Assessment Report

Yuba Community College District

YC - Computer Science Program Recommendations

Year of Review: 2013-2014
Type of Review: Annual Update
Executive Summary (Include a list of team members): 2012-2013 Program Review
Computer Science
Yuba College

The Computer Science Department
October 31, 2013

Date of next program review: 2015-2016;
Program Description and Current Status

Current status of the program Marysville Campus
-Faculty: One full-time and 1 adjunct instructor.
-Labs: -Two computer labs rm. 847 and rm. 603 used for programming and computer related research.
-Circuits Lab - Currently using rm. 602 which lacks emergency power shutoff.
-Computers: Rm. 847 computer lab 40 Student and 1 Staff computers.
Rm. 603 computer lab 16 Student and 1 Staff computers.

-Equipment: -4 Robotic arms (These units are becoming increasingly unreliable due to age and usage).
-12 PLD project boards (purchased by instructor) Need funding for continued support.

Significant changes in the program since the last program review or annual update

-Two new courses completed and submitted to curriculum to complete lower division transfer suite of core courses.

1. Discrete Math (completed) To be offered my math department POC: John Thoo
2. Digital Fundamentals (completed) Currently offered my computer science department. POC: Doug Joksch

- Introductory computer courses COMSC-6 and COMSC-10L have been updated to include object oriented design. Also, wrote on-line textbook for COMSC-6 to support object oriented programming instruction.

-COMSC-9A and COMSC-9B are in curriculum for update to 4-units to better align with four year requirements and better transfer across university system.

- Implemented standardized SLO rubrics for all computer science courses designed with commonality across the curriculum where applicable to create standardized grading criteria easily understood by students for self-assessment.

-Comsc-13 Computer Lab is now removed from the curriculum and the lab component incorporated with the computer science course supported. Students found multi course lab arrangement confusing.

Goals of the Program and SLOs

1. SLO data is in place to investigate student retention while meeting established learning outcomes necessary to adhere to 4-year transfer requirements.

2. Continuation of rigorous preparation for transfer students with the goal of assuring success in upper division work in computer science. Completion of remaining required courses complete an awaiting approval.

3. Continue to collect feedback from transfer students investigating areas of strengths and weakness to assure student success. Self-Evidence based rubric criteria in place for student self assessment.

4. Increase interdepartmental collaboration to provide student insight to the use of computers across multiple disciplines.

5. Continue review of current technologies in computer science and related fields.

Overview of Program Analysis Sections

Curriculum and Program Direction

What progress has been made on recommendations from the last program review and/or annual update?

Strengths

-The computer science department actively monitors the academic direction of 4-yr university system degree program needs as well as the needs of the local community. Visited local industry leaders to discuss program alignment and program direction

- Absorbed the defunct IT department into computer science. Curriculum is in development to assure vocational training needs of Yuba College professional population. Progress temporarily halted due to curriculum moratorium on new courses.

-Computer science staff is highly motivated by student success and both full time and adjunct faculty allot time for students at the campus. This includes support for on-line as well as lecture courses. Computer science staff meets with local community leaders to gather outside information required to assess direction of department and future goals.

-Instruction utilizes faculty published in field. Current technology and techniques are brought directly into the classroom when possible.

Areas for Improvement

-Realignment of the current IT department currently within the business department to the computer science department is stalled. Due to changes in the field of computer science, courses offered in this department needed re-evaluation. Courses typically offered in computer science departments need to be moved to the computer science department freeing the IT department to concentrate on business computer applications. The IT department is currently being replaced by vocational and transfer curriculum originating within the computer science department in a program consolidation effort. New curriculum is in work to provide lacking vocational

training in the area of computer technology and awaiting lifting of new curriculum moratorium.

-Implementation of two new courses is required for students transferring in the area of Information Technology as listed. These courses are required as vocational and transfer courses and are awaiting lifting of new curriculum moratorium.

1. PCs and Peripherals
2. Introduction to Information Technology

-Students are requesting additional courses in Web Design as a follow on to the popular COMSC-20 course. Due to the acquisition of vocational needs from the defunct IT department, an additional engineering/computer science position will be requested to cover new curriculum generated by the consolidation of the IT department duties.

-Current AS in computer science should provide flexible paths for multiple disciplines within the field of computer science. This would involve the ability to add a discipline emphasis to the currently awarded degree. Courses are in work to support a new computer science degree with emphasis in computer science, computer engineering, and information systems. New vocational certificate programs will be based on transfer degrees.

Faculty
Does this program or department have adequate full-time faculty to support a high quality program? Please explain.
The computer science department has one full-time and one adjunct instructor requiring an overload teaching schedule. With the addition of the IT department, an additional instructor will be needed once new curriculum can be sent to the curriculum committee and approved. The addition of a computer science / engineering position would allow coverage of new curriculum as it become available from the computer science and engineering departments.

Staffing
Does this program have adequate technical/clerical staff to support a high quality program?
Technical staff includes a single 800 building computer lab support employee. The current clerical staff for the math and science department is outstanding.

What progress has been made on recommendations from the last program review and/or annual update?

Strengths
Both faculty members teaching in the computer science department are from industry creating a rich educational experience with real -world application.
Full-time instructor is a published author in the field of computer science and engineering keeping in touch with current industry bringing updated material and methods to the classroom.

The computer science department was honored with the "Friends of Dusty" award. Members of the computer science department are regularly selected for the "Way to Go" award motivating the department to continue efforts to provide the best learning experience possible.

Areas for Improvement
Investigation is underway to create additional courses web design in addition to vocational curriculum. This will generate a need for one additional instructor position or the conversion of the current adjunct position to full time.
An additional two courses are needed to satisfy 4-yr transfer in Information Technology. In the case that it is necessary to offer these courses in the computer science department, an additional adjunct instructor will be required or the conversion of the current adjunct

position to full time.

Equipment/Technology
To what degree does your program or department have adequate and appropriate
technology to support effective instruction (e.g., software, computers, and information technology)?
Currently, the computer science departments utilizes the 847 and 603 computer labs. Both labs posses an adequate number of computer systems to support computer science and computer engineering, however the aging computers are showing signs of breaking down and are in need of replacement. Efforts have been made by the computer science and engineering departments to replace computer systems and support equipment, but are lacking in the funds required to bring the labs up to date with current operating systems. Other engineering hardware shared my computer science and engineering such as oscilloscopes and data analyzers are old and not representative of current industry equipment. Replacement computers will still need to communicate with older engineering equipment and manufacturing equipment create special needs for computer science and engineering. I have personally acquired hardware required for the new digital fundamentals course and would like to see a common budget for computer science and engineering to more efficiently update equipment. Network communications is typically slow in the 847 and 603 labs and also needs to be addressed. As of 10/30/2013, there is no plan in place to address update and replacement of equipment in 847 and 603 labs.

Equipment Strengths
Computer lab (R 847) seats 40 students with once work station dedicated for instructional staff.

Computer lab (R 603) seats 16 students with once work station dedicated for instructional staff.

Both labs are using older model computers using Windows-XP and are slow to boot and process. Computers in both labs require replacement and update to new Windows 8 Operating system.

To what degree does your program or department have adequate and appropriate equipment (other equipment, not computers or IT related).
PLD(Programmable Logic Device) project boards had to be acquired at personal expense to create a digital fundamentals course required by computer engineering majors. Funding is required for continued support of new courses requiring high tech training equipment. Equipment needed for engineering is failing. Oscilloscopes as an example are outdated and failing requiring a large effort to keep running. We did have one oscilloscope burn and smoke during lab. Robotic equipment used by computer science is also in need of replacement due to age and use. This equipment is shared my computer science and engineering. A common fund needs to be put in place to allow replacement of older equipment.

Areas for Improvement and estimated costs
Workstations have been replaced in the Rm. 847 computer lab and are 51/2+ years old and out of warranty as of Spring 2012. Computers are showing signs of age and wear. There is a need for 40 replacement workstations with keyboards, mice, and monitors and the replacement of the Staff computer station for a total of 41 replacement computer work stations.
Cost per unit: $1200.00 Total: $49,200.00

LaserJet printers in the Rm 847 computer lab are 51/2 years old and out of warranty. Printers are becoming problematic and print quality is unacceptable on these units. There is a need for 4 replacement lab printers
Cost per unit: $400.00 Total: $12,00.00

Robotic arms purchased in the 1980?s are out of warranty and parts to repair them are becoming increasingly unavailable. There is a need for 4 replacement robotic arms used for instruction by the computer science department. Equipment life cycle analysis

previously completed and submitted per request from administration.
Cost per unit: $3000.00 Total: $12,000.00

Wireless access is needed for the Rm. 847 computer lab. Other labs such as biology already have wireless access points. Students with laptop and other modern net-based learning tools required wireless access.
Cost per unit: $600.00 Total: $600.00

New course "Digital Fundamentals" will require 20 project Programmable Logic Device (PLD) project trainer boards.
Cost per unit: $80.00 Total: $1600.00 (Acquired by instructor)

Purchase of updated Multisim circuits simulation software for rm. 847 and rm. 603. labs. The current version is outdated and unable to run current simulations. The current version is also server hosted experiencing unacceptable response times to complex simulation.
Cost per unit: 40.00 x 58 workstations Total: $2610.00

Replace of overhead projector with two widescreen video monitors eliminating need to darken room making note taking and simultaneous reading hard to do.
Cost per unit: $1200.00 Total: $2400.00

Facilities
To what degree does your program or department have adequate facilities to support effective instruction? Please explain.
The 603 and 847 facilities currently serve as labs for computer science, drafting and engineering. The facilities a adequate although small for high volume courses. The ENGR17L Circuits Lab course requires a room with an emergency power cut off switch.

Strengths
-The recent remodel of the building 800 facility has greatly improved the ability to serve the current needs of the computer science department seating 40 students with 1 staff instructor station.

Areas for Improvement/Future Direction
-Implement wireless Math/Science computer lab to support a reconfigurable and flexible learning environment.
-Add wireless access point to computer science lab rm. 847

Recommendations/Specific Actions
Promote Computer Science and Engineering.
-Action: Work with media department to create promotional tools targeting incoming students and returning professionals.
Consolidate defunct IT department vocational courses and align vocational courses to allow transferability to 4-year university programs.

-Action: Expand working communications conduit between Computer Science (COMSC), and Business Computer Applications (BCA). Modify course offerings as necessary to provide saleable vocational skills and transfer courses to support student needs.
Oversee creation of two new courses for 4-yr transfer in Information Technology.

-Action: Creation of new IT course "PCs and Peripherals" modeled to satisfy Chico State transfer requirement.

-Action: Creation of new IT course "Fundamentals of Information Systems" modeled to satisfy Chico State transfer requirement.
Faculty and Staff Support and Professional Development

In the last year, what professional development or networking has faculty and/or staff participated in?
Professional training includes attendance of the MidWest clinic which included classroom management , SLO training, and grant writing. In addition, I am currently writing for two separate textbooks published by Prentice Hall in the field of programming and digital electronics. I am a contributing writer for one text and co-author of the second. I currently have four publications in my field of study with at least one more in the next 3 years keeping me current in my field.
How did these activities contribute to student success? (include supportive data)
The MidWest clinic presented useful training in the field of classroom management and SLOs from both inside and outside the US. Instructors trained on the creation of successful SLOs and management of the classroom environment. In an effort to train in current methodologies in computer science and engineering, I write for two internationally known authors Tom Floyd and David Buchla. I am co-author for the text used in the digital fundamentals course where the physical hardware presented within the text is physically brought to the classroom for a unique hands on experience for the students.

How does professional development in your program or department support basic skills students and foster inclusive classroom environments that value diversity?
Student centered activities include hands on training on the actual equipment presented in classroom textbooks. I have experimented with cross department activities such as the Stirling engine project where engineering students have a hand in design, drafting, and creation of working engines in the Yuba College manufacturing department. The completed Stirling engine were delivered to the physics department for thermal dynamics instruction. The goal is to produce design to delivery projects teaching real life work collaborations.

What Staff Development activities would you suggest be offered in the next year that would enhance your program?
I would like to see a collaboration between the IS department, computer science, and BCA. There are professionally trained people in the field of computer programming, databases, and network design. Additionally, qualified IS personnel should be encouraged to teach a course to help our IS personnel get a better perspective as the needs of the teaching staff.

Future Goals and Program Direction
Based on Program Review, what are your plans for future department/program improvements?
A large effort will be made to assure support hardware to include computer work stations are updated. Curriculum to replace vocational training covered by the IT department will be submitted to curriculum targeting new transfer population in information systems as well as vocational programs with the built-in method to cross from vocational training to the transfer program.
New replacement to DE Black Board software will be evaluated. A large effort will be made to assure support hardware to include computer work stations are updated to assure quality student services. SLOs will be refined to provide quality feedback to students and assessment.

Program Description : A1. Do students have access to curriculum-specific and/or program-specific support services? If so, describe this service(s). If not, explain why.

The 847 and 603 computer labs provide computer access and support for software and hardware design. The MESA center also provides computer access to compilers required for the computer science, computer engineering, and vocational program needs. The current 603 and 847 computer labs are composed of aging computers becoming increasingly unreliable and are in need of replacement. To mitigate this problem, eight computer units less monitors from departmental funds were purchased leaving 33 complete units needing replacement as well as additional 8 monitors.

Six computers have been purchased for the 603 computer lab leaving the balance requiring replacement. Computers are freezing, slow to boot.

Slow network service is also an issue in both the 847 and 603 computer labs. Both labs also need to be running the current Windows OS to allow instruction on leading edge software.

A2. If services are available, how do they demonstrate an increase in student success

Time management training during student orientation will help students organize and create course work timelines to balance classroom instruction with required outside study. Interviews will give insight to an individual students level of time management skills identifying training needed to be successful in the college environment.

B3. How is current and previous program review data used to refine and improve program or department practices?

Program review data is compared to university programs to assure successful student transfer. The information provided in the review is also used to track availability and status of equipment. SLO assessment and student interviews indicate the need for student time management training. In response I attended the 2012 MidWest clinic in Chicago where several training sessions included SLO development and methods for teaching time management. Speakers from the U.S. and outside the U.S. provided training sessions for instructors at all grade levels.

Industry Trends and Program Data Analysis :

C4. How do program or department goals align with the education, diversity, demographic, and workforce needs of local communities?

The computer science department has met with local businesses to assess the skills of the successful job candidate. While still targeting the required basic skill sets, topics of instruction are based on local industry needs where practical. Limited internships are available in the local area, however efforts will be made to collaborate with target universities to align student instruction towards internship opportunities in other job markets.

C5. How is your program or department direction driven by empirical data?

Transfer needs to assure students are able to leave at the Junior level are evaluated through contact with 4-yr universities and their lower division needs. Student and instructor feedback from transfer universities is used to determine knowledge based weaknesses which require reinforcement. Course work evaluated against the SLO matrix is used to map classroom performance trends identifying where intervention is needed.

With attention to progress monitoring, data-based decision making, and implementation of evidence-based interventions. Progress monitoring is based and evaluated through the following goals:

1. To determine whether students are profiting appropriately from the instructional program, including the curriculum (as seen through empirical data analysis.)
2. The building of effective programs for vocational and transfer success.
3. To estimate rates of student improvement through SLO and rubric analysis.

Curriculum & SLO Assessment Summary :

D6. What has your program or department done to improve completion of degrees, certificates, or transfers? What are your future plans?

The computer science department has collaborated with the Math department to create a discrete course required for computer science and computer engineering majors which also satisfies a requirement for a math minor. Additionally, the creation of a course in digital fundamentals complete the transfer needs for computer science and computer engineering. The defunct IT department was recently relocated to the computer science department where curriculum is in design targeting information systems transfer students and will be the basis for new vocational education paths.

D7. Do you have any courses, certificates, or degrees that should be in-activated or expanded? If yes, please identify and justify your recommendations with data.

An additional AST degree will be created following approval of required core courses through the curriculum committee. The existing AS and Certificate are to be modified to reflect changes needed to comply with 4-yr student transfer needs. Course hours for core computer science courses are being updated to 4-hours to follow changes at the university level. New courses are also in development to allow an emphasis selection within the current AS degree to include an emphasis in software, computer engineering, and information systems.

D8. Do all of your courses have current CORs? If not, what steps are you taking to ensure compliance?

All courses are in CurricUNet as approved or pending approval. New courses required to support vocational needs following closure of IT department await lifting of moratorium on new courses by curriculum committee. I am pursuing a stipend for the Spring 2014 term to work with curriculum to help remove need for the current moratorium.

D9. If applicable, how are teaching methodologies in your program or department assessed?

Students are engaged in the creation of projects reflecting real world application. An example is the use of hands on robotics and other real world control systems. Students are encouraged by programming and controlling real hardware representing a true working environment incorporating additional skills in mathematics and writing. Hands on training along with skill set instruction allows for short term incremental success keeping students engaged while long term instructional goals are meet. Department methodologies assessment is conducted by interdepartmental observation and student feedback.

Current teaching methodology includes:

- Reviewing existing exams, assignments, or projects common to a group of students in computer science.
- Evaluating student projects.
- Assessing project design assignments reflecting local industry topics.
- Reviewing materials describing current curricular practices (syllabi, exams, textbooks) and trends in computer science and engineering.

D10. If applicable, how are the results of the assessment used to support, improve, and/or expand your current teaching methodologies?
The success of hands on learning has prompted me to purchase classroom hardware for the digital fundamentals course as an example. Although a heavy personal expense, it has proven to be the corner stone of the digital fundamentals course. I am continuing to design and build hardware to bring to the classroom. My goal is to replace aging and failing equipment used by computer science and engineering when funding is available.

D11. If your program or department uses a DE modality to support instruction, how are you evaluating the effectiveness of that

instruction?
The computer science department is limiting the use of DE assets during the Spring 2014 term while the network infrastructure is evaluated and the new replacement to Black Board is running and tested. The effectiveness of the current Black Board system is repeated to me through work stoppage complaints from students. I am looking forward to a more reliable DE software system and will spend Spring 2014 rebuilding online curriculum. I would be desirable to have such major software changes moved to the Spring semester providing time to migrate information and data.

D12. If your department offers DE courses, what support services does it provide for DE students?

What can be done to improve support services for these students?
The current Black Board is being replaced with another vender and I will need to evaluate the new system as deployed. I would like to see additional student service courses provided such as time management courses teaching students to schedule homework as appropriate to unit hours taken.

D13. How is your program or department applying sound principles of learning and teaching theory to its curriculum?
As an example, I have attended the 2012 MidWest clinic and plan to attend again in 2013 which includes "A Curriculum Model for Measuring Student Growth" as one of the featured workshops. Training from instructors within and outside the US as well as the military proved insightful in showing methods of teaching that work. Techniques from these workshops are used to guide to assure students are receiving instruction following accepted principles of learning.

The computer science program uses the following instructional practices:
- Sound principles of learning theory are applied in the design and delivery of all courses in the computer science program.
- The computer science department employs proven curricula and practices effective within computer science and computer related disciplines.
- A high degree of structure is provided in development of transfer and vocational courses.
- The Yuba College computer science department assesses required skill levels and actively adjusts course content to match college-level performance requirements.
- Yuba College faculty and industry advise in student performance discussion.
- Comprehensive academic support mechanisms, including the use of trained tutors are employed when ever possible.

D14. Which CSLOs (course student learning outcomes) and PLOs (Program learning outcomes) were assessed within the last year?

1. COMSC-9A C++ Programming
2. COMSC-10L Computer Literacy
3. COMSC-12 Java Programming
4. COMSC-20 Web Publishing With HTML

D15. For each of the above, how did the assessment data influence program, department and/or course improvement?

1. COMSC-9A C++ Programming
Successful students are able to comply with SLO rubric. The lab portion of the course has been modified to provide an extra day of hands-on lab practice targeting better overall student performance. Additionally, the course has been re-submitted to curriculum to

increase the unit load from 3 to 4 hours to allow further coverage of object techniques to better prepare transfer students and those seeking vocational training. This change is also required for the AST degree.

2. COMSC-10L Computer Literacy
The lab portion of this course has been modified to provide an extra day of hands-on coverage of course topics. Evaluation of SLO for COMSC-10L indicated a need to expand coverage of introductory programming techniques to better balance coverage of computer concepts.

3. COMSC-12 Java Programming
Successful students are able to comply with SLO rubric. The COMSC-12 course has become a challenge due to significant problems and student complaints concerning the Black Board software currently used by DE. This course will be re-evaluated in Fall 2014 with the hope that the replacement to Black Board will allow reliable access to students.

4. COMSC-20 Web Publishing With HTML
This course is offered as an on-line course and will be re-evaluated in the Spring of 2014 after implantation of the replacement the current Black Board software package employed by DE. As in the COMSC-12 Java Programming course, students report difficulty with the current Black Board application.

Future Goals and Program Direction:

For 2013 and 2014, a large effort will be made to assure support hardware to include computer work stations are updated. Curriculum to replace vocational training covered by the IT department will be submitted to curriculum targeting new transfer population in information systems as well as vocational programs with the built-in method to cross from vocational training to the transfer program.

1. Additional courses will be submitted to complete requirement for transfer to B.S. Information Systems degree:
   COMSC-3 PCs and Peripherals -- Awaiting submission
   COMSC-4 Information Systems -- Awaiting submission
   COMSC-5 Intro. to Unix -- Launched awaiting action

2. Creation of first of a series of vocational programs in area of computer science and technology.
   Certificate - Computer Systems Technology
   Certificate - Network Systems Technology
These new certificates will target local industry needs and will incorporate switching to a 4-yr transfer program with minimal additional course work.

3. Work with local high schools to investigate moving the current COMSC-6 Basic Programming course to the high school level to promote computer programming at the lower grade levels.

Course Content and Statistical Analysis:

Course Addition - COMSC-9A C++ Programming

Prerequisite addition - Completion of one year of high-school algebra or completion of MATH 50 with grade C or better.

CSU Chico and Sacramento State universities have added a basic algebra prerequisite for articulated equivalent to COMSC-9A. The added prerequisite will align the Yuba College computer science department with in area colleges and assure students are better prepared for course success.

Are you ready to submit your final program review?: Yes

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
Use data collected from SLOs to investigate student retention while meeting established learning outcomes necessary to adhere to 4-year transfer requirements.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
Continue to maintain rigorous preparation for transfer students with the goal of assuring success in upper division work in computer science.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
Collect feedback from transfer students investigating areas of strengths and weakness to assure student success.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
Increase interdepartmental collaboration to provide student insight to the use of computers across multiple disciplines.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
Continue review of current technologies in computer science and related fields.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
Develop evaluation forms to relate assignment completion to SLO rubric.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 1 - SLO will include evidence based feedback self observable by student completing assignment, project, or program design to include employed critical thinking skills and ability to communicate fact based design decisions.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 2 - Interact with local business leaders provide direction in determining how best to present required skills sets in relation to local business needs providing internship opportunities for students. Priority will be given to skill set instruction using emerging community needs with topics lending toward student success to fit identified needs.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 3 - Increased effort will be made to assure support hardware to include computer work stations are updated. For example, as of 10/30/2013, no plan is in place to replace aging computers in 603 and 847 labs. Engineering equipment is out dated and failing requiring replacement to promote effective learning and student safety.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 4 - Evaluate effectiveness of replacement to Black Board and institutional sponsored web sites as a mode of course delivery to supplement class lecture.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 5 - Implementation of the following courses for transfer in information systems to complete core course offerings in computer science, computer engineering, and information systems. COMSC-3 PCs and Peripherals -- Awaiting submission COMSC-4 Information Systems -- Awaiting submission COMSC-5 Intro. to Unix - - Launched awaiting action Students will have selection options for computer science emphasis with the ability to complete within typical two year cycle.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 6 - New replacement to DE Black Board software will be evaluated. A large effort will be made to assure support hardware to include computer work stations are updated to assure quality student services. SLOs will be refined to provide quality feedback to students and assessment.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 7 - As a published author in my field, I will continue to bring current technologies and materials directly into the classroom. Computer and digital hardware systems will be presented to students allowing hands-on interaction with the actual hardware presented				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
within the textbooks and labs engaging students in active learning.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 8 - Continue to seek intern partnerships with area industry allowing for real-life training and increased job potential.				

Goal	Recommendations	Plan of Action & Budgetary Impact / Tasks	Status	Feedback & Follow-Up
YC Goal 9 - Continue to support local community events to promote cultural awareness and providing professional services.				