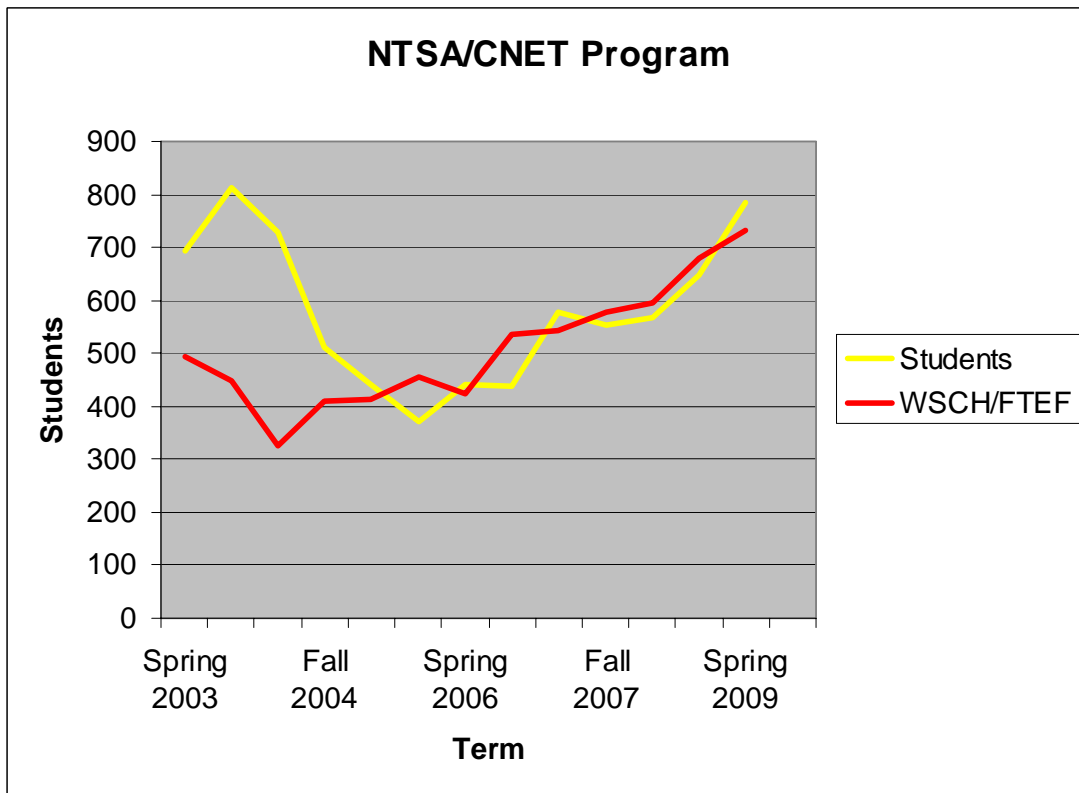


CNET/NTSA Program Review – Progress Report (Final 2008/2009)

CNET full time faculty members: Marge Segraves, George Wong, and Richard Grotegut have been meeting regularly in preparation for completing a 2008/2009 Instruction Program Review of the CNET department. The last Program Review for this department was completed in 2005/2006.

An increase in student enrollment for the spring 2009 semester has brought the enrollment level to near dot.com boom peak levels. The overall CNET department WSCH/FTEF ratio for the spring semester (731) is higher than ever. A move to more “hybrid” (mixed face-to-face, online, and self-paced) delivery of courses has greatly contributed to this increase.



This increase in overall WSCH/FTEF may be coming at an unsustainable cost however. Student retention is not as high as we would like it to be - particularly in the mostly online formatted classes. Ever-improving Information and Communication technologies, that support distance learning and collaboration, should help. It is important that CNET faculty continue to diligently monitor student performance and success.

The open lab format, while helping out with flexible offering that has aided enrollment, has had some negative results as well. The hardware and software required for the CNET students to do lab activities, requires organization, security, preparation, and maintenance.

The subject of “To Be Arranged (TBA) Hours” came up in a memorandum from the California Community Colleges Chancellor’s Office. An alarm was raised on campus regarding Ohlone

College’s compliance with the guidelines set forth by the state regarding the monitoring of student participation in lab by arrangement situations and on how the criteria and conditions for TBA could be met. The “hybrid” approach adopted by this department has served as an overall college model for addressing TBA. Mike Bowman, Dean of Institutional Research & Curriculum Management, as termed the College-wide response to addressing this issue the “CNET solution”.

Grants

CNET lead faculty member Richard Grotegut has been involved in a series of grants over the past year that directly impacts the CNET Information and Communication Technology (ICT) instruction program at Ohlone College. Grants currently awarded:

Amount	Grant
\$369,700	SVICT 2008-2009 Career Technical Education Community Collaboratives (CTE-CC)
\$399,998	SVICT 2009-2010 Career Technical Education Community Collaboratives (CTE-CC)
\$102,216	Project: MPICT Center National Science Foundation (NSF)
\$149,545	Workforce Innovation Partnership, GISGPS CCCCCO - Career Technical Education (CTE)
\$1,021,459	Total

While much of the funding is for building secondary educational programs (middle school ICT exploration and high school program development and articulation) there has also been funding for much need CNET/GIS lab equipment and for yearly software subscriptions.

The CNET department will be allotted nearly \$90,000 for the following projects:

- Upgrading our Regional Cisco Networking Academy lab equipment,
- Purchase new computers for HH-114 and HH-112 computer labs
- Purchase equipment to support the new VMWare and CCNA Security classes to be offered Fall 2009.
- Oracle Academy, Microsoft IT Academy, and support for Ohlone College’s NetLAB have all been funded through the grants.

The GIS program benefitted from grant money as well. The following projects have already been funded:

- GIS server originally included in the budget as a purchase was donated from Ohlone College’s CNET department.
- Renewal of our ESRI ARC-GIS software agreement
- Four class sets of the Juno SB Handheld GPS devices with Software Classroom Kits for Educators from Trimble Mapping and GIS have been purchased

These grant opportunities have enabled Ohlone College to do much more than just equip the CNET ICT instructional programs. The regional relationships established and enabled through the grants have resulted in collaborations:

- among institutions of higher education to leverage, expand, improve, and enhance the region's ICT education capacity,
- between education and industry to create an ICT workforce that can fully meet the economic needs of the region, combined Advisory meetings have resulted in much greater industry participation,
- to identify, implement, and disseminate best practices throughout the region, working towards a harmonization of ICT competencies, skills, and education approaches,
- To develop a fully articulated, comprehensive ICT education pathway and implement it throughout the region.

The regional focus on ICT jobs has been timely. The Labor projections for the region are good. There is quite a bit of demand.

Computer Support Specialists Estimated Employment and Projected Growth					
Geographic Area (Estimated Year-Projected Year)	Estimated Employment	Projected Employment	Numeric Change	Percent Change	Additional Openings Due to Net Replacements
California (2006-2016)	61,100	71,600	10,500	17.2	18,900
San Francisco Bay Area (2006-2016)	4,450	4,880	430	9.7	1,380
East Bay Area (2006-2016)	4,510	4,660	150	3.3	1,400

Network and Computer Systems Administrators Estimated Employment and Projected Growth					
Geographic Area (Estimated Year-Projected Year)	Estimated Employment	Projected Employment	Numeric Change	Percent Change	Additional Openings Due to Net Replacements
California (2006-2016)	32,400	42,200	9,800	30.2	7,400
San Francisco Bay Area (2006-2016)	3,990	4,890	900	22.6	910
East Bay Area (2006-2016)	3,070	3,540	470	15.3	700

Network Systems and Data Communications Analysts Estimated Employment and Projected Growth					
Geographic Area (Estimated Year- Projected Year)	Estimated Employment	Projected Employment	Numeric Change	Percent Change	Additional Openings Due to Net Replacements
California (2006-2016)	28,900	45,900	17,000	58.8	5,900
San Francisco Bay Area (2006-2016)	3,000	4,490	1,490	49.7	610
East Bay Area (2006-2016)	3,460	4,580	1,120	32.4	700

Program Improvement Objectives

Program improvement is a constant topic in CNET. Changes in ICT technology are rapid and frequent. CNET faculty submitted the following program improvement objective required by the College President:

“Revise and expand the CNET System Administration course offerings, certificates, and degree program, to include virtualization design, implementation, and management. (Virtualization is a green IT technology that dramatically improves the efficiency and availability of IT resources and applications in an organization.)”

Working with the IT departments, CNET department faculty made good progress on this objective. Ohlone College is now officially a VMWare Academy. Virtualization is a very hot technology. It is at the center of "green" IT solutions. We will be offering certification training starting this fall. While only about 15 percent of IT servers are "virtualized" now, this is expected to grow to over half by 2012.

Ohlone College’s Cisco Regional Academy

Ohlone College’s work as a regional training center for the Cisco Network Academy program has resulted in an increase in the number of “local” academies (institutions offering training courses in IT essentials, PC and IT support, and networking). There are now 16 “local academies” supported by Ohlone College. The two newest Local Academies are Santa Clara High School and Bishop O’Dowd College Preparatory High School. Each of these two new academies will begin offering courses in the fall of 2009.

Over the past year Ohlone College’s Regional Academy has provided training for over 45 individual instructors since January, 2009, eight more instructors were trained during the June 2009 session, and four more instructors are slated for the August session.

Planning and implementing changes to improve learning

Planning and implementing changes to improve learning and increase program and student success is an ongoing process. There are two areas that are beyond the purview of CNET faculty and need to be addressed at a higher level. These two areas are in department coordination and technical lab support.

Department Coordination

With the addition of yet another IT industry "academy" relationship (along Cisco, Microsoft, and Oracle) and with the increase in student enrollment in the program nearing peak values, it has become apparent to department faculty members that the position of a department coordinator needs to be revisited and addressed.

From 2000 to 2006 a department faculty member was granted release time (20% for the first four and a half years and 10% for the last year) to "coordinate" what is now the CNET program. Here is a list of the departmental duties:

- preparing all scheduling - both full-time and part-time
- completing part-time evaluations
- conducting and participating in part-time interviews and hiring
- running the department meetings
- serving as a contact person across the campus (bookstore, counseling, etc)
- maintain the department website
- developing new courses, completing course outlines, and attending Curriculum Committee meetings.
- Coordinating the department's various industry partnerships.

When Computer Studies and CAOT moved into the Math, Science, and Engineering division, department enrollments declined, and release time for coordination was reduced. Eventually all of the release time was eliminated. This was in the fall of 2006. Department enrollments were lower than ever.

The CNET department has grown significantly since the department coordinator's release time was taken away. With a concerted effort, on the part of CNET faculty, enrollments have increased significantly since 2006. Enrollment has nearly doubled. This semester it is higher than it has been any time since the boom.

Now, with the addition of the VMWare Academy, the scope and the amount of time coordinating this ever-changing department has grown even more. The role of department coordination and a fair assessment of coordinator release time should be discussed.

Technical Lab Support

The CNET program is a lab-intensive program. There is significant hardware and software that needs to be organized, secured, prepared for use for instructional lab activities, and maintained.

A good model for comparison would be the biology, chemistry, and biotech programs. Each of these programs has staffed lab technicians. Biotech has two.

The current model using IT personnel to support the computer labs, works somewhat successfully for the Multimedia, Computer Science, and Computer Applications programs. These programs are software intensive. The desktop support staff skills provided by IT are sufficient to support the labs where training and instruction in these areas is conducted.

CNET labs require the configuration of network devices, alternate images and hard disk drives for lab computers, and free administrative access to the hardware devices by the students. There needs to be support for the lab activities.

CNET faculty would be very supportive of institutionalizing the use of the department's own students in lab support roles. This is being done in ad hoc fashion (through limited grant funding and the small amount of revenue generated through Ohlone's Regional Cisco Networking Academy. Providing the department with a budget for student help up to a minimum of 20 hours per week would help. It would also go a long way to support the work experience requirement for CNET students. There are many students working in most of the other departments throughout the college. There is no apparent reason why this can not be the same for the CNET department.

Identify Review and Dissemination Team:

Marge Segraves, CNET Faculty
George Wong, CNET Faculty
Richard Grotegut, CNET Faculty
Regional ICT Advisory Committee Members

The review team meets regularly. Regional ICT advisory meetings and monthly meeting with the MPICT regional group has provided us with an excellent sounding board for our program decisions.

2008/2009 CNET Program Student Learning Outcomes (SLOs)

The CNET department's Network Technology and System Administration (NTSA) degree and certificate program is dynamic. Program review for such a program is continuous. Learning outcomes change as technologies change. Individual program outcomes for each of the specific areas of concentration taught within the CNET department and NTSA program will be submitted individually.

General learning outcomes for students seeking the NTSA AS Degree are subject to greater breadth than those seeking merely a Certificate of Achievement or a Certificate of Accomplishment. Students attaining the AS degree must also fulfill general education requirements. Students seeking a Certificate of Achievement complete significantly more course work than do students simply seeking a Certificate of Accomplishment.

Over the last few weeks CNET faculty members have met and constructed the following CNET overall program SLOs:

1. Demonstrate confidence to work independently to setup and maintain a computer and/or networking system.
2. Demonstrate techniques to troubleshoot situations that impact the operation of a computer and/or network system.
3. Be qualified for employment in the ICT field.
4. Student AS degree recipients will demonstrate oral and written communication skills.
5. Students in the CNET program will demonstrate appreciation of the Information and Communication Technology (ICT) career field and the need to be lifelong learners.

Assessment of Student Success in Reaching Program Student Learning Outcomes

SLOs 1 and 2 - Throughout all of the CNET and NTSA program areas, including the AS degree, Certificates of Achievement, Certificates of Accomplishment, and in individual courses of study, the assessment of learning outcomes is primarily made through the use of performance or skills-based and objective-based assessments.

SLO 3 – Qualification for employment is a central goal of the CNET/NTSA program. Documentation of this outcome has never been formalized. Access to former students is unstructured and anecdotal only. A better attempt at surveying former students will be made during future terms through email contact and voluntary surveys.

SLO 4 – AS degree recipients must successfully complete a require communication course: ENGL 156 or SPCH 115.

SLO 5 - With ten years of historical course offerings in the CNET/NTSA area we are beginning to see many repeat students. These students have returned to learn about new ICT technologies, new software and hardware versions, and for re-certification. Data from Ohlone College's Institutional Research Office will provide information regarding "repeat" students.