



2021 Academic Program Assessment Report

Computer Information Systems

Program current assessment plan here:

https://www.csupueblo.edu/assessment-and-student-learning/_doc/2019/report/cis-assessment-plan-2019.pdf

Program prior assessment report here:

https://www.csupueblo.edu/assessment-and-student-learning/_doc/2020/report/cis-assessment-report-2020.pdf

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Faculty members involved in this Assessment: Joey Choi, Rick Huff, Yoanna Long, Mejias Roberto

Please describe this year's assessment activities and follow-up for your program below. (Separate sheet for each undergraduate major, stand-alone minor, certificate, and graduate program in your department.) Please also submit any addenda such as rubrics which are not available in your assessment plan. The reports will be available to the Dean of your college/school and to the Executive Director for Assessment as well as faculty peer reviewers.

Brief Statement of Program Mission and Goals:

The mission of the Hasan School of Business at Colorado State University – Pueblo is “We transform students, innovate in teaching, conduct ourselves with professionalism, and engage with and positively impact our stakeholders. The intellectual pursuits of our faculty focus primarily on applied scholarship and instructional development. Our outreach activities - developed in partnership with the community - serve to enhance the quality of life and economic well-being in southeastern Colorado.”

Goals for Computer Information Systems Majors

At the conclusion of the CIS program, students will demonstrate the ability to:

1. Analyze, design, implement, and maintain an information system.
 - 1a. Analyze problems and design information system solutions to the problems
 - 1b. Implement and maintain information system solutions
2. Communicate clearly and effectively in writing and speaking.
 - 2a. Use and Produce high quality written communication
 - 2b. Effectively use oral communication
3. Work effectively as a team member for a common purpose.
 - 3a. Participate effectively in planning, executing, and delivering team projects
4. Identify ethical issues and provide alternatives or solutions.
 - 4a. Identify ethical issues and recommend appropriate solutions

I. Assessment of Student Learning Outcomes (SLOs) in this cycle. Including processes, results, and recommendations for improved student learning. Use Column H to describe improvements planned for the year based on the assessment process.

A. Your program SLOs are pasted here verbatim from your assessment plan. Please enter info in columns B-H only for those assessed during this annual cycle.	B. When was this SLO last reported on prior to this cycle? (semester and year)	C. What method was used for assessing the SLO? Please include a copy of any rubrics used in the assessment process.	D. Who was assessed? Please fully describe the student group(s) and the number of students or artifacts involved (N).	E. What is the expected proficiency level and how many or what proportion of students should be at that level?	F. What were the results of the assessment? (Include the proportion of students meeting proficiency.)	G. What were the department's conclusions about student performance?	H. What changes/improvements to the program are planned based on this assessment?
1. Analyze, design, implement, and maintain an information system.							
2. Communicate clearly in writing and speaking.							

3. Work effectively as a team member for a common purpose.	Spring 2018: CIS311 Intro to Web Development, and CIS432 Senior Professional Project	Students were asked to document their formal and informal meetings for discussing their final project	26 students in CIS289 (Network Concepts)	We expect that at least 80% of the students either meet or exceed expectation (Need improvement, meet expectation, and exceed expectation, are the three achievement levels from low to high).	73% of students evaluated met either "exceeds expectations" or "meets expectations."	73% of students evaluated met either "exceeds expectations" or "meets expectations." While it is lower than the expected result of 80%, the result is still at an acceptable level. Continued monitoring of student teamwork skills is needed.	Review the CIS curriculum map and identify courses that involve the training and assessment of teamwork skills. In these courses continue to monitor the student demonstration of these skills.
4. Identify ethical issues and provide alternatives or solutions.	Fall 2018: CIS240 Object-oriented analysis and design	Students were provided with a scenario-based assignment, in which they identify ethical issues in different cases and suggest appropriate solutions	22 students in CIS432 (Senior Professional Project)	We expect that at least 80% of the students either meet or exceed expectation (Need improvement, meet expectation, and exceed expectation, are the three achievement levels from low to high).	100% of students evaluated met either "exceeds expectations" or "meets expectations."	100% of the students met or exceeded expectations, which is higher than the result of previous assessment in 2018 (87% ~92% of the students met or exceeded expectations.)	No additional action is needed at this time.

Comments on part I:	<p>Summary and comments: In AY 2020-2021, we assessed SLO 3a and SLO 4a: SLO 3: Work effectively as a team member for a common purpose. 3a. Participate effectively in planning, executing, and delivering team projects **An assignment asking students to make notes for their formal and informal meetings for discussing their final project was given to CIS 285 (Network Concepts). The assignment and assessment rubrics are provided in appendix I.</p> <p>SLO 4: Identify ethical issues and provide alternatives or solutions. 4a. Identify ethical issues and recommend appropriate solutions **A scenario-based assignment for students to identify ethical issues in different cases and provide appropriate solutions was given to CIS 432 (Senior Professional Project). The assignment and assessment rubrics are provided in appendix II.</p> <p>The assessment results show: 1. SLO3a: 73% of students evaluated met either "exceeds expectations" or "meets expectations". 2. SLO4a: 100% of students evaluated met either "exceeds expectations" or "meets expectations".</p> <p>The results indicate: 1. SLO 3a: Continued monitoring of student teamwork skills is needed. 2. SLO 4a: 100% of the student evaluated either met or exceeded our expectations. This suggests that our students have very good ethical decision-making skills.</p>						

II. Closing the Loop. Describe at least one data-informed change to your curriculum during the year cycle. These are those that were based on, or implemented to address, the results of assessment from previous cycles.

A. What SLO(s) or other issues did you address in this cycle? Please include SLOs verbatim from the assessment plan, as above.	B. When was this SLO last assessed to generate the data which informed the change? Please indicate the semester and year.	C. What were the recommendations for change from the previous assessment column H and/or feedback?	D. How were the recommendations for change acted upon?	E. What were the results of the changes? If the changes were not effective, what are the next steps or the new recommendations?
Fall 2020: SLO 2a – Use and Produce high quality written communication	Spring 2020: CIS432 Senior Professional Project	During the spring 2020 evaluation, only 69.6% of students evaluated met either "exceeds expectations" or "meets expectations" requirement. The recommendation was to review the CIS curriculum map and identify courses that involve the training and assessment of the written communication skill. Design and implement intervention activities into courses that will be offered in fall 2020. Re-assess the written communication skill to evaluate the results of intervention.	Yes. In fall 2020 an intervention was introduced to CIS185 PC Architecture. For this intervention, 11 students in this course were asked to develop a research report about Information Technology trends. Training materials about written communication skills were provided to students. Students were also required to meet with tutors from the CSUP writing center to improve their research reports before final submission.	82% of students evaluated met either "exceeds expectations" or "meets expectations" requirement. The intervention was therefore effective.

Comments on part II:	<p>Summary and comments:</p> <p>To close the loop, we also introduced intervention to improve students' written communication skills. SLO 2: Communicate clearly and effectively in writing and speaking. 2a. Use and Produce high quality written communication **Training materials and tutoring service from the CSUP writing center were provided to students for preparing their final research report. The assignment and assessment rubrics are provided in appendix III.</p> <p>The assessment results show: 1. SLO2a: 82% of students evaluated met either "exceeds expectations" or "meets expectations".</p> <p>The results indicate: 1. SLO 2a: The results indicate that the intervention is effective.</p>	
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Appendix I. CIS289 assignment for assessing the CIS SLO 3a: Teamwork skills

Assignment Instruction

CIS289 Meeting Notes Assignment

This assignment is part of your CIS289 final project. The purpose of this assignment is to document you and your team’s preparation for the final presentation. Your job is to create meeting notes/summaries for each of your team meetings held for discussing the final presentation. The team meetings can be formal (in-person or video) or informal (email or phone call), and may or may not have all the team members joined. At the end of the semester, please include all the meeting notes/summaries in one document and submit this document along with your final presentation slides. ONE SUBMISSION PER TEAM.

Your grade for this assignment will be determined by:

1. Meeting frequency (team score)
2. Frequency of individual meeting participation (individual score)
3. Quality and detailedness of meeting summaries (team score + meeting note preparer score)
4. Work load assigned to prepare for the final presentation (individual score)

For example:

Meeting #	1
Date	10/5/2020
Participants	Dr. Mejias, Dr. Huang, Dr. Long
Meeting method (Highlight one)	In-person , Phone, Email, Video, Other: _____
Meeting summary preparer	Dr. Huang
Topics discussed (Agenda items)	<ol style="list-style-type: none"> 1. Brainstorming presentation topic 2. Choosing team lead 3. Task distribution
Meeting Note	<ol style="list-style-type: none"> 1. We have decided the topic of our presentation is “blockchain technologies” 2. Dr. Mejias will be the team lead to schedule and coordinate future meetings. 3. Dr. Huang will prepare the summary of this meeting
Action items	Dr. Mejias: Search for different real-world implementations of Blockchain technologies Dr. Huang: Search for the latest Blockchain technologies Dr. Long: Collect and summarize findings from Dr. Mejias and Dr. Huang

	on others' ideas			
Contributing to the final deliverables. i.e. report, PowerPoint, etc.	Carries own share of the group's responsibilities, and organizes or helps organize final deliverables	Carries own share of the group's responsibilities	Does not fulfill own share	

Appendix II. CIS432 assignment for assessing the CIS SLO 4a: Ethical Awareness skills

Assignment Instruction:

DEFINITIONS

Ethics is a system of moral principles. Ethics is concerned with what is good for individuals and society and is also described as moral philosophy. The term is derived from the Greek word ethos which can mean custom, habit, character or disposition.

- **Relativism** is the view that moral judgments are true or false only relative to some particular standpoint (for instance, that of a culture or a historical period) and that no standpoint is uniquely privileged over all others.
- **Divine Command Theory** is the belief that things are right because God commands them to be. In other words, it means that things which are considered wrong or unethical are wrong because they are forbidden by God.
- **Utilitarianism** is a theory of morality, which advocates actions that foster happiness or pleasure and opposes actions that cause unhappiness or harm. Utilitarianism would say that an action is right if it results in the happiness of the greatest number of people in a society or a group.
- **Virtue** Ethics is person rather than action based: it looks at the virtue or moral character of the person carrying out an action, rather than at ethical duties and rules, or the consequences of particular actions. ... A good person is someone who lives virtuously - who possesses and lives the virtues.
- **Deontology** is a theory that suggests actions are good or bad according to a clear set of rules. Its name comes from the Greek word deon, meaning duty. Actions that obey these rules are ethical, while actions that do not, are not. ... His work on personhood is an example of deontology in practice.

1. You are driving home late at night. A drunk pedestrian staggers out in front of your car and you try to stop but you can't and you hit them. Nobody sees you. They look and smell like a homeless person. You check to see how badly they are hurt and realize they are dead. You have never even had a speeding ticket and are upright, professional, with a family, and are well-known and respected in your community. Do you make a report anonymously, confess your crime, or drive on home and forget about it, knowing no one is going to pursue the death of a homeless drunk?
 - What is the primary ethical issue involved in this situation?
 - What course of action do you take and why?
2. Your friend tells you that they committed a crime. They explain that they are having trouble sleeping at night and feel you are the only one they can trust with their confession. A few days later, you read in the paper that someone has been arrested for your friend's crime. Do you go to the police and tell them what you know? Or, encourage your friend to confess and warn him if he does not do so, you will tell? Or, say nothing because you will not betray a friend's confidence?
 - What is the primary ethical issue involved in this situation?
 - What course of action do you take and why?
3. Employees often don't know what to do if they see one of their co-workers harassing another employee, either mentally, sexually, or physically. Employees may worry for their jobs if they attempt to report a superior for harassment. They may fret that they'll be labeled a

troublemaker if they report co-workers who display inappropriate behavior toward other employees?

- What is the primary ethical issue involved in this situation?
- What course of action do you take and why?

4. Because employees tend to spend so much of their weekday hours on the job, they often are tempted to conduct personal business on company time. This can include setting up doctor's appointments on company phone lines, making vacation reservations using their employer's computers and Internet connections or even making phone calls for a freelance side business while on company time. What is the primary ethical issue involved in this situation?

- What is the primary ethical issue involved in this situation?
- What course of action do you take and why?

Teamwork skills rubric

Evaluation Criteria	Exceeds Expectations	Meets Expectations	Needs Improvement	Score
Identify ethical issues	Identifies critical and any additional ethical issues	Identifies the critical ethical issues	Identifies no critical ethical issues	
Identify alternative solutions	Identifies multiple alternative solutions	Identifies an alternative solution	Identifies no alternative solutions	
Supply appropriate solutions	Provides multiple appropriate solutions	Provides an appropriate solution	Provides no appropriate solutions	

Appendix III. CIS185 assignment for re-assessing the CIS SLO 2a: Written Communication skills

Assignment Instruction:

Each individual must complete a research paper on one of the topics covered in the textbook. Each paper for the CIS 185 students will be a minimum of 1,000 and a maximum of 1,500 words. The paper must include updated information on the topic from articles written in the past 90 days. You must include at least 4 references. You may use the Internet as a resource, but at least 1 of the articles you use must come from trade magazines. The paper must show your knowledge of all advances in the technology which have occurred since the text was written. Note: If you have a different topic that you would like to research and write about that is germane to the class, please feel free to discuss it with me.

DO NOT include information already covered in the text. Be very specific and informative in your paper, referencing the latest pricing, components, standard, sizing, etc. for the technology. In most instances, the inclusion of at least a table would probably be valuable to show the latest advances in the technology in the relevant areas. In addition, include at least four price quotes from vendors (including name and date!) for the technology in both its latest and most reasonable level.

The paper contents must have: a title page with author and date, a body of the required number of words (not including title or bibliography), and a bibliography with four or more complete entries (price quote sites don't count). Use Turabian as your reference style. The formatting must be: Arial, Verdana, or similar sans serif font, 12 pts, 1" margins on all 4 sides, page numbers, and 1½ line spacing. The body of the paper should have an introduction and conclusion (usually a paragraph each). Most paragraphs should have an introduction and conclusion (usually a sentence each). Discussion should follow a single train of thought, don't just leap from paragraph to paragraph. Use complete sentences. Grading will be based on topic, grammar, and organization.

- The execution of the paper involved the following:
 - a. Submit topic for approval by end of week 5,
 - b. Rough draft by end of week 13,
 - c. Appointment with writing room by end of week 14,
 - d. Paper submitted by final exam week 15.

- Evaluation of the paper involved:
 - a. Topic submission – 10 points,
 - b. Rough draft submission – 10 points,
 - c. Make appointment with writing room – 10 points,
 - d. Evidence received from writing room of appointment attended – 10 points,
 - e. Paper grammar, spelling, and punctuation – 10 points,
 - f. Paper content – 50 points.

Written Communication Rubric

Evaluation Criteria	Exceeds Expectations	Meets Expectations	Needs Improvement	Score
Subject Matter	Clearly demonstrates	Demonstrates fair knowledge of	Demonstrates superficial/adequate	

Subject Matter Knowledge	Clearly demonstrates excellent and in-depth knowledge of the subject matter. Demonstrates an excellent understanding of the details and interconnection links of the elements of the subject matter.	Demonstrates fair knowledge of the subject matter. Demonstrates a fair understanding of the details and interconnection links of the elements of the subject matter.	Demonstrates poor/inadequate knowledge of the subject matter. Demonstrates a poor understanding of the details and fails to show interconnection links of the elements of the subject matter.	
Literacy (grammar, spelling, punctuation)	No grammar, spelling, punctuation errors and excellent word usage. Writing at expected grade level or above.	Have some grammatical errors, spelling and punctuation errors. Writing at one or two levels below current grade level.	Have many grammatical errors, spelling and punctuation errors. Writing at more than two levels below current grade level.	
Logical Flow	Demonstrates ability to produce professional quality documents (fully footnoted and referenced, with proper cover pages, headings, footings, and table of contents)	Produces documents with minimal professional elements (footnotes, references, cover pages, headings, footings, table of contents)	Produced documents are lacking significant professional elements (footnotes, references, cover pages, headings, footings, table of contents)	
Proper References	Expertly integrates relevant articles, uses correct citations, and references based on certain academic writing styles.	Fairly integrates relevant articles, has some correct citations and references.	Fails to integrate relevant articles, citations, or references.	