

Program Review/Follow-up Transmittal

General Information

The attached report is (check one): Program Review (published every 4th year)
 Program Review Follow-up (submitted annually)

The report is submitted for the Academic Year (select one): 2009-10

The report contains information on the follow unit(s) (enter names of all units/programs:

Physical Sciences

Report Abstract:

The combined departments of the physical sciences program provide a wide range of courses for our students who wish to transfer or meet GE requirements. We produce the majority of the AA/AS degrees in the division and have many transfers. Enrollments have increased primarily due to new online astronomy courses. We've added GIS and astronomy courses and a geography lab. We hope to add sections in Vallejo and Vacaville for transferable courses.

Signature: Mark Feighner Date: 6-10-10
Mark Feighner
Faculty/Staff Representative

Signature: Joseph Conrad Date: 6/10/10
Joseph Conrad
Dean/Director

Signature: Thomas Watkins Date: 21 Jun 10
Thomas Watkins
President, Academic Senate

Signature: Robin Stahlback Date: 7/11/2010
~~Robin Stahlback~~ Arnyro Reyes
Vice President

Signature: Jewel Laguerre Date: 7-13-10
Jewel Laguerre
Superintendent/President

Program Review and Analysis

Part I Outcomes

1. **What are the Student Learning Outcomes (SLOs) and Institutional-Level Outcomes (“Core Four”) of the program? List each along with descriptions of the appropriate indicators of program success (i.e., measures of outcomes). Include both quantitative and qualitative measures.**

Outcome(s)	Qualitative	Measure(s)	Quantitative	Measure(s)
	Engineering Students who transferred to 4-year colleges or universities. (Based on last three academic years.)	Engineering Students who graduated from 4-year colleges or universities. (Based on last three academic years.)	(Based on last three academic years.)	Number of students who obtained AA/AS degrees (from all Physical Science departments other than Engineering)
1. Students will demonstrate analytical and problem solving skills. SCC Core Competency Addressed: II.A Critical Thinking and Information Competency.	Spring 2007: Transfer Brendan Corbett-UCD/CE Bryan Gray-Sac.State/EE Ben Pochop-San Diego State/ME David Reyla-UCD/CE Sean Shaw-UCD/CE John Tatyosian-UCD/CE Eric White-UCD/CE	Graduate(BS) Chris Deschamps-UCD/CE: (2 nd Lieutenant, Mech.Eng. Vandenberg Air Force Base) Kristine Haunschild-UCD/CE Chris Merrill-UCD/ME Nick alli-/Chem E	Percentage of students that complete course with a C or better. 5451/7799=70%	Spring 2007: 116
2. Students will learn to carry out experiments and critically assess their data. Students will learn the roles of hypotheses, measurement and analysis in the development of scientific theory as evidenced by laboratory reports. SCC Core Competency Addressed: II.A Critical Thinking and Information Competency.	Spring 2008: Transfer Jeremy Conway-UCD/ME Daniel Fletcher-UCD/Mat.Sci David Long-Cal State Chico Vaneet Loomba-UCD/ME James Morad-UCD/Physics Charles Nichols-UCD/CE Mohammad Osman-UCD/ME-Aerospace Eng. Hamid Massoud-UCB/ME	Spring 2008: Graduate(BS) Jonathan Counihan-UCD/Comp. Sci. Joe Navarrete-UCD/ME- (Hired: PG&E) Dharma Sunjaya-UCD/BioMed Eng. Eian Vizzini UCD/EE- (Hired: Northrup-Grumman)	Percentage of students that complete course with a C or better, or achieve 70% or better on lab portion of course. 1077/1301=83%	Spring 2008: 143
3. Students will learn how to write a laboratory report or give an oral presentation. SCC Core Competency	Spring 2009: Transfer Scott Berta-UCB/CE John Corcoran-Cal Poly SLO/EE Zack Dobson-UCD/ME	Spring 2009: Graduate(BS) Brendan Corbett-UCD/CE- (Hired: Musco Olive	Percentage of students that complete course with a C or better, or achieve 70% or	Spring 2009: 166

Addressed: I B or D Communication – Write or Speak and Converse.	Gabriel Reyla-UCD/Comp. Eng. Sana Vaziri-UCB/EE Dan Wiese-UCD/ME- Aerospace Eng.	Co.) David Reyla-UCD/CE Sean Shaw-UCD/CE- (accepted to grad school-UCD) John Tatyosian- UCD/CE (Hired: CA Dept. of Water Resources) Eric White-UCD/CE- (accepted to grad school-UCD) Spring 2009: Graduate(MS) Kristine Haunschild- UCD/CE- (Hired: Army Corps of Engineers)	better on lab portion of course. 658/819=80%
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2. The specific SCC Strategic Direction and Goal(s) supported by this program:

Obj. 1.1: Quality Teaching and Learning – Academic Excellence

Part II Analysis

1. Identify and explain the trends in:

Enrollment— About 10% growth due to demand for online Astronomy courses.

Retention— 78 - 85%

Fill rate— 69 - 81%

Other Factors— 43% growth in number of AA/AS degrees over the past three years, primarily due to demand for Astronomy courses. All other departments have remained stable.

Outcome Data—75 - 83% of all AA/AS degrees awarded to Math/Science Division go to the Physical Science Program.

2. How do the above trends relate to the factors and outcomes identified during the last review?

a. N/A (New Program)

Part III Conclusions and Recommendations

The Physical Science program contributes approximately 80% of all AA/AS degrees given to the Math/Science Division. A have a very large percentage of our students transfer to four-year colleges or universities and go on to successful careers and/or graduate school. The Physics department desperately needs funds to buy new laboratory equipment. In addition, one new Astronomy instructor, one new Anthropology instructor, and one new GIS instructor are greatly needed.

1. What are the major accomplishments of the program during the past four years?

- Facilitated an admirable numbers of students to fulfill their goals and to subsequently contribute to society.
- Three new GIS classes added.
- Three new Astronomy classes added.
- Geography lab added.

2. Based on the analysis above, are there any changes needed in order to meet program goals or to improve program effectiveness? Explain.

- No cancellation of any course that is offered only once a year, especially Engineering, so that students can count on Solano as a viable institution for their educational goals and can satisfy transfer agreements. Maintain two lab sections of Physics 6 to attract as many students as possible into Math/Science curriculum.
- Increase the general education courses offered at Vallejo and Vacaville centers for transferable courses such as ASTR 010, GEOL 001, GEOL 002, GEOG 001, GEOG 001L.