, including set theory, linear algebra, properties of functions, static and dynamic optimization. 4 lectures. Prerequisite: ECON 408 or MATH 244 or equivalent, and graduate standing.

**ECON 511 Microeconomic Analysis (4)**
Basic microeconomic theory including theory of the firm, consumer theory, general equilibrium, capital theory, and welfare economics. 4 lectures. Prerequisite: Concurrent with ECON 510 and graduate standing.

**ECON 512 Macroeconomic Analysis (4)**
Basic macroeconomic theory including markets for commodities and credit, the demand for money, market-clearing and the labor market, inflation and interest rates, investment, real business cycles and unemployment, economic growth, government consumption and the role of public services, and taxes, transfers, and the public debt. 4 lectures. Prerequisite: ECON 511 and graduate standing.

**ECON 520 Advanced Econometrics I (4)**
The use of statistical procedures to measure theoretical economic relationships and to verify and reject theories. Advanced coverage of regression analysis and hypothesis testing. 4 lectures. Prerequisite: ECON 339 or equivalent, ECON 511 and graduate standing.

**ECON 522 Advanced Econometrics II (4)**
The use of statistical procedures to deal with simultaneous equations, limited dependent variables and time-series data. Includes methods of instrumental variables, generalized method of moments and maximum likelihood. 4 lectures. Prerequisite: ECON 520 and graduate standing.
**Proposed Economics elective courses at the 500-level**

- ECON 500 Individual Study (1-4)
- ECON 532 Environmental and Natural Resource Economics (4)
- ECON 534 International Economics (4)
- ECON 536 Public Economics (4)
- ECON 538 Industrial Economics (4)
- ECON 580 Seminar (1-4)
- ECON 599 Thesis (4)

Economists are employed in a wide variety of occupations. In addition to colleges and universities, major employers of economists include: (i) Banks and other financial institutions, (ii) major industrial enterprises; (iii) State & local government agencies; (iv) Federal government agencies; (v) International organizations such as the United Nations and the World Bank; (vi) Economic consulting firms; and (vii) Non-profit organizations. The proposed MS in Economics degree program will provide students with the appropriate skills to enter the economics profession.

Student demand for the program is driven by strong financial incentives to engage in careers as economists. Quantitatively-proficient students who acquire jobs as economists enjoy a substantial salary premium in the market. The Bureau of Labor Statistics reports a median income level for economists of ($70,254), which is 50% higher than the median income level among typical occupations selected by students with BS degrees in economics ($47,032). The projected trend in job growth for economists in the State of California is strong. Over the 2000-2010 period, the forecasted growth in jobs for economists in California is 42.9% and positions for economists are projected to grow much faster than average compared with all occupations in California (California Occupation Guide #253 (2003)). The need for economists in business, industry, and local government occupations is currently not being met by any other program in the County of San Luis Obispo, and the MS in Economics degree program will allow students to tap into high-income jobs that Cal Poly currently is not serving.
WHEREAS, Cal Poly has never formally adopted a set of learning objectives at the institutional level; and

WHEREAS, A set of “Characteristics of a Cal Poly Graduate” were included in the 1995 report of the Curriculum and Calendar Task Force entitled Commitment to Visionary Pragmatism but were not voted upon by the Academic Senate; and

WHEREAS, The adoption of institutional learning objectives is a requirement for WASC accreditation; and

WHEREAS, A set of institutional learning objectives has been developed after consultation between administration, faculty, and staff, including an Academic Senate retreat; therefore be it

RESOLVED: That the Academic Senate recommend for approval the attached set of institutional learning objectives for Cal Poly.

Proposed by: Academic Senate Executive Committee
Date: October 16, 2006
Revised: November 2, 2006
Revised: November 7, 2006
Revised: November 17, 2006
CAL POLY
LEARNING OBJECTIVES

All students who complete an undergraduate or graduate program at Cal Poly should be able to:

- Think critically and creatively
- Communicate effectively
- Learn independently
- Demonstrate expertise in a scholarly discipline and understand that discipline in relation to the larger world of the arts, sciences, and technology
- Work effectively productively as individuals and in groups
- Use their knowledge and skills to make a positive contribution to society
- Make reasoned decisions based on an awareness understanding of ethical considerations ethics, a respect for cultural diversity, and an AWARENESS OF ISSUES RELATING to principles of sustainability
- Engage in lifelong learning

Change in listing order

was 1  now 1
was 4  now 2
-----eliminated-----
was 6  now 3
was 5  now 4
was 7  now 5
was 8  now 6
was 3  now 7