ALAMO COLLEGES

SAN ANTONIO COLLEGE

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2011 SAC CCLI Phase 3 Annual Report

By: Dan Dimitriu & Klaus Bartels

Physics, Engineering, & Architecture

San Antonio College



Activities and Findings

(1 August 2010 to 17 May 2011)

San Antonio College offered the engineering math course, ENGR 1377 - *Introductory Math for Engineering Applications*, both in the fall, 2010 and spring, 2011 semesters. The initial course offering was in the spring, 2009 semester.

Activities and Findings

(1 August 2010 to 17 May 2011)

As in every semester since spring, 2009, the number of students initially enrolled in the course in the fall, 2010 and spring, 2011 was very small, despite increased marketing efforts, opening the course for all students from the Alamo Colleges system, and lowering the mathematics prerequisite requirement from college algebra/trigonometry to intermediate algebra.

Activities and Findings

(1 August 2010 to 17 May 2011)

The low student enrollment is due to several factors. The course is not an approved for-credit course, it is not transferable to any 4-year universities/colleges, and it cannot substitute for math prerequisites in physics or engineering courses.

Activities and Findings

(1 August 2010 to 17 May 2011)

Below is a table showing the specific data for the two semesters that this course was offered over the past year:

Semester	Students Initially Enrolled	Students Completing Course	Students Passing Course (Grade)
Fall, 2010	2 (1 M, 1 F)	0	n/a
Spring, 2011	2 (M)	2	2 (A and B)
Totals:	4	2	2

M – male; F – Female

Activities and Findings

Both of the students that initially enrolled in the course in fall, 2010 did not complete the course for personal reasons.

Both students in the spring, 2011 semester completed the course and took the Accuplacer at the beginning and one at the end of semester. The test results did not show significant improvements.

Activities and Findings

As suggested in the past by one of the students completing the course, the Accuplacer math placement test is most likely not a good indicator of the degree to which ENGR 1377 increases the ability of engineering students to use math to solve engineering application problems.

Activities and Findings

As in the past, student feedback from the students that completed the course was universally positive. Both students that completed the course this past year strongly agreed that they enjoyed the course, would definitely recommend it to other engineering majors, and rated the course very high overall.

Activities and Findings

Course materials (lecture notes, labs, homework, and exams) continued to be revised and improved during this period. In addition, an undergraduate student was hired since April, 2010 to assist in revising course materials as well as tutoring students during labs and homework recitations. The tutor/teaching assistant also prepared lab solutions files in MS Word format.

Activities and Findings

It was hoped that by this time, the SAC engineering math course, ENGR 1377, would be an officially recognized (for credit) SAC course and be transferable to the Texas 4-year universities that are part of CCLI Phase 3; i.e., the University of Texas at San Antonio (UTSA), the University of Texas at El Paso (UTEP), and Texas A&M-Kingsville (TAMUK).

Activities and Findings

Although SAC did receive transfer support letters from TAMUK and UTEP in June, 2010, the SAC Curriculum Committee has not approved the request for this course to be a credited course. This is due to the fact that the equivalent course at the 4-year institutions is not included as a required course in their engineering curriculums; i.e. it is not required for an engineering degree.

Activities and Findings

As a result, SAC requested that ENGR 1377, Introductory Math for Engineering Applications, be approved and credited as a unique needs course by the Academic Council. On March 31, 2011, at the Curriculum Committee Meeting the request was tabled for lack of sufficient information proving benefits to students. The department plans to reapply in the fall 2011 semester.

Activities and Findings

College Curriculum Committee Meeting Agenda

Chairperson: Dean Vernell Walker
Meeting Date: March 31, 2011 | Meeting Time: 2:00 | Meeting Place: NAHC 302
Previous Meeting:
Approval of the February 22, 2011 minutes passed at the Academic College Council Meeting of March 8, 2011, meeting.
Committee Attendance:

	Vernell Walker		Dr. Kathryn Miller		Susan Paddock	ex-officio:	
	Susan Blizzard		Ronald Carswell		Dr. John Skinner		Lisa Morales
	Larry Rosinbaum		Tom Kuykendall		Joanna Grogan		Mary Jane Carreon
	Patricia Portales		Irene Alvarado		Sophie Ortiz		Dr. Terry Walch

Agenda Item /Revision	Action Taken/Justification
8. Physics/Engineering/Architecture **Add New Course** **ENGR 1377 Introductory to Mathematics for Engineering Applications** This course provides an application-oriented, hands-on introduction to math topics widely used in core freshman and sophomore-level engineering courses. Topics from Algebra, Calculus, and Trigonometry are presented within the context of physical applications and reinforced with extensive examples of their use in the engineering curriculum. Concepts presented in lecture are reinforced through hands-on applications in a laboratory setting. **Semester Credit Hours (3-3-2)** **Local Needs Course**	**Presenter: Jerry O'Connor** **8. TABLED.** The engineering program is requesting the addition of a new course to the college catalog. This course needs to be added to the list of courses in the major. *Must make clear to students that it does not transfer. Must provide course equivalencies-2 universities. Add a national effort to improve retention in Engineering. Add a prerequisite-MATH 0303. Pay more attention to what a university requires.*

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Conclusions

It was also hoped that the SAC engineering math course could replace math prerequisites for certain SAC engineering and physics courses. However, this will not occur unless SAC's engineering math course becomes an official, for-credit course. Once this occurs, SAC must also coordinate the change in prerequisite requirements with the other Alamo Colleges that offer the same engineering and physics courses.

Conclusions

In conclusion, SAC has been a strong supporter of this effort throughout the 3-year period of the grant and has made significant progress to improve the course from year to year. However, the crediting and transferability issues must be resolved in order for this effort to ultimately succeed.


To be continued...