Ohlone College
Program Review Report

- Program Description and Scope:
  1. Program Review Title: Computers, Networks, and Emerging Technology
  3. Review Type: Instructional Disciplines
  4. Program/Departments: Computer Networks Emerging Technologies (07081)
  5. Authority Code: 53-Dean, Business, Technology, and Learning Resources
  6. External Regulations: Yes X No

Describe:

Industry Academy contracts with Microsoft, Cisco, Oracle, CompTIA, and VMWare

7. Provide a brief narrative that describes the instructional program/discipline.

Ohlone's Computers, Networks, and Emerging Technology A.S. Degrees and Certificates prepare students for employment in the field of Information and Communication Technologies (ICT) as database administrator, systems administrator, support specialist, network technician, computer engineer, web developer, or related positions. Students may also prepare for a variety of certifications, such as Cisco Certified Network Associate (CCNA), Cisco Certified Network Professional (CCNP), CompTIA A+, Network+, and Linux+, Microsoft Certified IT Professional (MCITP), Oracle Certified Professional (OCP), and VMWare Certified Professional (VCP), Citrix, and Linux Professional Institute (LPI).

8. Describe how the program specifically serves students, faculty and staff.

One in twenty jobs in California are related to Information and Communication Technology (ICT). The CNET program provides key core and advance training for students who desire to learn key ICT skills and technologies. Resource: 2011 ENVIRONMENTAL SCAN ICT INFORMATION & COMMUNICATIONS TECHNOLOGIES in California, Centers of Excellence, Economic and Workforce Development.

The recent hiring of a second full-time CNET faculty member to teach our advance networking courses has helped to broaden our course offerings and delivery to students.

9. Describe how the program addresses current needs and applies current technologies.

Demand for ICT skills is high. ICT jobs can be found in all employment areas. CNET department staff have incorporated a variety of training formats to help provide flexibility and accessibility for students. Long-time hybrid delivery techniques incorporating online learning, open lab, remote lab, and simulation have help to build enrollment and provide variety and depth in our course offerings.
10. Discuss the impact of the program on the college and/or other programs.

CNET is Ohlone's largest Career Technical Education (CTE) program. The department has been able to offer a great number of sections. The average WSCH/FTEF ratio has been over 750 for the past three years.

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.

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.

Ohlone College and the CNET department was selected by Cisco Systems to become the Support and Training Center for all Cisco Academies in the states of California, Nevada, and Arizona. The support and training center is WEstern Academy Support and Training Center (WASTC).

11. Discuss the impact of the program on the community and the impact of the community on the program.

The CNET program offerings have scope and depth that is greater than what most community colleges in the Bay Area offer. Strong adjunct faculty in key ICT technology areas of desktop support, Linux and Microsoft operating systems, database administration, networking, and virtualization have helped to provide this scope and depth.

Under CNET faculty direction, Ohlone College, Irvington High School, and Mission Valley ROP established the first career pathway in Information and Communication Technology (ICT) in California. By providing a clearly defined program of study that is aligned between high school and college, students interested in an ICT career can achieve their academic and career goals.

Silicon Valley Students Recycling Used Technology is a program sponsored by
Ohlone College’s Regional Cisco Network Academy. StRUT is incorporated into member Local Academy schools where students take donated computers and networking equipment and upgrade them for the use in schools. Students involved in StRUT evaluate, repair, and refurbish the equipment and in turn donate to local schools. Students gain valuable skills and schools get free equipment.

The StRUT Education System involves three distinct programs:
1. ICT Education Program supported through the Cisco Network Academy – A+ Certification Prep.
2. Materials Recycling Program that prevents harmful electronic waste materials from being deposited in our refuse system
3. Educational Resources Acquisition Program – Computers and equipment for schools

Ohlone College’s recent designation as the Western Academy Support and Training Center (WASTC) 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 200 “local academies”, in the states of California, Nevada, and Arizona, supported by Ohlone College. The WASTC website is www.wastc.org

Over the past year Ohlone College’s Regional Academy has provided training for over 200 individual instructors since January, 2009 during summer, winter and spring breaks and during "retooling" Saturday sessions offered throughout each term. WASTC training is being conducted in hybrid and fully online methods using a variety of webconferencing tools including CCC-Confer and Cisco's Webex. Thirty Instructors have been trained using this new method including instructors from states outside the WASTC region including Georgia, Washington, and Texas.

• College Mission
  1. Mission Statement
     The mission of Ohlone College is to serve the community by offering instruction for basic skills, career entry, university transfer, economic development, and personal enrichment for all who can benefit from our instruction in an environment where student learning success is highly valued, supported and continually assessed.
  2. Vision Statement
     Ohlone College will be known throughout California for our inclusiveness, innovation and superior rates of student success.
  3. Core Values, Goals & Objectives:
     College Core Values
     • We provide life-long learning opportunities for students, college personnel and the community.
     • We open access to higher education and actively reach out to under-served
populations.
- We promote diversity and inclusiveness.
- We maintain high standards in our constant pursuit of excellence.
- We value trust, respect and integrity.
- We promote team work and open communication.
- We practice innovation and actively encourage risk-taking and entrepreneurship.
- We demonstrate stewardship for our human, financial, physical and environmental resources.

College Goals/Objectives
1. **Through innovative programs and services, improve student learning and achievement.**
   1. By 2013, have in place an ongoing system for identifying and assessing student learning outcomes at the program and course levels, which includes faculty dialogue and appropriate improvement plans.
   7. By spring 2013, increase the number of students receiving certificates of accomplishment and certificates of achievement to a rate at or above the peer group average.

2. **Support the economic vitality of the community through educational programs and services that respond to identified employment needs.**
   1. By 2011, produce a local strategic plan for Career Technical Education to include an inventory and assessment of our current programs, environmental scan data, a SWOT analysis, and a five-year set of goals, objectives and action plans.
   2. Within the context of the CTE Strategic Plan, by 2012, identify needs of local employers and create responses through our existing programs, contract education, and new program development.
   3. By 2013 create a curriculum which enhances the availability of programs that focus on emerging industries including green technologies and those identified by the Alameda County Workforce Investment Board and Department of Labor’s high growth, high demand job training initiative.
   4. By 2013 provide opportunities across the curriculum for students to acquire key skill sets and concepts that will help them succeed in the workplace.

4. Briefly describe how the program supports the college mission, vision selected college values.

   The Computers, Networks, and Emerging Technology (CNET) program directly supports the College's mission of providing career-entry training and education. CNET provides Information and Communication Technologies (ICT) training and course work. Over the next five years 1 in 20 jobs in California and nation-wide will be related to ICT.

5. Briefly describe how the program supports selected college goals.

   The CNET department staff has adopted innovative practices within the department's programs and services to improve student learning and
These practices include:

- Strategic use of the Selected Topic courses
- Short and late start classes to provide additional training entry opportunities.
- Hybrid course delivery
- Computer assisted instruction
- ICT industry partnerships (Cisco, Microsoft, CompTIA, Oracle, VMWare, Citrix Academies and the Linux Professional Institute)
- Zero-loaded and stacked course offerings to ensure delivery of the more advanced and typically low-enrolled ICT course offerings.
- Close relationship with Workforce Development and Community Education departments.

The department has kept abreast of the ICT needs within our community and has continually offered up-to-date and timely course offerings in ICT related areas.

6. Briefly describe how the program supports selected college objectives.

The CNET department's relationship with ICT industries via the various Academy programs has facilitated the completion of assessment of student learning outcomes for all courses and programs.

The CNET department will play a large role in increasing the number of students receiving Certificates of Achievement and Accomplishment. The department currently offers 12 separate certificates in ICT related areas.

Using a recent 2011 ICT environmental scan for California CNET staff have been able to keep the CNET program up-to-date.

The CNET department has met the needs of local employers by keeping our existing programs up-to-date, implementing contract education offerings where appropriate, and developing new programs such as our virtualization course offerings.

CNET department staff has worked directly with the Alameda County Workforce Investment Board to provide ICT training that focus on emerging industries including ICT green technologies (web-conferencing, teleconferencing, and virtualization) and those identified by the Department of Labor’s high growth, high demand job training initiative.

All CNET program offerings provide opportunities for students to acquire key skill sets and concepts that will help them succeed in the ICT workplace.

● Program SLOs & Assessment

1. Program SLO -

Demonstrate confidence to work independently to setup, configure, and maintain: a computer (client or server); stand-alone or network application;
Indicate program assessment strategies used.
   a. Indicate program assessment strategies used.
      i. Rubrics
      ii. Skills Assessment
   b. Describe the criteria and standards used to appraise student work.
      Scoring rubric and instructor assessment.
   c. Enter assessment results and analyze student success in achieving this program SLO.
      Skills assessments completed in each course of the program(s).
      Average 85% passrate for all completers.
      See course assessment for the CNET156B (Spring 2012).
   d. Describe revisions in curriculum or teaching strategies implemented to promote student success.
      Department instituted flexibility for students to practice hands-on activities - including simulation, extending time for open lab, remote access to lab equipment, and online industry lab activities.
   e. Future Action (Improvements)
      Maintain current student learning plan
2. Program SLO -

Demonstrate techniques to troubleshoot situations that impact the operation of a computer (client or server); stand-alone or network application; and/or networking system.

a. Indicate program assessment strategies used.
   i. Rubrics
   ii. Capstone course
   iii. Skills Assessment
b. Describe the criteria and standards used to appraise student work.
   Scoring rubric, capstone course skills assessment exam.
   c. Enter assessment results and analyze student success in achieving this program SLO.
      Skills assessment including troubleshooting administered in the capstone courses for each of the programs.
      See course assessment for the CNET156B (Spring 2012).
   d. Describe revisions in curriculum or teaching strategies implemented to
promote student success.

Department instituted flexibility for students to practice hands-on activities - including simulation, extending time for open lab, remote access to lab equipment, and online industry lab activities.

e. Future Action (Improvements)

3. Program SLO -

Student AS degree recipients will demonstrate oral and written communication skills.

a. Indicate program assessment strategies used.
   i. Other

   Course completion requirement for AS major.

b. Describe the criteria and standards used to appraise student work.

   Verification on transcript.

c. Enter assessment results and analyze student success in achieving this program SLO.

   Successful completion of ENGL 156 - Report and Technical Writing or SPCH 115 - Career Communication with a grade of "C" or better.

d. Describe revisions in curriculum or teaching strategies implemented to promote student success.

   Incorporated oral and written communication activities across the CNET curriculum.

e. Future Action (Improvements)

4. Program SLO -

Students in the CNET program will demonstrate appreciation of the Information and Communication Technology (ICT) career field and the need to be lifelong learners.

a. Indicate program assessment strategies used.
   i. Other

   Periodic enrollment in CNET department course offerings.

b. Describe the criteria and standards used to appraise student work.

   Student's historical Ohlone College transcript.

c. Enter assessment results and analyze student success in achieving this program SLO.

   Review individual student's historical Ohlone College transcript.

d. Describe revisions in curriculum or teaching strategies implemented to promote student success.
Maintain currency of course topics and content. Create new courses and update current courses as needed.

e. **Future Action (Improvements)**

- **SLO Matrix**
  
  *Key: I-Introduced, P-Practiced with Feedback, M-Demonstrated at the Mastery Level*

<table>
<thead>
<tr>
<th>Course</th>
<th>SLO-1</th>
<th>SLO-2</th>
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The table contains a series of patterns and characters, possibly indicating a code or a sequence of events. The table is part of a larger document, and the context is not fully clear from the snippet provided.
• SLO Matrix Comments

The SLO Matrix and accompanying choices of levels (I-Introduced, P-Practiced with Feedback, M-Demonstrated at the Mastery Level) works well for the CNET program's first three SLOs. There are CNET courses that do each of the following: introduce, allow for practice, and provide for mastery. Many of our individual certificates of accomplishment include courses which help to prepare students for all three levels. All of our courses allow for AS degree seeking students to practice their oral and written communication. For program SLO 4 (Students in the CNET program will demonstrate appreciation of the Information and Communication Technology (ICT) career field and the need to be lifelong learners) the matrix levels do not really fit.

Our program adapts and reflects the changes that occur in the industry. Information and Communication Technology (ICT) changes frequently. Industry certifications (of which nearly all CNET courses/programs serve as preparation for these certifications) are most typically good for only three years. Certificate holders must renew their certification by retesting. Many of our CNET courses/programs are updated on this three year cycle in order to stay current with industry certification. Former students who are working in the field must review, learn new technologies, and re-certify to keep up and to remain current. Coming back to school at Ohlone and repeating updated CNET courses is one way to accomplish that.

• Course SLO & Assessment

CNET 156B WAN Design and Support

1. Implement and configure advanced IP addressing techniques including: Network Address Translation (NAT); Port Address Translation (PAT); and Dynamic Host Configuration Protocol (DHCP).
2. Describe the various WAN technology and related terminology.
3. Configure serial interfaces using PPP and High-Level Data Link Control (HDLC), given a functioning router.
4. Configure Frame Relay, given functioning Cisco routers.
5. Configure, apply, verify, monitor, and troubleshoot ACLs in a network environment.
6. Describe current network security threats and explain how to implement a comprehensive security policy to mitigate common threats to network devices, hosts, and applications.

| Indicate planned course assessment strategies |
Skills Assessment  
Department Testing  
Vendor or industry certification examination

**Describe the criteria and/or performance standards used to appraise student work.**

This course is the last of a four course sequence (CNET-155A, 155B, 156A, and 156B) designed to introduce students to current and emerging networking technology. It serves as the capstone course for sequence and for the CNET program CCNA Certificate of Accomplishment. This course sequence is preparation for the Cisco Certified Networking Associate (CCNA) industry certification.

Course SLOs 2 and 6 are assessed using department testing - final exam.

Course SLOs 1 and 3-5 are assessed using a skills-based assessment.

All six SLOs can be further assessed by a student's successful completion of the Cisco certification exams CCNA or CCENT. These industry exams are voluntary and may only be taken at authorized certification testing centers. Ohlone's CNET department is a Pearson VUE testing center. Students may elect to take their certification exam on campus.

**Enter assessment results and analyze student success in achieving course SLOs.**

Twenty two students started the CNET156B class. Twenty students completed the course.

Average score on the skills-based assessment was 90.75. All twenty students passed.

Average score on the comprehensive objective final exam was 89.45. All twenty students passed the final exam.

As far as the department has only anecdotal information on, only three of the twenty students attempted the industry certification (CCNA) exam. All three students passed the certification exam at Ohlone CNET department VUE Testing Center.

**Describe revisions in curriculum or teaching strategies implemented to promote student success.**

No revision to the curriculum is required at this time. An update to the CCNA curriculum offered through the Cisco Network academy Program is scheduled for release in late 2013.

**Future Action (Improvements)**

Maintain current student learning plan

**CNET 120 VMware: Install, Configure, Manage**

1. Install and configure ESX and vCenter Server
2. Configure and manage ESX networking and storage using vCenter Server
3. Deploy and manage virtual machines
4. Manage user access to the VMware infrastructure
5. Increase scalability, monitor resource usage and manage higher availability and data protection using vCenter Server
6. Apply patches using VMware vCenter Update Manager
Describe revisions in curriculum or teaching strategies implemented to promote student success.

Out of a class of 20 students (the maximum) on average 1 student withdraws from the class and does not complete the SLO. Otherwise all the students have successfully completed the class with a passing grade and are eligible to take the VCP.

Future Action (Improvements)

Maintain current student learning plan
### CNET 186 Troubleshooting IP Networks (CCNP TSHOOT)

1. Monitor, maintain, and troubleshoot a complex network.
2. Plan and document the most common maintenance functions in complex enterprise networks.
3. Develop a troubleshooting process to identify and solve problems in complex enterprise networks.
4. Select tools that best support specific troubleshooting and maintenance processes in large, complex enterprise networks.
5. Practice maintenance procedures and fault resolution in switched and routed environments.
6. Troubleshoot IPv4 addressing services, IPv6 routing issues, network infrastructure services, network performance issues on routers and switches, and network integration issues affecting wireless connectivity, VoIP, and video.
7. Practice maintenance procedures and fault resolution in a secure infrastructure.

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<thead>
<tr>
<th>Indicate planned course assessment strategies</th>
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<tbody>
<tr>
<td>Skills Assessment</td>
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<td>Vendor or industry certification examination</td>
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<th>Describe the criteria and/or performance standards used to appraise student work.</th>
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<tr>
<td>This course is the last of a three course sequence (CNET-182, CNET-184 and CNET-186) designed for students seeking career-oriented, enterprise-level networking skills. This course prepares students for the Cisco Certified Netowrk Professional (CCNP) exam Troubleshooting IP networks (TSHOOT) which they are prepared to take after completing the course.</td>
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<td>The CNET-186 course serves as the capstone course for Ohlone College's CNET department's CCNP Certificate of Achievement. Students passing the certification exam for this class along with the exams for the CNET-182 and CNET-184 earn the CCNP certification.</td>
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<td>Students are required to do lab work and chapter assessments (objective exams) that help them meet the student learning outcomes. At the end of the course students must complete a final exam that assesses all seven SLOs.</td>
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<tr>
<th>Enter assessment results and analyze student success in achieving course SLOs.</th>
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<td>The CNET-186 course has been taught twice over the past year, initially as a selected topic, CET213B - Troubleshootint IP Networks in the fall 2011 semester, and again last spring as an official course.</td>
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<td>The selected topic course had seven students enrolled by the end of the class. Five of the students successfully completed the final exam with an average score of 84.12. There was a single outlier score of 65.6. The average without the outlier was 88.75.</td>
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<td>The CNET-186 course taught during the spring 2012 semester had 11 students enrolled but only three were able to meet the requirements. Eight of the students</td>
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</table>
Describe revisions in curriculum or teaching strategies implemented to promote student success.

Extend the course from 8 weeks to 16 weeks to provide sufficient time to complete the course requirements.

Future Action (Improvements)

Describe changes you will make to promote improved student learning.

- **Student Achievement:** A series of measures including course completion, course retention, persistence, program completion, and others.
  1. List expected student achievement outcomes:
  2. Analyze changes in data, identify trends, and provide possible contextual explanations for each measure used. (Example measures include: course completion, course retention, persistence, program completion).

    We recognize the need to increase the number of students who apply for Certificates of Completion. CNET staff agree that this number will be significantly greater than the number of students achieving the AS degree and Certificates of Achievement and degrees. We gathered data from Datatel showing CNET course completion. We plan to use these data to identify the success of CNET students and encourage them to apply for certificates.

  3. Analyze program budget trends and expenditures. Comment on how the program can best use budget resources.

    Maintain current budget for tutoring in the lab.

  4. Analyze the program's current use of staff, equipment, technology, facilities, and/or other resources. Comment on how the program can best use these resources.

    Currently there is no dedicated technical support for our classes. CNET classes are hardware intensive and require significant lab work by students. In order to have students experience a comprehensive curriculum which meets industry and educational standards there is a need for a dedicated technical support.

  5. Describe any additional notable program achievements (optional).

  6. Additional Program Table Data

    - CNET Review Data

  7. Future Action

    Current levels of student achievement indicators maintained.

- **Program Analysis**

  After assessing student learning outcomes/impacts, student/program achievement, and the status of previous program improvement objectives (PIOs), analyze the data and any identified trends, and summarize you findings. Use these data and trends to prioritize, revise, or develop new PIOs

    1. Describe program achievements and successes.
Recent data accumulate by the Centers of Excellence and the department of Economic Workforce Development and published in the 2011 Environment Scan of Information and Communication Technologies (ICT) in California presented the following:

"ICT Workforce occupations span and are strategically important to all industries and most organizations, which leverage ICT for productivity. ICT occupations throughout the economy employ more than a million people in California today; include about 1 in 20 private sector jobs in the U.S. and in California, with strong job growth expected and median ICT Workforce wages about twice the average in California. ICT occupations are California’s 8th largest occupational cluster by job count, and employers are having difficulties hiring appropriately skilled ICT Workforce — even in this period of high unemployment."

The department's innovative instructional methods and practices, strategic use of the Selected Topic courses, short and late start classes, hybrid course delivery, computer assisted instruction, and ICT industry partnerships have allowed the CNET department to greatly increase its WSCH/FTEF ratio.

The Computers, Networks, and Emerging Technologies (CNET) department is one of Ohlone College’s largest CTE programs. A February 2011 strategic planning report on CTE and Economic Development listed CNET as the CTE program with the most sections (50), the second highest FTES (127), and a WSCH/FTES ratio of 809.

Data Mart Spring 2012 Statistics:
Enrollment: 714 students
Retention: 621 Retention Rate: 86.9%
Success Count: 493 Success Rate 69.1%

2. According to the evidence, what are the areas needing improvement?

Success Rate is lower than desired and expected. Many student withdraw or fail to complete the course requirements.

A shift to more and more online course offerings has resulted in a significant decreased level of completion and retention.

Providing real-time synchronous (with archiving) web conference for those students in online classes that have a corresponding face-to-face section should help to increase the level of retention and completion.

- Program Improvement Objectives:
  1. Objective:

    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.)

a. Action Plan

Year 1:

Summer/Fall 2009 - Develop two Selected Topic courses and corresponding official courses): 1) installing and configuring VMWare, 2) deploying and securing VMWare. Deliver the first selected topic course in the summer and fall 2009 sessions; deliver the second selected topic course for delivery in the spring 2010 session; Develop, using Curricunet, the corresponding two official courses for entry into the College Catalog in fall 2010. Enable one or two instructors to be trained. Identify computer lab location (HH-114) and determine required computer upgrades. Deploy IBM eServer 1300 server cluster, purchased from RAFT, to support virtualization if possible. Determine duties, responsibilities, and assigned work hours for a part time CNET Lab Technician.

Year 2:

Summer/Fall 2010 - Upgrade computer lab HH-112 with new computers to support Microsoft, VMWare, and IBM virtualization. Retrofit HH-112 with a separate IDF to take the room off of the school network as necessary. Offer official course(s) in virtualization.

Year 3:

Summer/Fall 2011 - Review course offerings, equipment, and facility requirements. Make changes as necessary.

b. Staffing

Year 1:

Approximately a 35% load for a CNET adjunct faculty member. Part time CNET Lab Technician

Year 2:

Same as year 1

Year 3:

Same as year 1

c. Equipment (Include items that fit under department budget codes)

Year 1:

12 VMware certified x86 (Intel Xeon or AMD Opteron) based 64bit server
with 2GB RAM or more (4 or 8 GB recommended), 36GB local disk storage (72GB or more recommended), 36 1Gbit NIC interface cards, 1 VMware supported Fibre Channel adapter per server, 1 x shared NAS device listed on the VMware SAN compatibility guide, 1 x Fibre Channel switch & Storage Area Network, Sufficient Fibre Channel switches to connect the servers to the storage array,

**Year 2:**

Upgrade HH-120 computer lab with new state-of-the-art desktop computers to support current system admin and virtualization training. Upgraded the CNET department remote lab NetLAB to offer virtualization, storage, and system admin classes.

Upgraded computers in HH-114 to support virtualization desktop courses and upgraded system administration courses.

**Year 3:**

Assess equipment, and facility requirements.

d. **Technology (Include items that fit under IT budget codes)**

**Year 1:**

All student & server networking components should be 1 Gbps network connected and appropriate network isolation should be in place, NAS / IP Storage device should be connected to the ESX server management network

**Year 2:**

Deploy new computers in HH-112 computer lab. Design and deploy separate IDF in HH-112 for network isolation

**Year 3:**

Assess equipment, IT support and, and facility requirements.

e. **Facilities (Include items that fit under the Facilities budget codes)**

**Year 1:**

None

**Year 2:**
None

Year 3:
None

f. Other (Include other resources needed)
   Year 1:
   35% Adjunct faculty load
   Year 2:
   35% Adjunct faculty load
   Year 3:
   35% Adjunct faculty load

g. Assessment Plan: List Assessment Strategies
   Year 1:
   Industry and transfer need as confirmed through the CNET advisory committee, skills-based assessments, and anecdotal information on student job placement and industry certification achievement
   Year 2:
   Same as year 1.
   Year 3:
   Same as year 1.

h. Which college goal(s) does this program improvement objective work to achieve? Clearly describe how your PIO will help achieve one or more of the college goals and objectives, has impact beyond the particular department, and contributes to student learning/success.
   3. Promote continuous, needs-based, learning and professional development opportunities for all district personnel.
   Rationale:
   4. Use human, fiscal, technological, and physical resources responsibly, effectively, and efficiently to maximize student learning and achievement.
   Rationale:
7. Increase access to higher education of under-served and under-represented demographic groups in the District and local communities.

Rationale:

2. PIO Assessment
   a. Enter assessment results with analysis.

   CNET Selected Topic courses:
   - CNET 212 "VMWare Infrastructure"
   - CNET-214I "VMware Infra 3: Install"
   - CNET-214K "VMware Infra 3: Deploy"
   - CNET 212X "VMware Infrastructure Install and Config"
   - CNET 212 "VMWare vSphere: Install, Configure, Manage [V4]"

   Were created and delivered for the first time in Summer 2009. Course enrollment has been at capacity for every term Fall, Spring and Summer.

   b. Future Action
      Current level of focus maintained. Describe.

1. Objective:

   Maintain effective and consistent student learning practices and SLO assessments by integrating current course curriculum with student needs and industry demands.

   a. Action Plan
      Year 1:

      Hire a full time Computer, Networking and Emerging Technologies (CNET) faculty position. Starting Spring 2012, there will be only one full time faculty member in the CNET program. Previous full time faculty are retiring. This faculty member will be responsible to continue working with students and other department faculty to ensure that the program and program review are kept up-to-date, follows compliance and Student Learning Outcome Protocols, and remains consistent with new industry trends that are a part of several of the CNET courses.

      Year 2:

      The fulltime faculty member hired for CNET will be responsible for delivering innovative instructional methods and practices, course review, program review, strategic use of the Selected Topic courses, short and late start classes, hybrid course delivery, computer assisted instruction, and ICT industry partnerships.

      As of June 1, 2012 this candidate will also assist with running the new CISCO REGIONAL ACADEMY.

   b. Staffing
      Year 1:
Hire one fulltime faculty member.

c. Technology *(Include items that fit under IT budget codes)*
   *Year 1:*
   
   Laptop computer (Windows) for New hiree to use while teaching.

d. Facilities *(Include items that fit under the Facilities budget codes)*
   *Year 1:*
   
   Office needed for faculty member.

e. Assessment Plan: List Assessment Strategies
   *Year 1:*
   
   Faculty evaluation process for tenure track.

f. Which college goal(s) does this program improvement objective work to
   achieve? Clearly describe how your PIO will help achieve one or more of the
   college goals and objectives, has impact beyond the particular department, and
   contributes to student learning/success.

1. Through innovative programs and services, improve student learning and
   achievement.
   
   Rationale:
   
   The fulltime faculty members in CNET connects with the Ohlone’s first goal.
   Innovative instructional methods and practices, strategic use of the Selected
   Topic courses, short and late start classes, hybrid course delivery, computer
   assisted instruction, and ICT industry partnerships have allowed the CNET
   department to greatly increase their WSCH/FTEF ratio.

2. Support the economic vitality of the community through educational
   programs and services that respond to identified employment needs.
   
   Rationale:
   
   This position is directly related to Ohlone College’s goal 2.”Support the
   economic vitality of the community through educational programs and services
   that respond to identified employment needs.”

   Recent data accumulate by the Centers of Excellence and the department of
   Economic Workforce Development and published in the 2011 Environment
   Scan of Information and Communication Technologies (ICT) in California
   presented the following:

   "ICT Workforce occupations span and are strategically important to all
   industries and most organizations, which leverage ICT for productivity. ICT
occupations throughout the economy employ more than a million people in California today; include about 1 in 20 private sector jobs in the U.S. and in California, with strong job growth expected and median ICT Workforce wages about twice the average in California. ICT occupations are California’s 8th largest occupational cluster by job count, and employers are having difficulties hiring appropriately skilled ICT Workforce — even in this period of high unemployment.

2. PIO Assessment

a. Enter assessment results with analysis.

Forthcoming. A new CNET instructor will be hired, August 1, 2012. New faculty member will be evaluated by their peers, their Dean and students.

Normal process of Instructor Evaluations as outlined in the Faculty Handbook page 41 and which can be found at:

http://www.ohlone.edu/org/academicaffairs/docs/20112012facultyhandbook.pdf

b. Future Action

Completed.

1. Objective:

Update the CNET dedicated learning and training space (HH-120), shared learning spaces (HH-114), and remote lab (NetLAB) in order to deliver training (credit and non-credit) on current information and communication technologies and continue to maintain effective and consistent student learning practices, teaching methods, and SLO assessment.

a. Action Plan

Year 1:

Update HH-120 to better support existing and new programs in Advanced Networking, Virtualization, and Cloud Computing and partnerships through Academies with Cisco Systems (WASTC), VMware, and Citrix. To include the following:

i. Reorganize server cabinet(s) and remodel server cabinet location to provide appropriate air conditioning, noise reduction, security, and still provide student accessibility.

ii. Replace 36" x 72" tables with 20"x72" runner plug and play rectangular "L" shaped tables. Add three 20"x72" tables to accommodate up to 20 students, and provide instructor and lab assistant workspace.
iii. Cable new tables to provide wired access to student network and to the internal classroom network.

iv. Replace multimedia projection system to support face-to-face presentation and delivery to remote students as well.

v. Mount additional whiteboard.

Update existing Ohlone NetLAB (for remote lab access) to host additional network technology pods, virtualization of system administration courses, storage management labs, and cyber security labs.

i. Purchase additional ESXi server to increase capacity and offer remote lab access for our Microsoft and Linux system administration instructors and students.

ii. Update Cisco internetworking devices to support additional network technology pods.

Update shared learning space lab (HH-114) to support new technologies.

i. Replace existing PCs with new systems having the following specification: core i5 processors, 8-16 GB RAM, 250 GB HD, 19" wide screen displays. Computers have already been purchased and assembled.

ii. Reconfigure workstations under the tables.

b. Staffing
   
   Year 1:
   
   No additional staffing required.

c. Equipment (Include items that fit under department budget codes)
   
   Year 1:
   
   i. Computer parts for the new PCs for HH-114 have previously been purchased and assembled. Deployment is scheduled for this summer.
ii. Purchase additional ESXi server for the CNET NetLAB

d. Technology (Include items that fit under IT budget codes)
   Year 1:
   i. Recable HH-120 to take advantage of the new plug-and-play tables.
   ii. Re-image existing laptops in HH-120 to support new credit courses and non-credit training programs
   iii. Replace existing SMART board with updated projection system.

e. Facilities (Include items that fit under the Facilities budget codes)
   Year 1:
   i. Remove existing tables and replace with new tables.
   ii. Remove cabinets and provide necessary infrastructure to support server area upgrade.
   iii. Mount white board.
   iv. Mount projection system if necessary.

f. Assessment Plan: List Assessment Strategies
   Year 1:
   Industry need as confirmed through the CNET/SVICT/MPICT advisory committee and anecdotal information on student job placement and industry certification achievement.

   Successful deliver of new courses in virtual desktops and storage and non-credit courses in the same. Delivery of non-credit courses associated with Community Education and the WASTC.

g. Which college goal(s) does this program improvement objective work to achieve? Clearly describe how your PIO will help achieve one or more of the college goals and objectives, has impact beyond the particular department, and contributes to student learning/success.
   2. Support the economic vitality of the community through educational programs and services that respond to identified employment needs.
   Rationale:
These classroom/lab upgrades are directly related to Ohlone College’s goal 2. “Support the economic vitality of the community through educational programs and services that respond to identified employment needs.”

Recent data accumulate by the Centers of Excellence and the department of Economic Workforce Development and published in the 2011 Environment Scan of Information and Communication Technologies (ICT) in California presented the following:

"ICT Workforce occupations span and are strategically important to all industries and most organizations, which leverage ICT for productivity. ICT occupations throughout the economy employ more than a million people in California today; include about 1 in 20 private sector jobs in the U.S. and in California, with strong job growth expected and median ICT Workforce wages about twice the average in California. ICT occupations are California’s 8th largest occupational cluster by job count, and employers are having difficulties hiring appropriately skilled ICT Workforce — even in this period of high unemployment."

Particular ICT technologies that will be addressed through this classroom/lab upgrade will be in the areas of communication networking, virtualization, and cloud computing.

2. PIO Assessment
   a. Future Action
      Current level of focus maintained. Describe.

● Outside Review Results 09/30/2010
  1. List each team members name and title.

      CNET full time faculty members: Marge Segraves, George Wong, and Richard Grotegut have been meeting regularly in preparation for completing our Instruction Program Review of the CNET department.

  2. Discuss key feedback provided by team and how it was incorporated into the report.

      Continuously increasing student enrollment since the spring 2008 semester has brought the enrollment level to near dot.com boom peak levels. A move to more “hybrid” (mixed face-to-face, online, and self-paced) delivery of courses has greatly contributed to higher WSCH/FTEF then ever before.

● Attached Files
  1. CourseAssessment_CNET1201.docx