

General Education Assessment: Fall 2013
Technological Competency

Introduction

Students graduating from CCP will be able to use typical software packages that allow individuals to create, edit, and present information; create and use social media; perform basic hardware functions; utilize base data information systems; and explain common ethical issues associated with technology.

There are six broad SLOs that students should meet; each has several specific associated metrics:

1. Word Processing
2. Electronic Spreadsheets
3. Information Systems
4. Social Networking
5. Data Communications
6. Ethics

Presentation systems was examined separately by the CIS 103 faculty; it is embedded within several of the other SLOs. For a list of specific SLO and competencies, see Appendix A.

The Technological Competency is met by most students by successfully completing CIS 103. Students in ADC and Computer Science programs meet the requirement through a two course series (ADC 101 and ADC 103 or CSCI 111 and CSCI 112, respectively).

Methods

In Fall 2013, data was collected from 21 sections of CIS 103. Four sections presented data that wasn't usable. Each faculty member was assessed the SLOs within the context of the materials regularly presented and assessed in the course (Appendix B). Information on the types of assessments used are included in Figure 1.

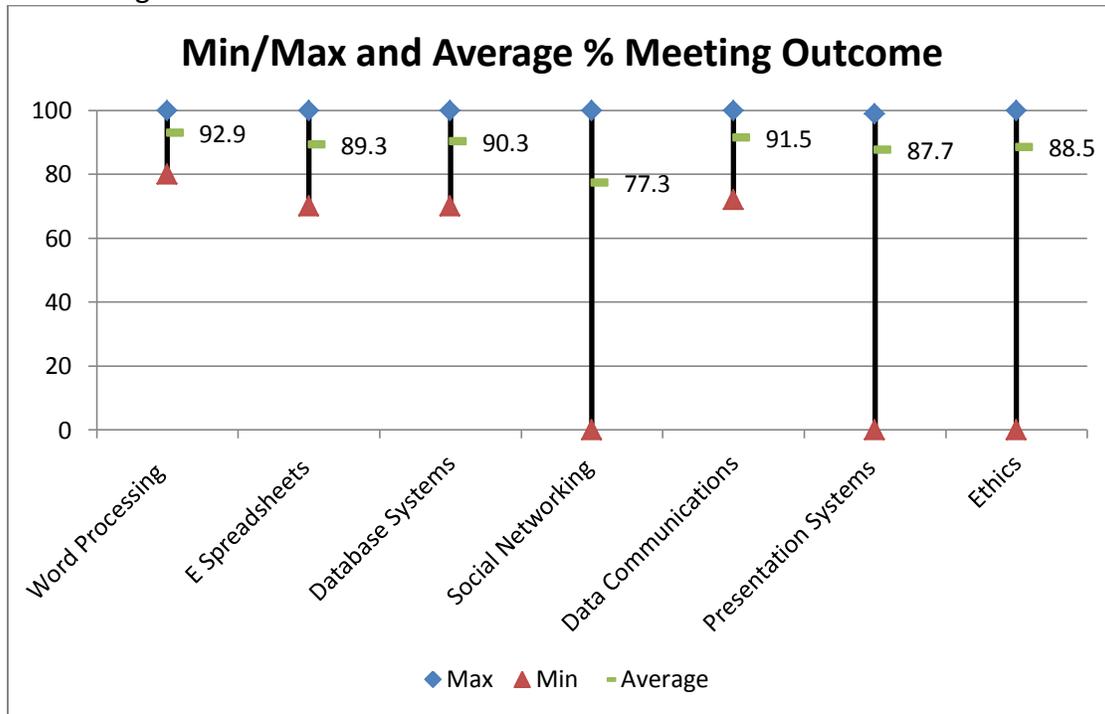
Figure 1: Assessment Methods by Outcome

Learning Outcome	Assessment Techniques						
	Graded Assignments	Practical	Exam	Quiz	Presentation	Graded Discussion	Paper
1 Word Processing	13	1	4	7	0	0	0
2 Electronic Spreadsheets	13	1	4	7	0	0	0
3 Database Systems	12	0	2	9	0	0	0
4 Collaboration and Social Networking	5	0	2	7	3	3	2
5 Data Communications	7	0	2	9	0	0	0
6 Presentation Systems	12	0	4	7	0	0	0
7 Ethics	6	0	0	4	4	3	3

Results

In all assessed outcomes, students performed well. Course averages for meeting the criteria ranged from 77.3% (Social Networking) to 92.9% (Word Processing). Figure 2 shows the minimum, maximum and mean for each score. The lower minimums in Social Networking, Presentation Systems, and Ethics resulted from feedback from several faculty that they were not providing specific instruction and/or testing in those areas. The department is addressing that to make all sections consistent.

Figure 2: Average of Section Scores for SLOs



Indirect Evidence

Evidence from both internal and external surveys of students indicate that CCP students have been making incremental gains in technological competency. It remains lower than several other General Education Outcomes, but has increased over the past ten years.

- In Spring 2013, students reported, through the Community College Survey of Student Engagement (CCSSE) greater gains in “using computing and information technology” (2.8 out of 4) than our peers (2.6). This score was the second lowest of the eight examined (scores ranged from 2.71 to 3.11).¹
- In 2009, the score from CCSSE was slightly lower (2.7) than the peer group (2.8) as well as CCP’s score in 2013 (2.8).²
- In graduate surveys administered by the College, students rate the contributions the College has made to their gains in general education outcomes. In 2010 students ranked

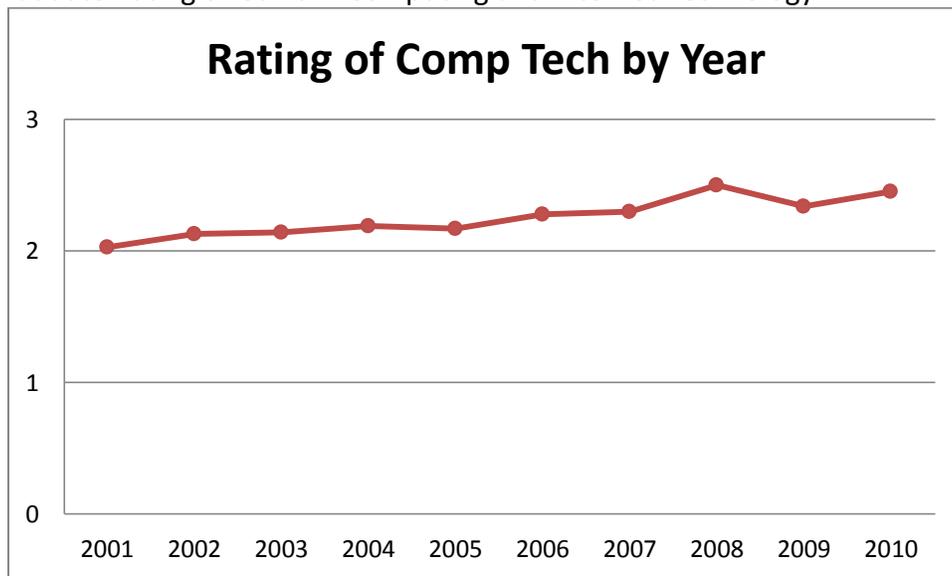
¹ http://path.ccp.edu/VPFIN-PL/ir/ir_reports/ir_report_238d.pdf

² http://path.ccp.edu/VPFIN-PL/ir/ir_reports/ir_report_191.pdf

“using computing and internet technology” fourth out of seven outcomes with a 2.45 (out of 3).

- Over the past ten years, this was a gain of .42 points (Figure 3). Students in career programs reported larger gains than those in transfer programs.³
- Students also noted in a 2010 report that the longer they were here, the stronger their gains were in computer technology.⁴

Figure 3: Graduate Rating of Gains in Computing and Internet Technology*



*3=Considerable Progress, 2=Some Progress, 1=Little Progress, 0=No Progress

Conclusions and Recommendations

Overall, the survey and the indirect evidence support that the College is moving students' technological competency skills in the correct direction during their time at the institution. Although success rates within sections are high, a stronger assessment might include several embedded questions or rubrics that are consistent across sections.

While the vast majority of students meet the competency through CIS 103, there are two majors that allow for different paths; these were not directly assessed. Comparisons of these other programs would be useful for future discussions.

It is also recommended that Technological Competency be assessed again in four years.

³ http://path.ccp.edu/VPFIN-PL/ir/ir_reports/ir_report_225.pdf

⁴ http://path.ccp.edu/VPFIN-PL/ir/ir_reports/ir_report_204.pdf

Appendix A: Technological Competency Goals & Outcomes

Goal I: Graduates will be able to use word processing software to produce academic and professional documents, individually and working in collaboration with others.

Outcomes. Graduates will be able to:

1. Define key terms related to word processing.
2. Create, edit, and print documents with a word processor using word processing software, demonstrating the ability to manipulate character, paragraph and document formats; check a document's spelling and grammar; use the word processing software's thesaurus; add document headers and footers; and add bulleted and numbered lists to the document.
3. Create links to objects from within a document, and embed objects in documents.
4. Create and manipulate tables of information in a document.
5. Use word processing software to add reference items to an existing document.

Goal II: Graduates will be able to use electronic spreadsheets to organize, analyze and present data.

Outcomes. Graduates will be able to:

1. Define key terms related to electronic spreadsheets.
2. Sort and enumerate electronic spreadsheet data.
3. Use spreadsheet functions to perform simple numerical analysis of data, including finding the cardinality (count), minimum, maximum, sum, mean (average), and median of a data set, or a subset of the data that meets specified criteria.
4. Organize and format tables of spreadsheet information for both on-screen and printed presentations.
5. Create and format pie charts, histograms, line graphs, and X-Y scatter diagrams of spreadsheet information for both on-screen and printed presentations, and describe the appropriate uses of each.
6. Embed electronic spreadsheet tables and graphs in other documents, and create links to electronic spreadsheets tables and graphs from other documents.
7. Demonstrate how to use Boolean logic and comparison operators in creating conditional statements using electronic spreadsheets.

Goal III: Graduates will be able to use library information systems.

Outcomes. Graduates will be able to:

1. Use a library's online card catalog to find items in the collection that meet specified criteria.
2. Describe the different types of document database systems found in the library, and the appropriate use of each.
3. Use a full text database in the Library to retrieve articles on a specified subject.
4. Use a document summary database to retrieve information about articles on a specified subject.
5. Describe how to locate sources of information using a Web search engine, and to identify the source based on its URL (*Uniform Resource Locator*).
6. Describe how to use word processing software to properly cite books, articles from periodicals such as professional journals, and Web pages when using information from them in academic and professional papers.
7. Describe how to use Boolean logic and comparison operators while searching for items in library information systems.

Goal IV: Graduates will be able to use collaboration and social networking software for academic, professional, and personal use. They will be able to create Web pages from application software documents, and share those documents with others by posting them on the Web.

Outcomes. Graduates will be able to:

1. Define the terms electronic social networking (or digital social networking), blog, and wiki.
2. Create a personal Web-based blog, add entries to the blog, and leave comments on other people's blogs.
3. Collaborate with others in an electronic environment (e.g. use wiki software).
4. List and describe several commonly used social networking sites.
5. Create a Web page or set of Web pages from commonly used office applications software.

Goal V: Graduates will be able to connect personal computers to related equipment, such as printers, cell phones, PDAs (Personal Digital Assistants) and digital cameras, and to a wireless computer network in a secure manner.

Outcomes. Graduates will be able to:

1. Define key terms related to networking and mobile computing.
2. Describe how to connect a computer to a publicly accessible LAN (Local Area Network) using a wireless connection.
3. Describe how to connect a commonly used device, such as a printer, to a personal computer.
4. Describe how to connect a hand-held device, such as a cell phone, iPod, or PDA, to a personal computer and move data from one to other.
5. Describe how to determine if a wireless network is secure, and to secure a wireless home network from outside intrusion, and the importance of such protection.

Goal VI: Graduates will demonstrate an understanding of common ethical issues related to the use of information technology system and the handling of data, including privacy and security issues.

Outcomes. Graduates will be able to:

1. Describe the College's policies for the use of academic computing networks, and comment on the rationale and importance of such policies.
2. Describe some of the ethical, legal and security issues related to handling private, personal and proprietary data.
3. Describe the ethical responsibilities of systems administrators and individual users in securing computer systems and backing up important data.
4. Briefly describe at least one example of legislation related to information technology ethics (such as the Family Educational Rights and Privacy Act (FERPA) regulations) and why they are important.
5. Describe the ethical, security, and privacy issues involved in posting information about yourself and others on social networking sites, including blogs.



Learning Outcome Assessment Plan CIS 103 Applied Computer Technology

Computer Technologies Department

Fall 2013

Each semester the faculty member responsible for each section of CIS 103 will assess the outcomes of the course, as follows:

Before the Semester begins:

- Prepare for teaching the course based on approved outcomes and actual course prerequisites.
- Develop a personal plan for the semester that includes gathering assessment data for each learning outcome.

During the Semester:

- Teach the course in manner that best enables students to achieve learning outcomes.
- Gather assessment data for each outcome.

Immediately after the Semester Ends:

- Submit an **Outcome Assessment Form** with assessment results to the course coordinator.
- Participate in a discussion of assessment results with other faculty who teach the course.

Before Mid-Term of the Following Semester:

- Complete the instructor feedback section of the **Outcome Assessment Form** and submit the completed form to the Department Chair.

Discussing Assessment Results

Here are some suggestions to help guide faculty conversations about course outcome assessment and course improvement:

General Assessment

1. In general, how well are we addressing each outcome in the course?
2. How good is our assessment mechanism for each outcome?
3. Does the assessment data suggest any immediate or obvious problems that might need to be addressed?

Horizontal Assessment

Horizontal assessment is assessment across all sections of the same course. The faculty for each course should consider the following:

4. Are some sections out-performing or underperforming other sections? If so, can we determine why? What best practices can we identify? What changes should we make based on this?
5. Do there appear to be anomalies in the assessment data? How can we move toward more uniform assessment across all sections of the course?

Vertical Assessment

Vertical assessment is assessment from one course to another in a sequence of prerequisites, courses and outcomes – from curricular entrance requirements all the way through to transfer or job placement. It includes feedback from external sources, such as follow-up courses, transfer institutions, and employers. The faculty for each course should consider the following:

6. Based on outcomes assessment, do the prerequisites for this course seem appropriate? Are some outcomes difficult to address because students do not seem to have knowledge or skills that they were expected to develop in a prerequisite for this course?
7. What feedback about this course do we have from:
 - a. faculty and students in follow-up courses? Are the outcomes for this course appropriate for preparing students for follow-up courses?
 - b. transfer institutions and former students who have transferred? Are the outcomes for this course appropriate for preparing students for transfer?
 - c. employers and former students in the job market. Are the outcomes for this course appropriate for preparing students for the job market?
8. Based on this feedback, are we leaving out anything important? Are we spending time on deprecated or unnecessary course material?

Outcome Assessment Reports

Individual instructors for each section should prepare a brief report describing:

1. what seems to be most successful in a section and what needs to be addressed in terms of outcome achievement for a section.
2. what actions should be taken or what issues should be considered, based on assessment results.

Collectively, the faculty responsible for each course should prepare a brief report that describes:

1. what seems to be most successful across all sections of the course and what needs to be addressed, in terms of outcome achievement and related issues. This may include best practices that may be emulated and specific areas of concern that should be addressed.
2. actions the faculty plan to take to improve the course and achievement of course outcomes. This may include actions the faculty will take themselves, along with suggestions for departmental and institutional actions.
3. how well and how consistently faculty are assessing each outcome. Suggestions for improving assessment and moving toward more uniform assessment across sections are welcome.



Learning Outcome Assessment
CIS 103 Assessment Form

Fall 2013

CIS 103 Applied Computer Techno

CRN: Section:

Instructor:

Computer Technologies Department

The outcomes for CIS 103 are listed below. Instructors should teach each section of the course in a manner that best enables students to achieve the learning outcomes. During the semester, the instructor should gather assessment data for each outcome.

Each instructor should submit this Outcome Assessment Form with assessment data to the faculty coordinator for the course immediately after the semester ends. After the semester ends, instructors should participate in a discussion of assessment results with other faculty who teach the course. Based on the assessment data and faculty discussions, the instructor should fill out the feedback portion of the form and submit the complete form to the department chair before mid-term of the following semester.

Course Description:

This course is an exploration of modern computer technology used for communication, collaboration, problem solving, decision making, and increasing personal productivity. Topics covered include word processing, electronic spreadsheet, and presentation software; library information systems; collaboration and social networking; data communications and networking; and ethical issues related to computing.

Learning Outcomes

1. **Word Processing** - use word processing software to produce academic and professional documents, individually and working in collaboration with others.
2. **Spreadsheets** - use electronic spreadsheets to organize, analyze, and present data.
3. **Database Systems** - demonstrate an understanding of fundamental database concepts, and be able to use library information systems.
4. **Collaboration And Social Networking** - use collaboration and social networking software for academic, professional, and personal use; create Web pages from application software documents, and share those documents with others by posting them on the Web.
5. **Data Communications** - connect personal computers to related equipment, such as printers, cell phones, PDAs (Personal Digital Assistants) and digital cameras, and to a wireless computer network in a secure manner.
6. **Presentation Systems** - use presentation software, such as PowerPoint, to create presentations that integrate documents and other objects from Word, Excel and the Internet.
7. **Ethics** - demonstrate an understanding of common ethical issues related to the use of information technology systems and the handling of data, including privacy and security issues.

Assessment Data

(% of those who completed the course who achieved each outcome) 

Outcome	How did you address this outcome?	How did you assess this outcome?	success rate
Word Processing			
Electronic Spreadsheets			
Database Systems			
Collaboration and Social Networking			
Data Communications			
Presentation Systems			
Ethics			

Instructor Feedback

In your opinion, what actions should be taken or what issues should be considered, based on these results? Do you plan to make any changes in the way you teach the course based on these results? Other related comments are also welcome.