

PROGRAM REVIEW 2008-2011

Division: Business and Computer Information Systems

Department or Program: Computer Applications and Office Systems

Name and Title of Preparer(s): Ernie Johnson (Head CAOS department), Linda West (CAOS Faculty) and Mark Sherby (CAOS Faculty)

In providing responses in the following areas, **please utilize the quantitative data available in the Program Review Enrollment Data Document and the Budget Document.** For the purposes of the Program Review, both departments and programs will be referred to as "program."

I. Description and Mission of the Program

Which area(s) does this program considerably address (check all that apply):

Basic Skills Transfer Career/Technical Other (describe)

A. Provide a brief description of the program including any services provided and the program's mission.

The Computer Applications and Office Systems (CAOS) Department is an open-entry, self-paced program offering approximately 40 different self-paced courses in the computer applications and office systems areas. The CAOS lab (located in AT 203), is essentially our classroom where all instruction, grading, and testing is performed. The lab is staffed eight hours each day with at least one instructor who is knowledgeable of all the courses that we teach. We serve over 4,000 students each fiscal year (not including summer session).

CAOS Mission:

Our mission is to serve our community by providing quality computer and office skills courses utilizing innovative delivery modes of instruction, which enables our diverse student population to acquire the skills necessary to achieve personal, vocational, and educational goals.

B. Provide a summary of the program's main strengths.

"Model" Program—Innovative, Unique Delivery Mode:

The open entry, self-paced mode enables students to begin a course at any time during the quarter and complete the course at their own pace. Students favor this form of instructional delivery because it enables them tremendous flexibility in scheduling as well as reaching their career goals quickly. The CAOS program is considered a "model" program for alternative delivery modes of instruction. Educators from across the nation have visited our college to learn about our innovative approach. Foothill College president Judy Miner has shown an interest in replicating our CAOS self-paced program at Foothill College. Although we appreciate her flattering opinion of our program, we requested that she not compete with us!

Cost Effective and Extensive Course Offerings

- **Variety:** Our department offers one of the most extensive office skills/computer applications programs in California. Many students enroll in the CAOS department because no other college offers many of the flexible, job-oriented, hands-on vocational courses that can lead to immediate employment.
- **Cost Effective:** The self-paced mode enables us to offer a wide variety of courses (whether the course has 20 students or 300) because once the course is developed it can be offered until it needs to be updated without any additional staffing or cost to the college. Some of our courses have 200-300 enrolled students. Moreover, adding self-paced courses do not require another classroom or additional staff thus savings the college thousands of dollars in part-time instructor's pay and classroom costs.
- **Qualified Dedicated Instructors:** CAOS instructors are required to possess an expert knowledge of all courses offered in the CAOS lab.
- **Service:** The CAOS Department fulfills a service to the De Anza community by training students to use computer software and learn office technology skills in a flexible and efficient manner. In addition, other campus departments refer students to enroll in our courses to attain essential pre-requisite computer skills.

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C. Provide a summary of the program's main areas for improvement.

New Areas of Development/Increase enrollments:

The most serious challenge facing CAOS is how we will meet the needs of our students in the new millennium. The U.S. Department of Labor predicts that administrative assistant and secretarial positions will become one of the highest job growth areas. Our department is constantly investigating, using, and teaching new technologies and areas of learning that our advisory committee has recommended. We are in the process of expanding our course offering to include new web technologies and computer forensics to meet industry demand. We are also working to expand our Internship Programs. Our department has one of the largest internship populations in the NASA/AMES Internship program. Students are excited about the prospect of applying what they have learned to a real work environment.

D. What are your expected outcomes (such as learning outcomes, transfer, career goals, certificate and degrees) for students in your program?

Students attend our courses to obtain degrees and certificates, upgrade their skills, and to transfer to other colleges/universities. We offer two different degrees and four levels of certificates in Administrative Assistant and Computer Applications. We also offer certificates in Web Development, Home Office Security and Computer Forensics.

II. Retention and Growth

A. How has the program responded to the institutional goal of increased access, growth and retention? (Include the number of students enrolled in the program and the retention rate over the last three years.)

Access:

We have responded to the college institutional goal of increased access by providing multiple modes of instruction including distance, hybrid, lecture, and self-paced lab classes. Our open entry, self-paced mode enables students to begin a course at any time during the quarter and complete the course at their own pace.

Self-paced courses provide flexibility to all students however we have found the following populations have been particularly appreciative of our approach:

- Students whose English is a second language
- Students with learning disabilities
- Parents with young children
- Working adults
- Financial aid students
- International students
- Re-entry students
- De Anza faculty and staff needing computer application software training and PGA credits
- Students who are unemployed and need to update their skills

In addition, the self-paced mode enables CAOS to offer a wide variety of 40 self-paced computer application courses. CAOS and Skills Lab are the only De Anza departments that provide this type of highly flexible access through self-paced courses. We also provide 5 computer stations specifically to accommodate disabled students. These stations contain all the latest disability software and hardware accommodations.

Growth:

As indicated in the Foothill-De Anza Institutional research chart below, we have made extensive efforts to increase our productivity and growth during the past three years. Our most recent 2007-2008 WSCH and productivity reflects a **15% increase** over the three-year period.

Dimension	Actual		
	2005-06	2006-07	2007-08
Enrollment/Grades (Fiscal Year)	4,409	3,946	4,050
WSCH (Fiscal Year)	12,368	11,876	14,013
Productivity (Fiscal Year)	495	456	597
Retention % (Fiscal Year)	90%	92%	90%
Success % (Fiscal Year)	70%	72%	70%

CAOS Department Performance Table

We have attributed the flatness/drop in our department growth to the fact that our staffing level has dropped from 6 full-time faculty members down to 3 full-time faculty members in the last 5 years. No replacement faculty members have been available during this period. Since new curricula is the driving force of our program, and since each instructor is required to develop and research at least one new course each year, we have had a difficult time keeping up with new course offerings with our limited number of staff. We are requesting a new full-time faculty position to raise and strengthen our course offerings and enrollments in the self-paced areas and to help us research the web and computer forensics areas.

Retention:

As can be seen on the CAOS Department Performance Table above, for the last three years the CAOS department has maintained a retention level of 90% which is 3% higher than the average for our division and the highest within our division. Moreover, the 90% retention level is 2% higher than De Anza College’s average retention level.

B. How has the program responded to the institutional goal of increased access, growth and retention specifically for the identified targeted populations of African Ancestry, Latino/a, and Filipino/a students? (Include the number and percentage of the program’s enrollment that was made up of the targeted populations and the retention rate of the targeted populations over the last three years.)

Retention: As can be seen in the Distribution and Success by Ethnicity chart below, the CAOS department has maintained an average retention rate of 91%. This rate is among the highest in our division and 2% higher than the De Anza College average. The CAOS department believes our high rate of success in targeted groups is due to the exhaustive effort we put into designing our CAOS self-paced courses. We encourage success by providing step-by-step written instructions in our Student Handbooks that we refine and improve EVERY quarter. To create these instructions, we read every sentence in our course text books and provide 30-50 pages of written hints and tips to ensure student success. Anytime, a student encounters and reports a new sentence or instruction that is unclear in the publisher’s textbook we add a new tip to our handbook to help future students. This continuous improvement strategy has helped us retain students in our targeted ethnic populations. We have instructors and staff available to help all students with one-on-one instructional support for any one of their 40 self-paced courses. To provide consistent success of targeted groups, we have also created a brochure that features students of the African Ancestry, Latino/a, and Filipino/a (and other ethnic backgrounds) which we have distributed at every De Anza College outreach event and provided directly to our CAOS students. When our students view brochures featuring their ethnic heritage, they are more motivated and confident they can successfully complete our program. Furthermore, when we observe a student in our computer lab from one of the targeted populations, we provide extra one-on-one attention, especially when they are starting their self-paced courses. To further support African Ancestry, Latino/a, and Filipino/a students we use our computerized testing procedure to review one-on-one the questions that students have missed on their exam and provide extra attention to students within these targeted populations.

**CAOS Department
Distribution and Success by Targeted Group**

Year/Demographic	Count	Col %	Non-			Percent			Percent Retained
			Success	success	Withdraw	Success	success	Withdraw	
Fiscal Year 2007-08									
Targeted	963	24	581	272	110	60	28	11	89
Not Targeted	3,087	76	2,255	536	296	73	17	10	90
Total	4,050	100	2,836	808	406	70	20	10	90
Fiscal Year 2006-07									
Targeted	941	24	604	240	97	64	26	10	90
Not Targeted	3,005	76	2,230	542	233	74	18	8	92
Total	3,946	100	2,834	782	330	72	20	8	92
Fiscal Year 2005-06									
Targeted	940	21	654	273	113	59	29	12	88
Not Targeted	3,469	79	2,525	617	327	73	18	9	91
Total	4,409	100	3,079	890	440	70	20	10	90

Targeted groups = Hispanic, Black, Filipino

C. The Statewide Basic Skills Initiative defines “basic skills” as English, mathematics, reading, writing and ESL skills. In what ways does your program address the basic skills needs of students? For programs that do not directly address basic skills, how does the lack of basic skills impact student success rates for your program?

The CAOS department directly addresses “basic skills”. We provide two career-related courses, Business English and Business Office Math. These courses provide basic training in the business math and English skills necessary to attain success in entry-level office administration employment. Our CAOS basic skills courses also prepare students for success in other De Anza College courses.

All of our 40 self-paced courses address the basic skill of reading. We provide instructor-written student handbooks that provide students with step-by-step procedures leading students through our course materials. As a result of this approach, ESL and learning disabled students enroll and successfully complete our courses because of the simplified instructions that we provide.

III. Student Equity

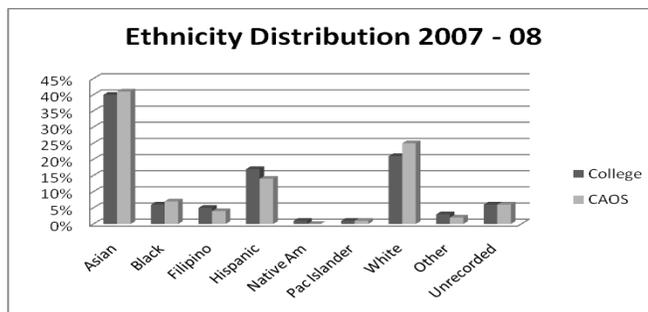
A. What progress or achievement has the program made towards decreasing the student equity gap? (Include student success rates for targeted populations compared with other students over the last three years.)

As described in section II, we have initiated the following steps to help decrease the equity gap:

- An exhaustive effort to design and redesign our CAOS self-paced courses.
- We have created an ethnic-sensitive brochure that has been distributed at outreach events.
- We provide extra, one-on-one attention to targeted populations in our self-paced computer lab.
- We utilize computerized testing procedures to review, one-on-one, the questions that students have missed on their exams.

Below we have summarized what “Progress or Achievements” has been made.

Targeted Groups and Ethnicity: The CAOS Department is offering courses that attract and appeal to all ethnic groups within the College. The CAOS Department serves a diverse population of students. The ethnicity percentages of the CAOS Department for fiscal year 2007 – 2008 were approximately the same as that of De Anza College; see the bar chart titled “Ethnicity Distribution 2007 – 08”, below.

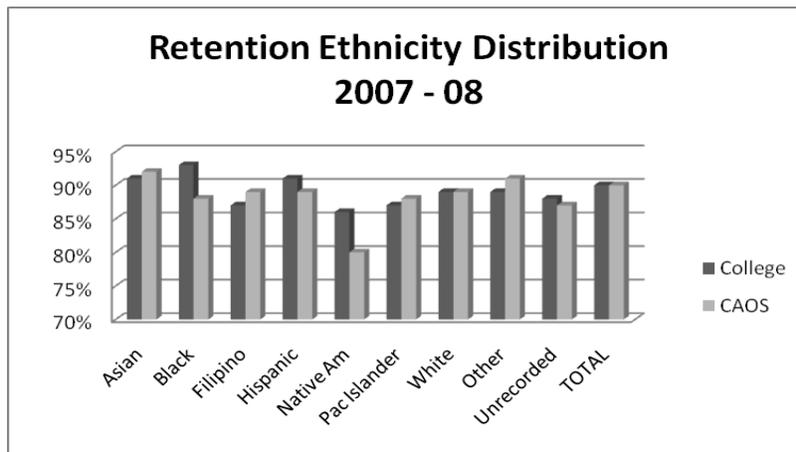


Success Rate Versus Retention Rate:

As an open entry program, the CAOS Department allows students to enroll throughout the quarter until the last 2 weeks of the quarter. If a student does not complete their course, they will receive a No Pass and then can re-enroll in the course the following quarter and finish where they left off.

Important: In the past our department issued “In Progress” grade status to students who enrolled late in the quarter and did not complete the course. The “In Progress” status did not negatively affect student Success Rates. However, several years ago, the Admissions Office asked us to eliminate our “In Progress” status and assign a “No Pass” instead. In other words, hundreds of CAOS students who enroll late in the quarter will complete their courses in the following quarter and these successful students are not recorded in the district generated success statistics. Because of this, we believe that Completion Rates rather than Success Rates serve as a more appropriate way of evaluating student success/completion rates in the unique CAOS self-paced program.

Data was also analyzed during fiscal year 2007 – 2008 to identify Retention rates in various ethnic populations. The CAOS department has maintained the highest retention level compared to other departments in our Business/Computer Systems division. As a result of our efforts, for the last three years the CAOS department has maintained a retention level of 90% which is 3% higher than the average for our division. The CAOS department’s 90% retention level is 2% higher than the De Anza College’s average retention level. See below.



B. In what ways will the program continue working toward achieving these goals?

As stated previously, we are an open entry program--students can enroll up to the last two weeks of the quarter which provides the ultimate learning flexibility to our CAOS students. The following are ways in which our department will improve Completion/Success Rates.

1. The CAOS Department is analyzing course completion data during the spring 2009 Quarter in order to measure how many students are starting courses during the last two weeks and successfully finishing these courses. The CAOS Department will also monitor those students registering during the last two weeks and send emails advising and encouraging students to finish their courses.
2. Upon completion of this analysis, the CAOS Department will develop and implement a plan detailing which courses can be enrolled during the last two weeks of the quarter and the best methods to work with students to complete their assignments and course work in that short time period.
3. To improve the success rate for these underrepresented groups, the CAOS Department is planning to do the following:
 - a. Send out emails to students at 4 intervals during the quarter to remind students to start their course and help them plan their time to complete their course.
 - b. Contact the international and financial aide offices who refer late starting students, to remind students to enroll and obtain one-on-one support from the CAOS staff and faculty during our “Faculty Advisory Hours”.
 - c. Continue to encourage CAOS faculty and staff to attend development workshops and seminars to sensitize them to the needs and cultural experiences of students.
 - d. Develop a mentoring program of current and former students who can advise and talk with African-American, Latino, and Pacific Islander students.
 - e. Strive to hire qualified faculty and staff who reflect the diverse population of the College and who demonstrate sensitivity to the needs of underrepresented groups.

- f. Continue to talk with students on how the CAOS staff can improve course offerings and how to assist student to become more successful.

C. What challenges exist in the program in reaching such goals?

Need for one additional full-time instructor:

The major challenge for the CAOS Department in reaching our goals and decreasing the student equity gap is the current size of our instructional staff. Currently the CAOS Department consists of three full-time instructors--one of the full-time instructors teaches mainly lecture-lab courses in a traditional classroom setting and assists students in the lab, four to eight hours per week (during the same time that new and revised courses must be released because software technology keeps changing), the CAOS fulltime staff has decreased from six full-time instructors to three full-time instructors during fiscal year 2005 – 06.

Every fulltime CAOS instructor is responsible for developing at least one or two totally revised courses each year. The curriculum is the driving force of the CAOS Program and it is essential that the fulltime instructors be proficient in curriculum development and have mastery knowledge of the course subject matter. Since we now only have half of the staff that we previously had, it is very difficult to keep our courses current. For example, when a new Microsoft Office Suite comes out, we need to develop at least 6 new courses within a year.

Each self-paced course requires the writing of a comprehensive 30-60 page Student Handbook. The Student Handbook is a step-by-step guide which enables a CAOS student to complete the course works; it is like an instructor guiding the student through the course. Depending on the availability of learning materials, the development of a Student Handbook for a 1 unit course can require 100 hours. A well-written Student Handbook is critical to the success of each course. Errors in Student Handbook must be changed immediately and students must be informed immediately of these changes.

Moreover, because each handbook is constantly revised, the instructor who develops a course is responsible for updates while developing new courses. The need for new curriculum which requires highly detailed and time-intensive Student Handbook development is one of major reasons why it is essential that the CAOS Department be able to hire a new, full-time instructor. Part time instructors do not develop courses because it is very difficult to find part time instructors who have experience writing self paced curriculum and because they do not have the longevity required to maintain any course that they have created. Moreover, it is very difficult just to find part time instructors who have the breadth of knowledge to teach the courses in the lab much less have curriculum development expertise.

IV. Budget Limitations (Please be specific in your responses.)

A. Identify any limitations placed on the program based on limited funding. What increases in resources are critical to the program and what are the consequences of continued limited funding on the program?

The CAOS department can maintain the current level of course offerings if our operating budget and staff is maintained at the current level. We are currently operating on limited staff. Often, during peak times particularly, because of our limited staff, students have complained that it takes too long to obtain help. We are working hard to give the students the level of help that they deserve. To serve an increasing numbers of students and to develop new curriculum in the growing area of Web design, computer forensics and software applications, however, it is essential that the CAOS Department hire a new, full-time instructor and maintain the budget and support staff that currently exists.

With a new full-time instructor developing new curriculum and teaching new software applications, the CAOS department can provide a higher variety of course offerings and better compete against other community colleges and private two-year colleges.

The most serious challenge facing CAOS is how to meet the needs of our students during the current decade. This challenge involves keeping abreast with technology; how will we be able to infuse new technology into our present curriculum; and most importantly, what kind of delivery systems will CAOS need to use to provide the best computer education to the most number of students.

To increase enrollments, the CAOS department requires an additional faculty member who can develop more self-paced and lecture courses. Proactive planning and implementation of activities over the last four years are the main reasons the CAOS department has been able to maintain course offerings at our current high level. Some examples of proactive activities resulting in increased productivity including the following:

1. We conducted an extensive lab utilization study to optimize lab scheduling to serve our student's changing needs.
2. We utilized cutting-edge technology to enhance course offerings to make CAOS more self-reliant and less dependent on ETS. For example, we have currently implemented VMWare emulation software to achieve technical independence and offer a greater number of empowering hands-on computer application courses.
3. We redesigned the Student Handbook's template which resulted in faster updating of courses and improved comprehension for self-paced students.
4. A new CAOS Web site provided comprehensive and relevant information to assist students in identifying relevant CAOS courses and lab orientation, 24/7.
5. We tapped into the PORTAL system to communicate and provide timely information to CAOS students via email.
6. We created more flexible and faster methods of submitting course assignments using fax machines and digital submissions, thus avoiding student's needs to drive to campus and thereby reducing the carbon footprint.
7. Developed more computerized testing to minimize cheating and provide students immediate feedback and grading.

B. Describe the consequence to students and the college in general if the program were eliminated or significantly reduced. Please be specific.

The following consequences would occur if the CAOS program were eliminated from De Anza College:

1. Decreased enrollment of over 4,000 students per annum (not including summer school).
2. Elimination of 40 courses that the U.S. Department of Labor has indicated will be one of the fast growing areas for jobs. According to the US Department of Labor, secretaries and administrative assistants held more than 4.2 million jobs in 2006, ranking it among the largest occupations in the U.S. economy.
3. Decrease in over fifty self-paced, distance learning, and lecture lab courses.
4. Elimination of support for "targeted" populations that we provide in our one-on-one support model. Our college would no longer have a flexible self-paced program for single parents and various other disadvantaged populations.
5. No more training in the use and application software at a college located in the heart of Silicon Valley.
6. Deficits in the Health Technology and Paralegal Certificate and Degree course offerings; CAOS courses are required in these two departments. No computer and software training for the growing number of internship, OTI, and re-entry students.
7. Inability to offer a wide variety of office technology and software applications courses in the most flexible, accessible, and cost-effective manner (self-paced courses). Elimination of courses that offer working students the maximum flexibility in scheduling and taking courses to further enhance their computer and software skills.
8. Loss of in-depth training in the digital imaging software area benefiting computer graphics students in the Creative Arts Division; all of the digital imaging software applications courses are cross-listed with the Creative Arts Division.

V. **Additional Comments (optional):** What additional information is important to consider when reviewing the budget of your program for possible reductions? You may include any or all of the following, or other information.

- **Strategic Planning Initiatives (Community Collaborations, Cultural Competency, Outreach, and Individualized Attention for Retention):** Describe any other Strategic Planning Initiatives your program has addressed.
We attend vocational outreach initiatives each year to attract students into our program. We distribute brochures and certificate and degree sheets to inform and attract new students into our program.
- **Relationships with Other Programs:** Describe any partnerships or collaborations that the program is actively engaged in, which reduce costs and/or improve service delivery.

We have cross listed our courses with Computer Information Systems, Arts, CAD and Real Estate departments. We have collaborated with the Occupational Training Institute (OTI) program extensively to train Calworks, Job Corps, CompTechS, and the Computer Donation Program. This collaboration with OTI targets disadvantaged and/or underemployed populations who receive food stamps as well as assist welfare recipients transition to self-sufficient employment. Frequently our CAOS lab is used by the OTI program during the last 5 weeks of summer to train unemployed workers.

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- **State and Federal Mandates:** Describe any State or Federal mandates that directly impact the program.
- **Trends (such as enrollment, certificate and degrees conferred, transfer rates, job placement, etc.):** Describe any positive and/or negative trends in the program.
- **Comparable Programs at other Institutions:** Provide any information that you have that would allow for a comparison of the program to similar programs at other institutions in the State.