Assessment: Assessment Unit Planning

Program Review 2014-15

YC - Computer Science Program Review

Year Under Review : 2014-15
Type of Review: Self-Study (4-year review)
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. Computers in the 847 lab have been replaced and funds are being provided to replace the aging computers in the 603 lab. Six computers have been purchased for the 603 computer lab leaving the balance requiring replacement. Older workstations in 603 are inadequate for software needs..

Slow network service remains an issue in both the 847 and 603 computer labs. Both labs also need updated to the current Windows OS.

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

Time management training during student orientation would help students organize and create course work timelines to balance classroom instruction with required outside study.

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 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. I am working to incorporate techniques from this forum.

Executive Summary (Include a list of team members): 2015-2016 Program Review
Computer Science
Yuba College

The Computer Science Department
October 14, 2015

Date of next program review: 2017-2018;
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. Not chanced since last program review. Suggest moving to rm 603 which is equipped with an emergency power shut off switch and

is the original location of the ENGR 17L circuits lab.
-Computers: Rm. 847 computer lab 40 Student and 1 Staff computers.
(All new workstations)
Rm. 603 computer lab 16 Student and 1 Staff computers.
(Some new workstations. Funds being made to replace balance)
-Equipment: -4 Robotic arms (These units are becoming increasingly unreliable due to age and usage). Same as last program review
-16 PLD project boards replaced with Perkins funds.

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) replaced with COMSC-15 in curriculum review to complete requirements for transfer degree.
2. Math 1A changed from 5-4 units allowing core computer science courses 9A and 9B to remain 4 hours to align with both CSU and UC systems.

- Introductory computer literacy COMSC-10L course has been integrated with local high school. The COMSC-20 course is targeted as the next course to be offered at the local high school campus.

-COMSC-9A and COMSC-9B are able to remain 4-units to better align with four year requirements and better transfer across university system. New COMSC-15 covers the discrete math requirement with lab. The adjustment of MATH 1A to 4 units completes obstetricals to completion of transfer degree and are currently being processed through curriculum.

- 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 and is under evaluation.

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

-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. Last publications 2015 calendar year.

Areas for Improvement
-Realignment of the current IT department currently within the business department to the computer science department is awaiting completion of transfer degree. Alignment of vocational courses will be designed to support transfer and vocational students. This item is in work needing course hour modification for Math department which has is awaiting approval.

-Implementation of two new courses is required for students transferring in the area of Information Technology as listed. These courses will be added after completion of transfer degree.

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. Adjunct instructor currently responsible for COMSC-20 Web Design is working on content to be in alignment with request from in area 4-yr institutions in the expansion of web based programming and web design.

-Current AS in computer science and certificate have been updated to reflect course modifications and additions to support transfer student needs and alignment with transfer degree program.

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. Vocational courses to support Information Systems and web design will required one additional adjunct instructor or possible conversion of current adjunct position to full time to support anticipated new courses.

1. Introduction Network Development
2. Network Development and Programming
3. Introduction to SQL Databases

Staffing
Does this program have adequate technical/clerical staff to support a high quality program?
The technical assistant position for the 847 lab has been eliminated. The 840 lab is now maintained by the Yuba College IT staff. 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. Computer science instructional staff is expanding to create course offerings at local high school in Marysville Unified School District.

Computer science department and STEM dean has met with Yuba City school system director of CTE and are making plans to expand courses in computer science in the Yuba City district.

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. This requirement remains for the 2015-2016 program review report.

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. This requirement remains for the 2015-2016 program review report.

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. Aging computers in the 847 lab have been replaced. Six of the eighteen computers in 603 have been replaced and funds are being made to replace the remaining aging computer workstations which are unable to support software and hardware needs.

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

Computer lab (R 603) seats 18 students with once work station dedicated for instructional staff. Six of these computers have been updated through departmental funds from computer science and math department.

Both labs are using older the older Windows-7 operating system. Computers in both labs require replacement and update to new Windows 8 Operating system. Although inconvenient at times, It is necessary to keep computer workstations as current as possible. Students need to leave with current technology skills.

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 instructor 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 without having to rely on instructors ability to pay for it. Equipment needed for engineering such as Oscilloscopes are an example are outdated and failing equipment that need to be on a replacement schedule. We did actually 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. At this time, there is no process for replacement of equipment on a regular basis.

Areas for Improvement and estimated costs
LaserJet printers in the Rm 847 computer lab are 71/2 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. This request has been submitted several times and each time denied.
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

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 with the suggestion that the ENGR17L lab be returned to 603 for student safety.

Strengths
-The building 800 facility has 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 re configurable and flexible learning environment.
-Add wireless access point to the 847 and 603.

Recommendations/Specific Actions
Promote Computer Science and Engineering.
-Action: Work with media department to create promotional tools targeting incoming students and returning professionals. Have promoted computer science department to public relations.

Redevelopment of selected courses from defunct IT department vocational courses to align vocational courses to allow transfer-ability to 4-year university programs. This action is awaiting completion of transfer degree in computer science which should be complete in 2015.

-Action: Expand working communications conduit between Computer Science (COMSC), and Business Computer Applications (BCA). Modify course offerings as necessary to provide salable 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. (In Work)

-Action: Creation of new IT course "Fundamentals of Information Systems" modeled to satisfy Chico State transfer requirement. (In Work)

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. Last publications completed in 2015 calendar year.

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. I am currently slated to take over one more title as a further publication as textbook author for Prentice Hall.

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. Stirling engine design designed and created at Yuba College are being revised as topics for new engineering instructor and manufacturing instructor at their request. Sun tracking device developed through computer science department provides computer programming, electrical engineering, drafting, and manufacturing another example of cross curricular support and collaboration.

What Staff Development activities would you suggest be offered in the next year that would enhance your program?
I would still like to see a collaboration between the IS department, computer science, and BCA in the 2015 and 2016 reporting year. 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. This has been partially completed with purchase of development project boards for COMSC-8 and COMSC-2 as well as electronic test equipment shared with engineering such as the recently purchased oscilloscopes, power supplies, and signal generators. 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. This will be in work following approval of computer science transfer degree.

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. Enhancement to Hybrid courses will be investigated pending direction from distributed education and curriculum.

01IP. Department Goals (Click '?' for Prompt): Goals set by Yuba College are constantly evaluated against computer science department in the determination of direction and growth. Examples of alignment of goals with Yuba College goals are as follows:

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.
Continue to maintain rigorous preparation for transfer students with the goal of assuring success in upper division work in computer science. Collect feedback from transfer students investigating areas of strengths and weakness to assure student success. Develop evaluation forms to relate assignment completion to SLO rubric. 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

YC Goal 2 Interact with local business leaders provide direction in determining how best to present required skills sets in relation to local 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.

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. (Active)
Increase interdepartmental collaboration to provide student insight to the use of computers across multiple disciplines.
Continue review of current technologies in computer science and related fields.

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.

YC Goal 4 Evaluation of DE software tools and institutional sponsored web sites as a mode of course delivery to supplement class lecture.

Evaluate effectiveness of replacement to Black Board and institutional sponsored web sites as a mode of course delivery to supplement class lecture

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.

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 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.

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.

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.

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 within the textbooks and labs engaging students in active learning.

02IP. Access to Support Services (Click '?' for Prompt): -Office Hours
03IP. Follow up to question 02IP (Click '?' for Prompt): The current migration to Canvas provides adequate support for DE requirements for computer science. There are issues with network reliability in the 847 lab which is being addressed by IT department. I am confident that these issues will be resolved prior to the conclusion of the Fall 2015 term.
04IP. Degrees/Certificates (Click '?' for Prompt): 12 degrees, 2 certificates. This number does not provide a full view of students transfering in computer science. Because the transfer degree in computer science is sill in work through the CurricUNET work flow, the actual number of computer science graduates is not represented as the local Yuba College degree is geared towards the 2-year vocational student. The completion of the transfer degree will allow a better view of the percentage of students who complete the computer science program. The transfer degree was help up to allow for the successful modifications to courses in the Math department to allow the computer science core courses COMSC-9A and COMSC9B to remain at 4 units.(Action) to review results of transfer degree during the review cycle for the 2016-2017 program review.
05IP. Improve Completion (Click '?' for Prompt): The computer science department has aligned courses to meet with the CSU and US systems. Courses from the math department have been modified in collaboration with the computer science department to allow computer core courses to remain at a unit level acceptable to both CSU and UC systems as well as private colleges. The modifications to support this alignment is currently in the approval process in CurricUNET.
06IP. Course Outlines (Click '?' for Prompt): All courses offered by the computer science department have been updated or are in the approval stage. Course are being placed in a rotation to assure that time lines are met.
07IP. Collaboration (Click '?' for Prompt): The computer science department works with student services to assure that all required needs of students are met. To date, the computer science departments has used specialized student services to enable or enhance the learning outcome of students.
08IP. Catalog Currency (Click '?' for Prompt): Course catalog course description, content changes and changes to degrees and certificates are active in CurricUNET.
09IP. For CTE Programs Only (Click '?' for Prompt): Computer software engineers and programmer needs are expected to remain on the rise. Examples of what industry is expected to need a growing workforce to handle include the following major topics.

1) Internet: The reality that up to 26 billion things will be connected on the Internet by 2020 is sinking in. The Internet of Things and Internet of Everything in 2015 will morph into the Internet of Anything. IoA envisions a common software "ecosystem" capable of accommodating any and all sensor inputs, system states, operating conditions, and data contexts — an overarching "Internet Operating System."

2) Security and software design: As the volume of data explodes, along with the means to collect and analyze that information, building security into software design and balancing security and privacy are becoming top priorities.

3) Interoperability and standards: Software-defined networking's programmability will turn various network appliances into a warehouse of apps. Several standards groups are working on interoperability issues, including the Open Networking Foundation (ONF), the Internet Engineering Task Force (IETF), the European Telecommunications Standards Institute (ETSI), and the International Telecommunication Union (ITU).

4) Cloud security and privacy: Enterprises are moving workloads to the cloud and expecting enterprise-level security. To avoid system fragility and defend against vulnerabilities exploration from cyber attackers, various cybersecurity techniques and tools are being developed for cloud systems.

5) 3D Printing: Next year will see production of the first 3D-printed car. The 3D-printed car is just one of hundreds of uses that enterprises and consumers are finding for 3D printing, which will revolutionize manufacturing by lowering costs and time to market. Also in 2015, sales of 3D printers are expected to take off, driven by low-cost printing and uptake by a variety of industries.

6) Predictive Analytics and Large Data: Business intelligence in 2015 will be less about examining the past and more about predicting the future. While predictive modeling techniques have been researched by the data mining community for several decades, they are now impacting every facet of our lives. In organizational settings, predictive analytics has gained widespread adoption over the past decade as firms look to compete on analytics.

7) Embedded Computing Security: Deeply-embedded computing systems often perform extremely sensitive tasks, and in some cases, such as healthcare IT, these are lifesaving. Emerging deeply-embedded computing systems are prone to more serious or life-threatening malicious attacks. These call for revisiting traditional security mechanisms not only because of the new facets of threats and more adverse effects of breaches, but also due to the resource limitations of these often-battery-powered and extremely constrained computing systems.

8) Augmented Reality: Mobile apps using augmented reality help the colorblind see colors, travelers explore unfamiliar cities, shoppers imagine what they look like in different outfits, and even help drivers locate their parked cars. The availability of inexpensive graphics cards and sensors, and the popularity of applications in such areas as gaming and virtual worlds, is bringing augmented reality into the mainstream.

9) Mobile devices: The way we deal with our health is undergoing a major transformation, not only because mobile Internet technology has made it possible to have continuous access to personal health information, but also because breaking the trend of ever-growing healthcare costs is increasingly necessary. Connectivity, interoperability, sensing, and instant feedback through smart phones all provide new opportunities for gaining insights into our health behavior.

10IP. DE Students (Click '?' for Prompt): DE software is used in support of on-line as well as enhanced courses at Yuba College. At this time, videos are not incorporated into these courses. Any videos used are supplemental and provided by the author through the textbook publisher. As a writer for Prentice Hall, efforts are made to comply with section 508 of this act.
11IP.Disproportionate Impact(Click '?' for Prompt): Computer science and engineering are tend to be identified in this area. External to Yuba College, I am working with a member of the STEM project where this issue is discussed. It is the intention of the computer science to follow recommendations to address this issue.
12IP. Mapping (Click '?' for Prompt): Yes
13IP. Course SLOs (Click '?' for Prompt): 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 and is under evaluation. A common rating system allows students across the computer science curriculum to comply with similar expectation where possible such as COMSC-9 and COMSC-12. The two course comply with the same CID number and need to have a similar reference to address performance. Each SLO is customized to the individual course and also provides feedback to academic institutions requesting data with regards to course content and how it is taught in comparison to the requesting institution.
14IP. Program SLOs (Click '?' for Prompt): Course SLOs are developed based on program SLOs. Refer to Goals of the Program and SLOs in executive summary. Program goals are developed to comply with the goals of the college.
15IP. Professional Development (Click '?' for Prompt): I completed two separate textbooks updates 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. Last publications completed in 2015 calendar year.

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.
16IP. Reflection (Click '?' for Prompt): Information collected from program review is the repository of direction for computer science. Course status, facility, and support are listed here. From this information, course alignment, creation, and deletion with be made. Constant adjustment is needed to support transfer and vocational student needs. This program review has identified

three courses that will need to be produced as well as the consolidation of two courses taught across two departments. Collaboration with other departments is identified and referenced from this document.

Are you ready to submit your final program review?:

Program Recommendation: Promote Computer Science and Engineering.

-Action: Work with media department to create promotional tools targeting incoming students and returning professionals.

Recommendation Priority: 2. Medium Priority
Year(s) Requested: 2011-2012, 2015-2016
Request Date: 10/19/2015
Inactive Date: 04/08/2016
Supporting Evidence : -Action: Work with media department to create promotional tools targeting incoming students and returning professionals.
Evaluation Plan: Production of promotional materials to include highlights of student projects.

Plan of Action

Curriculum/SLO - Promote computer science department projects and potential job market. (Active)
Budgetary Impact: Minimal
Timeline/Responsible Party: 2012 academic year / Computer Science Department

Status

Reporting Year: 2015-2016 10/14/2015
Recommendation Progress: Recommendation Addressed/Satisfactory Progress
Met with CSU Chico to discuss implementation of large data set analysis in growing field of data searching and pattern identification as class topics in keeping with growing trends in computer science. Introducing ARM processor technology for embedded topics of digital logic and low level programming.

Feedback

Feedback: Reviewing the reassignment of CSU Chico CINS 370 Introduction to Databases course to lower division for possible creation and alignment with Yuba College computer science department. This work is in progress targeting an emphasis in Information Systems . (10/14/2015)
Approval Status: Approved

Related Goals

YC - Computer Science Program Review
YC Goal 1 - Use data collected from SLOs to investigate student retention while meeting established learning outcomes necessary to adhere to 4-year transfer requirements.
YC Goal 1 - Collect feedback from transfer students investigating areas of strengths and weakness to assure student success.
YC Goal 3 - Increase interdepartmental collaboration to provide student insight to the use of computers across multiple disciplines.
YC Goal 1 - Develop evaluation forms to relate assignment completion to SLO rubric. Constantly updated
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.
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.

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.

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.

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 within the textbooks and labs engaging students in active learning.

YC Goal 8 - Continue to seek intern partnerships with area industry allowing for real-life training and increased job potential.

YC Goal 9 - Continue to support local community events to promote cultural awareness and providing professional services.

Program Recommendation: Satisfy Introduction to Computer Engineering articulation.

Modification of introductory engineering course to satisfy intro to computer engineering for Chico State articulation.

Recommendation Priority: 2. Medium Priority
Year(s) Requested: 2015-2016
Request Date: 08/15/2011
Inactive Date: 04/06/2012
Supporting Evidence : Two introductory courses exist in the computer science and engineering department. These two courses ENGR10 and COMSC10 are currently offered as two separate courses at the Yuba College and at the local High School. Suggestion is to create a single course to include computer science and engineering.
Evaluation Plan: Evaluation will be based on the success of this course in attracting students to the fields of computer science and engineering and course retention.

Plan of Action

Curriculum/SLO - This course is on hold. Development was in anticipation of Sacramento and Chico State requirement. This course will be developed as an introduction to computer science course. This plan of action is modified to include working with new engineering faculty hired for Fall 2015. This action will be a collaboration between computer science and engineering departments. (Active)

Budgetary Impact: Current faculty will be used to teach this course. Minimal impact.
Timeline/Responsible Party: Target development for 2016.
Perkins Eligible: Yes
DE Related: Yes
HSI Related: No
YC - Location: Marysville Campus

Status

Reporting Year: 2015-2016 10/14/2015
Recommendation Progress: Recommendation Needs Improvement/Attention
In work. With the hiring of a new engineering instructor, this course is still in the design stages with the goal of creating a single course to cover the topics of engineering and computer science. This course is incomplete needing coordination with staff hired Fall 2015. Will be addressed in the Spring 2016 semester.

Related Goals

YC - Computer Science Program Review

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YC Goal 1 - Use data collected from SLOs to investigate student retention while meeting established learning outcomes necessary to adhere to 4-year transfer requirements.
YC Goal 1 - Continue to maintain rigorous preparation for transfer students with the goal of assuring success in upper division work in computer science.
YC Goal 3 - Continue review of current technologies in computer science and related fields.
YC Goal 1 - Develop evaluation forms to relate assignment completion to SLO rubric. Constantly updated
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.
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 within the textbooks and labs engaging students in active learning.

Program Recommendation: Work with IT department to align courses for transferability to 4-year university

-Action: Expand working communications conduit between Computer Science (COMSC), Information Technology (IT), and Business Computer Applications (BCA). Modify course offerings as necessary to provide saleable vocational skills and transfer courses to support student needs. (Complete)

Recommendation Priority: 2. Medium Priority
Year(s) Requested: 2015-2016
Request Date: 10/16/2015
Inactive Date: 12/16/2015
Supporting Evidence : Program alignment has closed out IT department in business department. BCA will focus on business computing applications. Courses required for transfer are to be created within the computer science department.
Evaluation Plan: None - This action has been remove from the IT department and is to be accomplished through computer science.

Plan of Action

Curriculum/SLO - Continue to work with IT department and local 4-yr universities to assure student transfer ability. Update: Due to department realignment, IT department no longer exists. BCA department is focusing on business computer applications. Courses slated to be developed through business department BCA will be created through computer science department. (Active)

Budgetary Impact: minimal
Timeline/Responsible Party: 2016 academic year / Computer Science and IT department.

YC - Location: Marysville Campus

Status

Reporting Year: 2015-2016 10/14/2015
Recommendation Progress: Recommendation Needs Improvement/Attention
A change to the unit requirement of MATH 1A was needed to allow the computer science degree to contain load units required to satisfy both CSU and UC computer science unit requirements. Additionally, the MATH 17 course was denied CID for computer science and is in the curriculum system for final approval. This will allow the completion of the transfer degree. Additional courses such as the movement of the CSU Chico Database course to lower division was discussed allowing additional course work in large data analysis. CSU Chico has hired a full time position to address this topic.

Curriculum/SLO - Streamline YCCD computer asset usage. Researching possibility of having a common programming development server maintained by YCCD. (Active)

Budgetary Impact: Educational server would be hosted on existing YCCD equipment. This action would reduce software maintenance and increase response time for problem solving.
Timeline/Responsible Party: Targeting Fall 2013. (Doug Joksch POC)

YC - Computer Science Program Review

Status

Reporting Year: 2015-2016 10/14/2015
Recommendation Progress: Recommendation Needs Improvement/Attention
The new director of IT at Yuba College has indicated a desire to work with the computer science department to create student space to allow students a common work environment. Issues to resolve are the ability to have students access this server space both from within the lab classroom and outside from student home computers. These details are to be worked out with target of Spring 2016. The target goal is a district wide leaning environment allowing all students a common platform with a common look and feel.

Related Goals

YC - Computer Science Program Review

YC Goal 1 - Use data collected from SLOs to investigate student retention while meeting established learning outcomes necessary to adhere to 4-year transfer requirements.

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.

Program Recommendation: Assist or originate creation of two new courses for 4-yr transfer in Information Technology.

-Action: Creation of new IT course ?PCs and Peripherals? modeled to satify Chico State transfer requirement.
-Action: Creation of new IT course ?Fundamentals of Information Systems? modeled to satify Chico State transfer requirement.

Recommendation Priority: 2. Medium Priority
Year(s) Requested: 2015-2016
Request Date: 10/15/2015
Inactive Date: 04/08/2016
Supporting Evidence : Courses related to A+ and N+ are not offered at YCCD are required for information systems transfer students. The defunct IT department is no longer slated to create these courses and are to be created through computer science department in support of students transferring in pursuit of BS Information Systems.
Evaluation Plan: Courses will be loaded through CuricUNET for creation through computer science department.

Plan of Action

Curriculum/SLO - Over see the creation of two new courses. Courses are scheduled for submission after completion of computer science transfer degree completion anticipated Fall 2015. (Active)
Budgetary Impact: None - minimal facilities are in place to support these courses.
Timeline/Responsible Party: 2016 academic year. These two courses will be offered by IT or Comsc department.
Perkins Eligible: Yes
DE Related: No
HSI Related: No
YC - Location: Marysville Campus

Status

Reporting Year: 2015-2016 10/14/2015
Recommendation Progress: Recommendation Needs Improvement/Attention
Attention needed to be focused on the computer science transfer degree. Courses from the closed IT department under business did not satisfy the requirements for listed courses required for computer science degree with emphasis in Information Systems.

Additionally, discussion is in progress to possibly move the CSU Chico Database course to lower division supporting a further emphasis in large data analysis. Dr. Davison completed a sabbatical on the topic of large data analysis and is a POC on this topic. This action is still in work.

Curriculum/SLO - Two required courses required for BSIS(Information Systems)
1. PC's and Peripherals
2. Information Systems Design
Will be developed and offered through the computer science department and not attached to the current IT department. Additionally, the current IT-43AR UNIX Systems Management course will be replaced with a new Unix course originating at the computer science department. These three courses may be cross listed with BCA as appropriate.
(Active)

Budgetary Impact: Full-time and adjunct faculty are in place in the computer science department. New courses will be taught in rotation with existing computer science courses.

Timeline/Responsible Party: The following courses will be in place for Fall 2013. (Doug Joksch - POC)
1. PC's and Peripherals
2. Information Systems Design
3. Unix Programming and Management

Status

Reporting Year: 2015-2016 10/14/2015

Recommendation Progress: Recommendation Addressed/Satisfactory Progress

The creation of a UNIX course under the computer science department is complete and offered for the first time in the Summer of 2015. This course will be put into rotation at Yuba College. Courses listed in Items 1 and 2 are slotted to be created and offered through computer science department and not business. This action is specified in a separate recommendation.

Related Goals

YC - Computer Science Program Review

YC Goal 1 - Continue to maintain rigorous preparation for transfer students with the goal of assuring success in upper division work in computer science.

Program Recommendation: Complete two new courses to complete transfer requirements to 4-yr university systems.

-Action: Submit course outline for new course Digital Fundamentals offered by comsc department.
-Action: Submit course outline for new course Discrete Math to be offered by math department.
Update: Discrete Math will be offered as COMSC-15 through computer science department

Recommendation Priority: 3. High Priority

Year(s) Requested: 2015-2016

Supporting Evidence : These two lower division courses are in support of engineering as well as computer science and not currently offered at YCCD. UPDATE: COMSC-8 Digital Fundamentals is complete and offered.

Evaluation Plan: COMSC-8 Digital Fundamentals is complete and offered. Discrete Math will be offered as COMSC-15 and is expected to be approved by curriculum Fall 2015.

Plan of Action

Curriculum/SLO - Complete review of new Digital Fundamentals and Discrete course outlines prior to submition. (Active)

Budgetary Impact: $1600.00 for cost of programmable logic trainer boards.

Timeline/Responsible Party: 2012 academic year / Computer Science - Math Department

Status

Reporting Year: 2015-2016 10/14/2015

YC - Computer Science Program Review

Recommendation Progress: Recommendation Needs Improvement/Attention
COMSC-8 Digital Fundamentals is complete and in the computer science rotation. The Discrete Math course MATH 17 was denied CID as written my the math department and has been re accomplished through the computer science department and currently in curriculum. This recommendation will remain active until CID approval is complete. This also completes the required courses for the computer science transfer degree.

Curriculum/SLO - Text book completed. Digital Fundamentals is ready to submit as new course. Currently working with vendors to supply low cost student affordable PLD development boards. (Active)

Budgetary Impact: Minimal. Course will be offered by existing faculty. Exploration workshops sponsored by MESA proves that development boards will work with existing computer lab equipment.

Timeline/Responsible Party: COMPLETE - Target Fall 2015 (Doug Joksch POC) Completed Fall 2015 for implementation Spring 2016

Perkins Eligible: No

DE Related: No

HSI Related: No

YC - Location: Marysville Campus

Status

Reporting Year: 2015-2016 10/14/2015

Recommendation Progress: Recommendation Addressed/Satisfactory Progress
Development tools and software have been obtained and are ready for use in Spring 2016 semester. The development boards directly support text materials and is in alignment with in area CSU computer and engineering departments.