**Sinclair Community College - Continuous Improvement Annual Update 2010-2011**

**Program:** Computer Information Systems

**Section I: Trend Data**

1. **Program Trend Data**

The department continues to grow in terms of seat count and graduates.

Seat count has grown from 3,855 in the 2006-2007 academic year to 5,232 in the 2009-2010 academic year. Graduation rates have also increased from 73 degrees awarded in 2006-2007 to 144 degrees awarded in 2009-2010. The numbers of certificates increased from 17 awarded in 2006-2007 to 180 awarded in 2006-2007.

Below are two tables which show that the student body in the CIS is diverse by age but not by ethnicity.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **AC2005-06** | **AC2005-06** | **AC2009-10** | **AC2009-10** |
|  | | **Number Of Degrees Issued** | **By Percentage** | **Number Of Degrees Issued** | **By Percentage** |
| **Degree Class** | **Age Groups** | 1 |  | 24 |  |
| **Certificate** | **17-19** | 6% | 13% |
| **20-24** | 1 | 6% | 36 | 20% |
| **25-29** | 6 | 35% | 28 | 16% |
| **30-39** | 3 | 18% | 34 | 19% |
| **40-49** | 4 | 24% | 33 | 18% |
| **50-59** | 2 | 12% | 22 | 12% |
| **60-72** |  |  | 3 | 2% |
| **Subtotal: Certificate** | | **17** |  | **180** |  |
| **Degree** | **17-19** | 2 | 3% | 2 | 1% |
| **20-24** | 30 | 39% | 44 | 31% |
| **25-29** | 16 | 21% | 35 | 24% |
| **30-39** | 19 | 25% | 36 | 25% |
| **40-49** | 6 | 8% | 20 | 14% |
| **50-59** | 3 | 0 | 7 | 5% |
| **Subtotal: Degree** | | **76** |  | **144** |  |
|  | | **93** |  | **324** |  |

By ethnicity

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **AC2005-06** | **AC2005-06** | **AC2009-10** | **AC2009-10** |
|  | | **Number Of Degrees Issued** | **Percentages** | **Number Of Degrees Issued** | **Percentages** |
| **Degree Class** | **Ethnicity** |  |  | 8 | 4% |
| **Certificate** | **African Amer/Black** |  |
| **American Indian** |  |  | 1 | 1% |
| **Asian/Pacific Island** | 1 | 6% | 5 | 3% |
| **Hispanic** |  |  | 3 | 2% |
| **Caucasian** | 16 | 94% | 144 | 80% |
| **Not Reported** |  |  | 19 | 11% |
| **Subtotal: Certificate** | | **17** |  | **180** |  |
| **Degree** | **African Amer/Black** | 2 | 3% | 7 | 5% |
| **American Indian** |  |  |  |  |
| **Asian/Pacific Island** | 2 | 3% | 2 | 1% |
| **Hispanic** |  |  |  |  |
| **Caucasian** | 69 | 91% | 126 | 88% |
| **Not Reported** | 3 | 4% | 9 | 6% |
| **Subtotal: Degree** | | **76** |  | **144** |  |
|  | | **93** |  | **324** |  |

1. **Interpretation and Analysis of Trend Data** *Suggestions of questions that might be addressed in this section: What trends do you see in the above data? Are there internal or external factors that account for these trends? What are the implications for the program or department? What actions have the department taken that have influenced these trends? What strategies will the department implement as a result of this data?*

The CIS department is experiencing a surge in enrollment. This is partially due to the closure of several manufacturing facilities and businesses in the region. Fall 2008, DHL shut down its Wilmington, Ohio facilities. General Motors closed all the local plants as of December 2008. Other layoffs continued. The unemployment rate for Montgomery County in January 2010 (Dayton Daily News, March 11, 2010) was 12.8%. For many displaced workers Sinclair was their hope and the CIS department has been able to help displaced workers obtained employable skills. Many students were funded by TAA and WIA. A student with an associate’s degree in User Support, Network Engineering, Network Manager, and Microsoft Security Specialist is considered very employable.

Most of the displaced workers were given 2 year contracts which caused a lot of pressure on not only the students but the department. We had to tightly schedule our classes in order to maximize classroom usage. Networking classes have to be in CIS classrooms. Since many of the workers were new to college the chair and the advisors had to help many students understand the process and interpret the CIS concentrations.

Many of the displaced workers graduated and will graduate by spring 2011. The department is expecting a decrease in 2011-2012 academic year due to this.

I asked Clifford Lauchlan, counselor for displaced workers, about the future of TAA and WIA funding. His response is as follows:

TAA funding will continue to be a player, but not to the extent that it has been over the last couple years. It is likely we will see 10-20 new TAA contracts per quarter rather than the 100+ contracts per quarter we saw from 2008 through 2010.

Since we started tracking TAA contracts (end of 08), 763 TAA contracts have been written.

Currently there are 382 active TAA students. 71 of those students are pursuing CIS related programs.

WIA is still funded. Unfortunately I cannot provide you the same level of detail regarding WIA. I can tell you that during winter quarter there were 107 students funded by WIA. I do not know their specific majors. Unlike TAA, WIA students are not necessarily displaced workers, so as long as the counties continue to receive funding for the WIA program, Sinclair will continue to see students funded by WIA

The department has continued to change with the IT environment. Though the use of advisory committees and faculty connections with industry, the department created some very exciting curriculum. Fall 2010, the Ohio Board of Regents approved the Cyber Investigation Technology.AAS degree. This degree combines the best of Criminal Justice and Computer Information Systems. There is a great deal of interest in this degree and we are expecting to see increased enrollment in courses associated with the degree.

The Linux curriculum was rewritten and aligned with industry needs in the community. Linux is used in network security and will be an important part of the new degree. An advisory committee was convened and wrote curriculum for a Linux security course. This course is cutting edge and no other college in the area offers this course. Already we have seen increased interest in the Linux courses.

The Microsoft curriculum transitioned from Server 2003 to Server 2008. These courses prepare students for the MCITP exams.

Software development and user support faculty are working to integrate mobile technology into the curriculum.

It is important for students to not only have employable skills but also have access to a bachelor’s degree. Ohio University has a degree completion program with Sinclair which has proven very popular with students. Students complete their degree at Sinclair plus an additional year and then complete one year at Ohio University online. Ohio University had admitted 59 students in the Bachelors of Technical Studies, 13 are confirmed CIS students. Presently the department is in negotiation with University of Dayton for a two plus two.

The growth has put pressure on the department to handle the increased numbers of students. The capacity of three CIS classrooms was increased from 20 to 24 students. The department has also resorted to overbooking classes and asking students to bring their own laptops. We have to carefully plan our classes in order to make the most efficient use of our classrooms. We have 5 dedicated classrooms. Three are networking classrooms which are isolated from the Sinclair Network and on our CIS network. The PCs are equipped with 4 GBs (will be going up to 8 GB) of RAM and run VMware. One of our classrooms is dedicated to the User support curriculum. This classroom is equipped with PCs with external hard drives in order to teach installation of operating systems. This classroom is also on the CIS network. The fifth classroom is our software development room and it is equipped with VMware. This year, we instituted a policy that no faculty member is allowed to have a production server in their office. A production server is one that students can upload their assignments to. We now have centralized CIS servers in Building 14. IT maintains these servers and assist faculty with the set up of their classes. These servers are primarily used for our web development classes. The CIS department has a very good relationship with IT and we continue to work together to deliver current technology to our students.

Even with the students struggling to deal with unemployment, a rather dismal job market, and a department struggling to accommodate the increased demand, students are very positive about the CIS department.

In the summer and fall terms, the CIS department conducted an online survey. A total of 327 students completed the survey in 2010: 30 in the summer and 297 in the fall.

Of the students who responded to the survey, 18.0% already have a bachelor’s degree. Nearly 2/3 of the respondents were planning to earn a 4-year degree. Students who did not have a 4-year degree AND were not planning on it represented 15.6% of the respondents.

Of the students who are working toward a 4-year degree, nearly 25% were undecided as to where they would complete their degree. Of the students who mentioned a specific university, Wright State represented over 55% of the responses.

22.5% of respondents said their Sinclair course work helped them obtain their current job or a promotion. Only 6.7% of survey respondents had passed one or more certification exams.

Just fewer than 55% of the survey respondents are presently employed.

The most important questioned asked “would you recommend the CIS program” and received a “yes” response from over 96% of the respondents.

In summary, the CIS has worked very hard to keep pace with technology changes, increases in enrollments, and the extra advising the displaced workers needed.

**Section II: Progress Since the Most Recent Review**

1. What was the fiscal year of the most recent Program Review for this program?

2004-2005

1. Briefly summarize the goals that were listed in Section IV part E of the most recent Program Review Self-Study (this section of the Self-Study asks “What are the department’s/program’s goals and rationale for expanding and improving student learning, including new courses, programs, delivery formats and locations”)?

* Improve student learning and retention in core CIS courses
* Revise core courses to add more hands-on, active learning
* Create CIS student orientation class
* Assess student readiness for CIS courses
* Offer classes at off-site locations (YMCA, Warren County)
* Offer more courses as distance.
* Create a Security degree option
* Update courses to reflect new technology

1. Have these goals changed since your last Program Review Self-Study?  If so, please describe the changes.

The department has not focused on retention or the satellites. The main focus has always been curriculum staying current with technology.

1. What progress has been made toward meeting any of the goals listed above in the past year?

* Improve student learning and retention in core CIS courses
  + The overall success rate decreased slightly from 78.27% in 2005-2006 to76.18% in 2009-2010. But our seat count increased from 4,058 in 2005-2006 to 5,110 in 2009-2010. The number of full-time faculty members dropped from 14 to 8.
  + CIS 100 success decreased from 67% to 60%
  + CIS 107 success decreased from 72% to 67%
  + CIS 111 success increased from 63% to 76 %
  + CIS 210 success decreased from 82% to 74%
  + CIS 230 success decreased from 88% to 84%
  + CIS 265 success decreased from 72% to 61%
  + CIS 278 success increased from 95% to 100%
* Revise core courses to add more hands-on, active learning
  + Faculty has added more hands-on active learning in the face-to-face classes. CIS 107, 210, and 265 have online sections.
    - CIS 111 uses Visual Logic to teach programming logic and Visual Basic 2010 Express to reinforce the logic the students learned.
* Create CIS student orientation class
  + CIS 100 is our student orientation class. It is a two credit hour class which covers IT careers, being a CIS student, and ethics.
* Assess student readiness for CIS courses
  + We do not assess student readiness.
* Offer classes at off-site locations (YMCA, Warren County)
  + We have offered classes at Englewood, Huber Heights, and Courseview. We have not had high enrollments at either Englewood or Huber Heights. Last year the chair met with marketing to work on a strategy to increase enrollment in CIS classes. Since the networking and user support classes need to be held in CIS classrooms this left the software development degree. Huber Heights was selected due to its proximity to the base.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course | Section | Location | Seat Ct | Term |
| CIS 100 | 9A | HHLC 118 | 21 | Fall 10 |
| CIS 107 | 9A | HHLC 118 | 21 | Fall 10 |
| CIS 111 | 9A | HHLC 118 | 15 | Fall 10 |
| CIS 112 | 9A | HHLC 118 | 7 | WI 11 |
| CIS 265 | 8A | HHLC 118 | 11 | WI 11 |

* + We also have not been successful at the Courseview campus. Twice we have tried to run a Cisco class at Courseview and both classes had to be cancelled due to low enrollment. This was surprising since Cincinnati Bell is a big Cisco shop. Recommendation would be to market the class to the Cincinnati region.
* Offer more courses as distance.
  + The department is working with Distance Learning to put our Software Development degree online.
  + Presently CIS 107, CIS 112, CIS 130, CIS 137, CIS 147, CIS 210, CIS 223, CIS 233, and CIS 265 are offered online.
* Create a Security degree option
  + The Microsoft Security Specialist was created from grant money from National Science Foundation (NSF). The CIS department collaborated with Air Force Institute of Technology (AFIT). In addition to creating the Security Specialist concentration as an outcome of our NSF Collaboration with AFIT, we also completed a thorough review and update of our curriculum in all related courses, e.g., CIS206, 207, 272, 253, and others.
  + From the NSF grant, the CIS department created the Information System Security Certificate (4011 certificate). This short term certificate has been reviewed and validated by the Committee on National Security Systems, an agency of the United States Government. In 2007-2008, 3 certificates were awarded. In 2009-2010, 35 certificates were awarded.
  + In 2010, the Ohio Board of Regents approved Cyber Investigation Technology degree.AAS. This degree combines Criminal Justice and Computer Information Systems classes.
* Update courses to reflect new technology
  + The department continues to update are courses.
    - Moved from Server 2003 to Server 2008.
    - All Linux curriculum was revised to prepare students for the Linux+ exam.
    - Linux security course was authored by the department.
    - The User Support curriculum and CIS 107 was revised to include the latest operating systems, Windows 7.
    - The Software Development curriculum was updated to include C# (C sharp) and Visual Basic is in the process of being removed.
    - Data Analytics short term certificate was created.
    - The Cisco curriculum was updated when the CCNA was revised.
    - VMware was installed in most of the classroom.
    - Several faculty members are experimenting with using external drives and VWware so students can do their networking assignments in places other than the classroom.

1. What Recommendations for Action were made by the review team to the most recent Program Review? What progress has been made towards meeting these recommendations in the past year?

* Define processes for development of appropriate assessments, reviewing and sharing assessment results in developing opportunities in a strategic fashion.
  + We have not done this.
* Expand the use of assessment data (direct and indirect) to inform decision making
  + We have not done this
* Set priorities for the department
  + Focus resources on enrollment opportunities
    - We have been very successful in scheduling classes to accommodate student schedules.
      * Fall capstones were added
      * Evening capstones were added (in the past they were only during the day)
      * Saturday classes were expanded
      * Additional Cisco classes were added making use of MVRP facilities.
  + Identify and abandon less productive courses, programs, and activities
    - Several courses have been deactivated: CCNP series, Advanced Visual Basic
  + Review the number of electives within each of the specializations
    - We still continue to rely on electives so students can specialize in various aspects of IT.
* Continue efforts to retain students
  + Beyond adding CIS 100 little effort has been made.

**Section III: Assessment of Outcomes**

The Program Outcomes for this program are listed below. **At least one-third of your program outcomes must be assessed as part of this Annual Update, and across the next three years all of these program outcomes must be assessed at least once**.

|  |  |  |  |
| --- | --- | --- | --- |
| **Computer Information Systems**  Program Outcomes | In which courses are these program outcomes addressed? | Which of these program outcomes were assessed during the last fiscal year? | Assessment Methods  Used |
| **1)** Use effective oral and written communication skills and teamwork skills in the delivery of customer service, project planning, and project completion in the information technology business environment. | CIS 100  CIS 278  CIS 270 |  | * Performance appraisals |
| **2)** Apply effective and flexible critical thinking, general business, and problem solving skills to typical business or technical problems associated with area of concentration. | CIS 111  CIS 233 |  | * Simulations * Simulations |
| **3)** Demonstrate ability to research, select, use, and troubleshoot hardware and network components or connections appropriate to area of concentration. | CIS 264  CIS 230 |  | * Simulations * Simulations |
| **4)** Apply programming, database, operating systems, and business application skills to solve and troubleshooting business and information technology problems related to area of concentration. | CIS 107  CIS 265  CIS 271 |  | * Simulations * Performance appraisals |

a) For the assessment methods listed in the table above, what were the results? What changes are planned as a result of the data? How will you determine whether those changes had an impact?

CIS did not study the courses listed above.

CIS will be studying the programs for the classes listed above this year. The department will be convening to discuss how we will evaluate how well we are performing.

b) What other changes have been made in past years as a result of assessment of program outcomes? What evidence is there that these changes have had an impact?

We have not been assessing our outcomes.

c) Describe general education changes/improvements in your program/department during this past academic year (09-10).

* Writing assignments were added to CIS 271 and the security curriculum.
* CIS 100 added an additional group presentation.
* CIS 210 - Systems Analysis and Design – students required to design a customer questionnaire  that employed both Top-Down and Bottom –Up strategies.
* In CIS 231 Fundamentals of Linux Students are required to construct a paper that is presented to upper level management that compares the advantages of choosing Linux servers vs. Windows servers.
* Additional Vista operating system labs: individual and group hands, were added to CIS 225, 264.
* Added mobile devices to CIS user support track.
* Add group labs, discussions and group presentations to CIS 238
* Additional group assignments were added to CIS 210 (1 per week)
* Angel enhancement shell created for CIS 265 for face to face sections - including group assignments and project presentation.

**Section IV: Improvement Efforts for the Fiscal Year**

1. **FY 09-10:** What other improvement efforts did the department make in FY 09-10?  How successful were these efforts?  What further efforts need to be made? If your department didn’t make improvement efforts during the fiscal year, discuss the strengths and weaknesses of the department over the last year and how the department plans to address them in the coming year.

The CIS department continues to revise our curriculum and upgrade our classrooms in order to align our curriculum to industry needs. In 2009-2010 the CIS department was very short staffed and faculty did not have the time to really focus on the courses they were coordinating. Now that we have 3 new tenure track faculty members we will be able to focus on assessing our outcomes.

The CIS department continues to provide leadership in Tech Prep. One of faculty members received reassigned time to work with Tech Prep and several of our faculty members are on advisory committees for the career centers.

1. **FY 10-11:** What improvement efforts does the department have planned for FY 10-11? How will you know whether you have been successful?

* For the 2010-2011 our highest priority was to convert our quarter classes to semester classes. We were successful in converting our curriculum to semesters.
* We surveyed our students summer 2010-winter 2011. Our goal was to capture our students external email address and where they are working. We successfully captured that information.
* We also planned on strengthening our relationships with WPAFB. In June we will be co-hosting, with AFIT, a security conference at Sinclair Community College.
* We also planned to promote our programs. In April the CIS department, along with Admissions, will be hosting a Tech Nigh in order to promote our new degree, Cyber Investigation Technology.
* We planned to continue to evolve our curriculum. Our revised Linux curriculum, our transition to Server 2008, and our new degree are evidence that we are evolving.

Questions regarding completion of the Annual Update? Please contact the Director of Curriculum and Assessment at 512-2789 to schedule a time to review the template and ask any questions.