



Academic Program Assessment Report for AY 2022-2023

Program: Computer Information Systems, B.S.

(Due: June 1, 2023)

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Please describe the 2022-2023 assessment activities and follow-up for your program below. Please complete this form for each undergraduate major, minor, certificate, and graduate program (e.g., B.A., B.S., B.A.S, M.S.) in your department. Please copy any addenda (e.g., rubrics) and paste them in this document, save and submit it to both the Dean of your college/school and to the Executive Director for Assessment as an email attachment by June 1, 2023. You'll also find this form on the assessment website at <https://www.csupueblo.edu/assessment-and-student-learning/resources.html>. Thank you.

Brief statement of Program mission and goals:

HSB Mission statement:

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."

- **Transform:** We welcome students from a broad spectrum, including many from lower socio-economic strata, under-represented populations, and first generation students. The core of our mission is effecting positive change in our students so that they are prepared as business professionals.
- **Innovation:** We seek to improve and implement best practices. We also work to encourage innovation at our university and in regional business, government and non-profit organizations.
- **Professionalism:** We are recognized in the community for our professionalism. We hold ourselves to high performance standards of collegiality and ethical behavior. We seek to inspire the same in our students.
- **Engagement:** We connect with students, alumni, employers, community members and other stakeholders to work together and to share knowledge. We build student skills through active learning, experiential education, and collaborations with businesses and community members.
- **Impact:** We make ongoing campus and community contributions through a variety of service activities. Our research has positive effects on organizational knowledge and practice. Graduates of the Hasan School of Business are a critical component of Pueblo's economic infrastructure, while many make contributions in other cities, states, and countries.

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. Program student learning outcomes (SLOs) assessed in this cycle, processes, results, and recommendations.

A. Which of the program SLOs were assessed during this cycle? Please include the outcome(s) verbatim from the assessment plan.	B. When was this SLO last assessed? Please indicate the 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.	E. What is the expected achievement level and how many or what proportion of students should be at it?	F. What were the results of the assessment?	G. What were the department's conclusions about student performance?	H. What changes/improvements to the <u>program</u> are planned based on this assessment?
Fall 2022: SLO 3a – Participate effectively in planning, executing, and delivering team projects (CIS350	Fall 2020: CIS289 Network Concepts	Throughout the semester students worked in teams for their database projects. At the end of the	26 students from CIS350 Database Management	We expect that at least 80% of the students either meet or exceed expectation (Need	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	No additional action is needed at this time. Next time we can try additional assessment approaches in addition to peer evaluations for more objective results.

Database Magement)		semester, students submit their evaluations of their team members' performances.		improvement , meet expectation, and exceed expectation, are the three achievement levels from low to high).		2020 (73% of the students met or exceeded expectations).	
Spring 2023: SLO 4a – Identify ethical issues and recommend appropriate solutions (CIS432 Senior Professional Project)	Spring 2021: CIS432 Senior Professional Project	Students were provided with a case study, in which they identify ethical issues in the case and suggest appropriate solutions	25 students from CIS432 Senior Professional Project		100% of students evaluated met either “exceeds expectations” or “meets expectations.”	100% of students evaluated met either “exceeds expectations” or “meets expectations.” This is the same as the result of the previous assessment in 2021.	No additional action is needed at this time.

II. Follow-up (closing the loop) on results and activities from previous assessment cycles. In this section, please describe actions taken during this cycle that were based on, or implemented to address, the results of assessment from previous cycles.

N/A

Summary and comments:

In AY 2022-2023, we assessed SLO 3 (3a) and SLO 4 (4a):

SLO 3: Work effectively as a team member for a common purpose.

3a. Participate effectively in planning, executing, and delivering team projects

➔ Students of CIS350 (Database Management) documented and evaluated their team members' performances in their semester-long team project. The assignment instruction is provided in appendix 1. The peer-evaluation form can be found in appendix II.

SLO 4: Identify ethical issues and provide alternatives or solutions.

4a. Identify ethical issues and recommend appropriate solutions

➔ A scenario-based assignment was provided for students of CIS432 (Senior Professional Project) to identify ethical issues in the case and provide appropriate solutions. The assignment and assessment rubrics are provided in appendix III.

The assessment results show:

1. SLO3a: **100%** of students evaluated met either "exceeds expectations" or "meets expectations".
2. SLO4a: **100%** of students evaluated met either "exceeds expectations" or "meets expectations".

The results indicate:

1. **SLO 3a:** 100% of the student evaluated either met or exceeded our expectations. This suggests that our students have very good teamwork skills.
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.

Future AoL plan:

- Assess the CIS SLO 1 (Problem Solving) in Fall 2023.
- Assess the CIS SLO 2 (Oral and written communication) in Spring 2024.

Appendix I. CIS350 team assignment instruction for assessing the CIS SLO 3a: Teamwork skills

Final Group Project Guideline

Working as a team, you will review and compare two Database Management Systems (e.g. PostgreSQL, MongoDB, Elasticsearch, Oracle, IBM Db2, Microsoft Sql Server, MySQL etc.) The deliverables include an in-class presentation (15 minutes). Your team will also need to submit a written report on the comparative analysis. You may utilize material from referenced documentation on the relevant DBMS but should not plagiarize.

Comparative Analysis of DBMS

This is an in-depth technical analysis of two DBMSs. In a minimal, you should provide the following:

1. Introduction to the two DBMSs:
 - a. List of two enterprise DBMSs software that are covered
 - b. Key evaluation criteria (e.g. pricing, scalability, reliability, security, ecosystem, etc.) for your review
2. Description of selected DBMS software
 - a. Overview on DBMS software 1
 - Criterion 1: Provide material on DBMS 1 relating to Criterion 1
 - Criterion 2: Provide material on DBMS 1 relating to Criterion 2
 - ...
 - Criterion k: Provide material on DBMS 1 relating to Criterion k
 - b. Overview on DBMS software 2: Similar to what is presented for Overview on DBMS software 1
3. Comparative analysis in terms of the relevant criteria
4. Conclusion
 - a. Concluding comments
 - b. What you learned
5. List of References

Comparative analysis of DBMS Report

The length of your report should be approximately 10 content pages (i.e. excluding Cover Page, Table of Contents, List of References) with 1" margins and spacing of 1½ lines.

Comparative analysis of DBMS Presentation

The structure of the presentation should follow the structure of your DBMS report.

Appendix II. CIS350 peer-evaluation form for students to document and evaluate their team members

CIS 350: Database Management. <i>Peer ratings are confidential and WILL NOT be shared with your other team members</i> FALL, 2022

YOUR Name: _____

Your Team No. / Name _____ Team Project Topic _____

Please rate and submit individual comments for each of your peer team members on the following items.

Ratings should be based on your knowledge of the individual's contribution to your team's **Final Database Development Project**. Ideally, your ratings should not be surprising to the other members of the group. Again, individual peer ratings are confidential and **will not** be shared with your other team members

Please rate yourself & your team members using the following scales: 90%-100%= Superb; 80-89%=Good team contribution; 70-79% = Fair; Below 69% = Poor				
Team Member Name	Quality of this member's contribution during the semester	Quantity of this member's contribution during the semester	Attitude, Spirit of Cooperativeness, during the semester	True Contribution to Team's FINAL Project Presentation
Team Member 1. <i>(YOUR NAME HERE)</i>				
Comments: Identify which part of this CIS 350 Term project and presentation you completed				
Team Member 2 Name				
Comments: Identify which part of this CIS 350 Term project and presentation your teammate completed				
Team Member 3 Name				
Comments: Identify which part of this CIS 350 Term project and presentation your teammate completed				
Team Member 4 Name				
Comments: Identify which part of this CIS 350 Term project and presentation your teammate completed				

Appendix III. 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.

Please read the case on the next page and answer the following three questions:

Question 1: Given the situation described, what are the relevant ethical facts?

Question 2: Please identify the ethical issues relevant to the case.

Question 3: Given the developments described, using one of the five ethical constructs in the reading (Relativism, Divine Command Theory, Utilitarianism, Virtue Ethics, and Deontology) as a guide, what course of action should Chris have taken and why?

**Computer Information Systems Department Hasan School of Business
Assurance of Learning Ethical Assessment**

Please read the following scenario and respond to the questions that follow.

NOBODY SAID I SHOULDN'T

"My name is Chris. I do systems support for our company. I configure the new computers, set up the network, make sure the servers are operating, and so forth. I also do all of the database backups. I've always liked computers. After high school, I worked odd jobs to make some money, then I got an associate degree in information technology from our local community college.

"Anyway, as I said, I make backup copies of our databases. One weekend, I didn't have much going on, so I copied one of the database backups to a USB drive and took it home. I had taken a class on database processing as part of my associate degree, and we used SQL Server (our database management system) in my class. In fact, I suppose that's part of the reason I got the job. Anyway, it was easy to restore the database on my computer at home, and I did.

"Of course, as they'll tell you in your database class, one of the big advantages of database processing is that databases have metadata, or data that describes the content of the database. So, although I didn't know what tables were in the database, I did know how to access the SQL Server metadata. I just queried a table called *sysTables* to learn the names of our table. From there, it was easy to find out what columns each table had.

"I found tables with data about orders, customers, salespeople, and so forth, and, just to amuse myself and to see how much of the query language I could remember, I started playing around with the data. I was curious to know which order entry clerk was the best, so I started querying each clerk's order data, the total number of orders, total order amounts, and things like that. It was easy to do and fun.

"I know one of the order clerks, Jason, pretty well, so I started looking at the data for his orders. I was just curious, and it very simple SQL. I was just playing around with the data when I noticed something odd. All of his biggest orders were with one company, Valley Appliances, and even stranger, every one of its orders had a huge discount. I thought, well, maybe that's typical. Out of curiosity, I started looking at data for the other clerks, and very few of them had an order with Valley Appliances. But, when they did, Valley didn't get a big discount. Then I looked at the rest of Jason's orders, and none of them had much in the way of discounts, either.

"The next Friday, a bunch of us went out for a beer after work. I happened to see Jason, so I asked him about Valley Appliances and made a joke about the discounts. He asked me what I meant, and then I told him that I'd been looking at the data for fun and that I saw this odd pattern. He just laughed, said he just 'did his job,' and then changed the subject.

"Well, to make a long story short, when I got to work on Monday morning, my office was cleaned out. There was nothing except a note telling me to go see my boss. The bottom line was, I was fired. The company also threatened that if I didn't return all of its data, I'd be in court for the next 5 years . . . things like that. I was so mad I didn't even tell them about Jason. Now my problem is that I'm out of a job, and I can't exactly use my last company for a reference."

CIS Learning Objectives 4: Identify ethical issues and provide alternatives or solutions

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	