Annual Departmental Report

2021-2022

Program Information

Program/Department: Computer Information Systems / Computer Science
Department Chair: Nadimpalli Mahadev
Department Assessment Committee Contact: Brady Chen, Nadimpalli Mahadev

This document is to be kept in the department and an electronic file is due to the AVP of Institutional Research & Planning by June 1, 2022.

A. Departmental Special Section for AY21-22

Department Lessons Learned and Accomplishments

Due to the COVID-19 pandemic, the department adapted to remote teaching during 2020 and spring 2021, mainly using the synchronous delivery (ONSYNC) rather than the standard asynchronous delivery (ONLINE). We also used ONSYNC for conducting departmental meetings as well as meetings with the administrative assistant. They were quite productive.
However, we still can't conduct the programming contest as the COVID risk is still there. We also did not have our yearly "Program Advisory Committee" meeting as we felt that remote meeting was not very conducive for the discussions.

Even after the university returned to normal in-person teaching mode in fall 2021, we still experienced the following issues:

1. Some students still had serious technical issues such as poor laptop performances, poor connection issues and inability to connect to the software labs. As a result, there were still unusually many dropouts or fail grades particularly among the freshmen.
2. Conducting hardware labs and team projects were challenges and did not do full justice to the content as there was still some safety measures such as face mask and social distance requirements.
3. One-on-one help that is provided in software labs also became a time-consuming process.
4. Nevertheless, some students, particularly in the higher-level courses thrived in the ONSYNC method of teaching and performed extremely well.

For the most part, the academic year went smoothly. However, there are still students who have mental and psychological issues. The COVID also caused a lot of issues for faculty as we have to prepare for the classes in both face-to-face and online modes in case some students still have issues attending the classes on campus.

B. Program Learning Outcomes (PLOs) (Educational Objectives)

I. List of PLOs and the timeline for assessment.

PLO #	PLO – Stated in assessable terms	Where are the learning outcomes for this level/program published? (please specify) Include URLs where appropriate	Timing of assessment (annual, semester, bi-annual, etc.)	When was the last assessment of the PLO completed?
1.	Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.	The learning outcomes are published in the computer science department website: https://www.fitchburgstate.edu/academics/programs/computer-science-bs	Annual	June 2021
2.	Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.		Annual	June 2021
3.	Communicate effectively in a variety of professional contexts.		Annual	June 2021
4.	Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.		Annual	June 2021
5.	Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.		Annual	June 2021

6.	Support the delivery, use, and management of information systems within an information systems environment.		Annual	June 2021

II. PLO Assessment (Please report on the PLOs assessed and/or reviewed this year. Programs should be assessing at least one each year.)

Using the table below, list and briefly describe the **direct method(s)** used to collect information assessing whether students are learning the core sets of knowledge (K), skills (S) and attitudes (A) identified as essential.

PLO # (from above)	**Assessment description (exam, observation, national standardized exam, oral presentation with rubric, etc.)**	**When assessment was administered in student program (internship, 4th year, 1st year, etc.)**	**To which students were assessments administered (all, only a sample, etc.)**	**What is the target set for the PLO? (criteria for success)**	**Reflection on the results: How was the "loop closed"?**
1.	The capstone courses CSC3710 and CSC4700 are used to assess the PLO # 1. PLO # 1 is assessed through the assessment of four rubric-based performance indicators (a)-(d). The following instruments are used to assess four performance indicators (a) – (d): • Milestones 1-3 in CSC 3710. • Milestones 6-7 in CSC 4700.	4th year	All	"Target %tile scoring better than 70% proficient" in the Table in Appendix A. We assess the students' outcomes based on their performance on each PI	After analyzing the collected assessment data for PLO #1, we found out that the target percentiles are met for all PIs for PLO #1. **Action:** We decide to continue monitoring the outcome to ensure consistency in quality in the following year. Also, we are looking for adding more instruments to make sure each

	See the table in Appendix A for the assessment results.				PLO is assessed with multiple instruments.
2.	The capstone courses CSC3710 and CSC4700 are used to assess the PLO # 2. PLO # 2 is assessed through the assessment of four rubric-based performance indicators (a)-(d). The following instruments are used to assess four performance indicators (a) – (d): • Milestones 1 and 4 in CSC 3710. • Milestones 5-8 in CSC 4700. See the table in Appendix A for the assessment results.	4th year	All	"Target %tile scoring better than 70% proficient" in the Table in Appendix A. We assess the students' outcomes based on their performance on each PI	After analyzing the collected assessment data for PLO #2, we found out that the target percentiles are met for all PIs for PLO #2. **Action:** We decide to continue monitoring the outcome to ensure consistency in quality in the following year. Also, we are looking for adding more instruments to make sure each PLO is assessed with multiple instruments.
3.	The capstone courses CSC3710 and CSC4700 are used to assess the PLO # 3. PLO # 3 is assessed through the assessment of four	4th year	All	"Target %tile scoring better than 70% proficient" in the Table in Appendix A.	After analyzing the collected assessment data for PLO #3, we found out that the target percentiles

	rubric-based performance indicators (a)-(d). The following instruments are used to assess four performance indicators (a) – (d): • Milestone 3 in CSC 3710. • Presentation and Peer Evaluation in both CSC 3710 and CSC 4700. See the table in Appendix A for the assessment results.			We assess the students' outcomes based on their performance on each PI	are met for all PIs for PLO #3. **Action:** We decide to continue monitoring the outcome to ensure consistency in quality in the following year. Also, we are looking for adding more instruments to make sure each PLO is assessed with multiple instruments.
4.	The course CSC4100 is used to assess the PLO # 4. PLO # 4 is assessed through the assessment of four rubric-based performance indicators (a)-(d). The following instruments are used to assess four performance indicators (a) – (d): • Quizzes 1-4 in CSC 4100. • Projects 1-4 in CSC 4100	4th year	All	"Target %tile scoring better than 70% proficient" in the Table in Appendix A. We assess the students' outcomes based on their performance on each PI	After replacing the one credit hour course CSC 4102 with three credit hour course CSC 4100, the students' performance have been improved dramatically. Our proficiency target was almost realized for all PIs. **Action:** We decide to continue monitoring the

	See the table in Appendix A for the assessment results.				outcome to ensure consistency in quality in the following year. Also, we are looking for adding more instruments to make sure each PLO is assessed with multiple instruments.
5.	The capstone courses CSC3710 and CSC4700 are used to assess the PLO # 5. PLO # 5 is assessed through the assessment of three rubric-based performance indicators (a)-(c). The following instruments are used to assess four performance indicators (a) – (c): • Presentation and Peer Evaluation in both CSC 3710 and CSC 4700. See the table in Appendix A for the assessment results.	4th year	All	"Target %tile scoring better than 70% proficient" in the Table in Appendix A. We assess the students' outcomes based on their performance on each PI	After analyzing the collected assessment data for PLO #5, we found out that the target percentiles are met for all PIs for PLO #5. **Action:** We decide to continue monitoring the outcome to ensure consistency in quality in the following year. Also, we are looking for adding more instruments to make sure each PLO is assessed

					with multiple instruments.
	The capstone courses CSC3710 and CSC4700 are used to assess the PLO # 6. PLO # 6 is assessed through the assessment of four rubric-based performance indicators (a)-(d). The following instruments are used to assess four performance indicators (a) – (d): • Milestones 1-3 in CSC 3710. • Milestones 6-8 in CSC 4700. See the table in Appendix A for the assessment results.	4th year	All	"Target %tile scoring better than 70% proficient" in the Table in Appendix A. We assess the students' outcomes based on their performance on each PI	After analyzing the collected assessment data for PLO #6, we found out that the target percentiles are met for all PIs for PLO #6. **Action:** We decide to continue monitoring the outcome to ensure consistency in quality in the following year. Also, we are looking for adding more instruments to make sure each PLO is assessed with multiple instruments.

You may use this comment box to provide any additional information, if applicable:

Summary of Findings: Briefly summarize the results of the PLO assessments reported in Section II above combined with other relevant evidence gathered and show how these are being reviewed/discussed. How are you "closing the loop"?

Reflection Prompt	Narrative Response
Other than GPA, what data/ evidence is used to determine that graduates have achieved the stated outcomes for the degree? (e.g., capstone course, portfolio review, licensure examination)	The performance indicators for each PLO are used to determine that graduates have achieved the stated outcomes and thus the PLO.
Who interprets the evidence? What is the process? (e.g. annually by the curriculum committee)	The instructors of the courses which are used to assess the PIs conduct the assessments and collect all the required data and documents. They interpret the evidence in the department curriculum meetings and the department curriculum committee discusses and makes recommendations on what changes/actions the instructor needs to be taken.
What changes have been made as a result of using the data/evidence? (close the loop)	We observed a few areas where some improvements can be made as noted in discussions. In particular, students' understanding of legal issues and responsibilities (CISSO-4) is still lacking. More attention needs to be given in providing a set of frameworks for this analysis. Students may also be given time to fine-tune discussion skills. Even though most of the target criteria for the student outcomes were met, there are still areas where some improvements can be made. One particular area of

	improvement is the assessment process itself. We didn't align our assessment instruments well with these outcomes though most of our course lectures and assignments were designed with the ABET student outcomes in mind. In our next assessment cycle, the design of our assessment instruments should directly link to the performance indicators of the outcomes to be assessed. The assessment process used prior to ABET site visit in Fall 2019 was based on the assessment process that was approved by ABET 6 years prior to the last visit. Capstone course was not assessed then. Based on the feedback from this recent site visit team, we have completely revamped the assessment process and introduced a new set of courses for assessment. This assessment cycle is the first complete cycle and we hope to find evidence of "closing the loop" in the future based on this new process.

C. Assessment Plan for Program/Department

I. Insert the program or department Assessment Plan

Our assessment basically follows the ABET assessment plan. We will provide a complete program assessment every year based on 23 performance indicators. Three courses CSC3710, CSC4700 and CSC4100 Ethics and Impacts of Computing Solutions are used for assessment purposes. The next assessment cycle will start from fall 2021 to spring 2022. See the rubric for each of the PLOs (CISSO-x with ABET terms) in Appendix A.

II. Explain any changes in the assessment plan including new or revised PLOs, new assessments that the program/department plans to implement and new targets or goals set for student success.

For PLO #4 we split the PI (a) "Understand legal and ethical responsibilities" into PI (a) "Understand legal responsibilities" and PI (b) "Understand ethical responsibilities" due to the changes of instruments.

We also split PI (a) of PLO #6 into PI (a) and PI (b) to assess the planning and analysis more accurately.

III. If you do not have a plan, would you like help in developing one?

☐ Yes

D. Program Review Action Plan or External Accreditation Action Letter/Report

Annual Reflection/Follow-up on Action Plan from last Program Review or external accreditation (only complete the table that is appropriate for your program)

I. Programs that fall under Program Review:

i. Date of most recent Review:
October, 2019

ii. Insert the Action Plan table from your last Program Review and give any progress towards completing the tasks or achieving targets set forth in the plan.

Specific area where improvement is needed	Evidence to support the recommended change	Person(s) responsible for implementing the change	Timeline for implementation	Resources needed	Assessment Plan	Progress Made this Year
In AY2020, the committee recognized difficulties related to providing complete coverage of CSSO-4 with our required 1-credit course (CSC 4102 – Ethical Issues in Computer Science).	student performance on PI (b) was not good with most students falling below the proficiency level with 1 credit hour CSC 4102. Clearly more time needs to be spend on explaining legal responsibilities as opposed to ethical and moral considerations.	Nadimpalli Mahadev, Frits Lander	Starting from fall 2021, the new 3 credit hour course CSC 4100 replaced the 1 credit hour course CSC 4102	NA	The instruments of CSC 4100 has been used in 3021-2022 assessment plan.	After replacing the one credit hour course CSC 4102 with three credit hour course CSC 4100, the students' performance have been improved dramatically. Our proficiency target was almost realized for all PIs.

iii. If you do not have an action plan, would you like help in developing one based on your last program review and needs of the program?

☐ Yes

II. Programs with external Accreditation:

i. Professional, specialized, State, or programmatic accreditations currently held by the program/department.
ABET

ii. Date of most recent accreditation action by each listed agency.
A team of ABET Computing Accreditation Commission visited our campus on September 22-24, 2019. The department then submitted the assessment report to ABET in June of 2021.

iii. Date and nature of next review and type of review.

List key issues for continuing accreditation identified in accreditation action letter or report.	**Key performance indicators as required by agency or selected by program (licensure, board or bar pass rates; employment rates, etc.)(If required.)**	**Update on fulfilling the action letter/report or on meeting the key performance indicators.**
See section D(I)		

E. Departmental Strategic Initiatives

Accomplished Initiatives AY 21-22 **Add more rows as needed**	**Corresponding Strategic Plan Goal & Strategy**	**Indicate if a Diversity, Equity and Inclusiveness (DEI) Goal**

	Goal # followed by Strategy # ex: 1.3	
		☐
		☐
		☐
		☐

Planned Initiatives for AY 22-23 Add more rows as needed	Associated Strategic Plan Goal & Strategy Goal # followed by Strategy # ex: 1.3	Indicate if a Diversity, Equity and Inclusiveness (DEI) Goal
		☐
		☐
		☐
		☐

F. Departmental Reflection:

Take this section to reflect on--

1) *Initiatives that you may be considering for 22-23 academic year that you did not already capture above.*

2) *Any other thoughts or information that you would like to share.*

Appendix A:

FITCHBURG STATE UNIVERSITY COMPUTER INFORMATION SYSTEMS ASSESSMENT REPORT

As part of the continuous improvement process, we decided to match the assessment cycle with academic year. While the data is collected as needed in each of FA/SP semesters, the department will meet at the end of each Spring semester to review the data against performance targets and identify where action is needed and discuss appropriate action to be implemented for the next assessment cycle.

A table is created to summarize the outcome assessment of each SO followed by an analysis regarding any steps needed for continuous improvement with respect to that outcome. You find in those tables that we set the performance target of at least 70% of the class meeting the proficiency requirements as stated in the rubrics.

Minutes of these discussions will be included with the report each assessment cycle. The minutes for the FA20-SP21 cycle are included here.

Please note: All the performance data and the descriptions of the instruments used, are included in the Appendix A of this report. Appendix B includes the department minutes from the assessment discussions. Appendix C includes the ABET's Post-30-Day Due-Process Response. Appendix D includes parts of the report we submitted prior to that ABET response.

Glossary

Proficiency Score:

Represents the minimum score in each instrument that qualifies at meeting the Proficiency level or better (as defined in the Rubric).

Number Proficient:

Actual number of students that meet or exceed the proficiency score.

% Proficient:

Percentage of the students that meet or exceed the proficiency score.

Assessment Cycle: Fall 21 - Spring 22

This report provides assessment data, analysis, and evidence of continuous improvement across the six student outcomes for the Computer Information Systems Program (CISSOs) using our previously established process for the FA21-SP22 assessment cycle. All CISSOs except for CISSO-4 were assessed using instruments embedded in the two-course capstone sequence: CSC 3710 (Systems Analysis & Design - Fall, 2021) and CSC 4700 (Systems Design & Implementation, Spring, 2022). Though both capstone courses had eighteen (18) 3rd or 4th year Computer Information Systems majors enrolled, there were some changes in terms of the team members. One of the students failed CSC 3710 in Fall 2021 due to the health issues and he didn't attend CSC 4700 in Spring. On another hand, one transfer students who attended CSC 3710 elsewhere joined CSC 4700 in Spring 2022.

The remaining outcome (CISSO-4, Professional Responsibilities) was assessed using instruments embedded in CSC 4100 (Ethics & Impacts of Computing). Fourteen (13) Computer Information Systems majors were enrolled in CSC 4100 and the instruments were administered to them all. These 13 students were grouped into three teams. The assessment of each performance indicator (**PI**) was rubric-based. Our student proficiency target was to have at least 70% of the students achieve at the exemplary or proficient level for every PI.

In the capstone sequence students worked in teams (of 4 to 5 students) to analyze and develop a project for a simulated IS environment. The project was divided into eight assignments called "milestones" organized according to the phases of the Systems Development Life Cycle (SDLC). Students submitted written documentation for each milestone. In addition, each team made an oral presentation to demonstrate their work for a variety of audiences: customer, project managers, team members. When assessing oral presentations, rubrics were applied to assess content and not presentation style.

CISSO-1: Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.

Assessment Methods for CISSO-1. Assessment rubrics were applied to student work related to milestones 1, 2, 3, 6, and 7.

> **Assessment instrument Milestone *1*:** Milestone 1 activities relate to the planning phase of the SDLC. Each team determined the scope and purpose of the project, and identified the perceived problems, the business opportunities, and directives that triggered the project which are directly related to understanding the application domain (**PI-a**). Each team produces a written "system request" which includes a brief summary of business needs, and explains how the development of a system that addresses the needs will create business value. Other related student products during milestone 1 are documentation related to feasibility analysis including Technical, Economic, and organizational feasibilities. As part of the economic feasibility students are required to provide a first attempt of the cost/benefit analysis.

Assessment instrument Milestone *2*: In Milestone 2, students continue to work on the planning phase of the SDLC. Each team identified the project size and thus determined the number of staff by applying either the Planning Phase or Function Point approach. With Function Point Approach, students were required to define the inputs, outputs, files, and queries, and program interfaces (**PI-a, PI-b**).

Assessment instrument Milestone *3*: In completing Milestone 3, students analyze the system requirements and establish a work plan. One key aspect of this milestone is performing interviews and establishing a list of use cases. For each use case, the teams provide a detailed description of the functional and non-functional requirements and identify the system's inputs and outputs (**PI-b**).

Assessment instrument Milestone *6*: Milestone 6 activities finalize the system design. Teams use the alternative matrix to quantitatively compare solution strategies and identify a preference. The alternative matrix lists the criteria, assigns a weight to each item based on its importance, and maintains a total score for each approach. This technique is a quantitative method to compare and contrast multiple solution strategies (**PI-c**).

Assessment instrument Milestone *7*: Milestone 7 activities include finalizing physical data flow diagrams (DFDs), entity relationship diagrams (ERDs), and arranging project modules in a structure chart to specify the final design. Such activities demonstrate understanding of the computing principles relevant to the system design (**PI-d**).

Assessment Results for CISSO-1

CISSO-1 Assessment Results								
					Rubric summary (n = 18)			
Performance Indicator	**Semester**	**Course**	**Instructor**	**Instrument(s)**	**Exemplary**	**Proficient**	**Other**	**Result**
a) Understand the application domain.	Fall, 2021	CSC 3710 Systems Analysis & Design	Brady Chen	Milestone 1 Milestone 2	4 4	13 13	1 1	94.4% 94.4%
b) Understand the inputs, outputs and other requirements for the problem.	Fall, 2021	CSC 3710 Systems Analysis & Design	Brady Chen	Milestone 2 Milestone 3	4 0	13 17	1 1	94.4% 94.4%
c) Compare and contrast multiple approaches to solving the problem.	Spring, 2022	CSC 4700 Systems Design & Implementation	Brady Chen	Milestone 6	13	4	1	94.4%
d) Understand relevant computing principles.	Spring, 2022	CSC 4700 Systems Design & Implementation	Brady Chen	Milestone 7	0	17	1	94.4%

CISSO-1 Analysis

Target proficiency was achieved for all performance indicators. The performance indicators assessed in the Fall (PI-a) and Spring (PI-b) had fewer exemplary performers. One student failed to attend most of the classes and milestone presentations, he also failed to communicate with other members in the team. Though all the students were required to start returning to "near normal" in Fall 2021, the impact of two years of social isolation, anxiety, stress and depression was profound and the shadow of a pandemic was still affecting both course delivery and student interaction. These capstone courses normally require each team to interact with an instructor's guidance in a physical space to discuss the milestones and brainstorm projects using physical tools to visualize ideas, storyboard use cases, or prototype user interfaces. Students found performing the same tasks either remotely or with social distance and facemasks to be clumsy and inefficient. Communication problems among students still caused presentation delays which resulted in an overall delay of progress. To help compensate, some of the assignments were revised to reduce the workload while still maintaining quality. For example, during the project implementation phase, each team was instructed to focus on implementing one or two modules instead of the complete system. The pandemic forced us to think about how to deliver content, facilitate interaction, and assess the capstone courses remotely. We overcame quite a few obstacles. But many students were at a disadvantage because of their economic and/or living situations ... which is something we were not prepared for.

Rubric for CISSO-1: Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.

Performance Indicator	Exemplary	Proficient	Marginal	Weak
a) Understand the application domain.	Demonstrates a mature understanding of 1. What the design is meant to accomplish. 2. The deployment environment. 3. The available computing resources.	Demonstrates some understanding of 1. What the design is meant to accomplish. 2. The deployment environment. 3. The available computing resources.	Demonstrates some awareness of 1. What the design is meant to accomplish. 2. The deployment environment. 3. The available computing resources.	Shows no awareness of 1. What the design is meant to accomplish. 2. The deployment environment. 3. The available computing resources.
b) Understand the inputs, outputs and other requirements for the problem.	Demonstrates a mature understanding of 1. The requirements of the application. 2. Inputs and outputs associated with the problem domain. 3. How to design tests to validate problem solutions.	Demonstrates some understanding of 1. The requirements of the application. 2. Inputs and outputs associated with the problem domain. 3. How to design tests to validate problem solutions.	Demonstrates some awareness of 1. The requirements of the application. 2. Inputs and outputs associated with the problem domain. 3. How to design tests to validate problem solutions.	Shows no awareness of 1. The requirements of the application. 2. Inputs and outputs associated with the problem domain. 3. How to design tests to validate problem solutions.

c) Compare and contrast multiple approaches to solving the problem.	Demonstrates full ability to 1. Identify various approaches to achieve a solution. 2. Decide criteria for best solution 3. Evaluate and identify best solutions	Demonstrates some ability to 1. Identify various approaches to achieve a solution. 2. Decide criteria for best solution 3. Evaluate and identify best solutions	Demonstrates very little ability to 1. Identify various approaches to achieve a solution. 2. Decide criteria for best solution 3. Evaluate and identify best solutions	Shows no ability to 1. Identify various approaches to achieve a solution. 2. Decide criteria for best solution 3. Evaluate and identify best solutions.
d) Understand relevant computing principles.	Demonstrates a mature understanding of 1. Underlying mathematical and computational ideas. 2. Underlying design principles. 3. Efficient solution development methods.	Demonstrates some understanding of 1. Underlying mathematical and computational ideas. 2. Underlying design principles. 3. Efficient solution development methods.	Demonstrates some awareness of 1. Underlying mathematical and computational ideas. 2. Underlying design principles. 3. Efficient solution development methods.	Shows no awareness of 1. Underlying mathematical and computational ideas. 2. Underlying design principles. 3. Efficient solution development methods.

CISSO-2: Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

Assessment Methods for CISSO-2. Assessment rubrics were applied to student work related to milestones 1, 4, 5, 6, 7, and 8.

Assessment instrument Milestone *1*: Milestone 1 activities relate to the planning phase of the SDLC. Each team determined the scope and purpose of the project, and identified the perceived problems, the business opportunities, and directives that triggered the project which are directly related to understanding the application domain. Each team produces a written "system request" which includes a brief summary of business needs, and explains how the development of a system that addresses the needs will create business value. Other related student products during milestone 1 are documentation related to feasibility analysis including Technical, Economic, and organizational feasibilities. As part of the economic feasibility students are required to provide a first attempt of the cost/benefit analysis (**PI-b**).

Assessment instrument Milestones *4 & 5*: Milestone 4 activities include performing the use case analysis and build the major use cases for the system. Each team then creates and modifies DFDs for the system including context diagram, level 0 diagram, and lower-level diagrams whenever necessary. In milestone 5, students finalized the DFDs including context diagram, level 0 diagram, and lower level diagrams whenever necessary. They then created Entity-Relationship Diagrams (ERDs) for the system (**PI-a, PI-b**).

Assessment instrument Milestone *6*: Milestone 6 activities finalize the system design. One of the major activities was to develop and implement a mockup of the system user interface (UI) that simulated the "real system" interface. To do this, students studied and identified UI design principles (**PI-a**) and then planned a UI design based on various usage scenarios (**PI-b**) and implemented the design using a mockup (**PI-d**).

Assessment instrument Milestone *7*: Milestone 7 activities include finalizing physical data flow diagrams (DFDs), entity relationship diagrams (ERDs), and arranging project modules in a structure chart to specify the final design (**PI-b**). Such activities demonstrate understanding of the computing principles relevant to the system design (**PI-d**).

Assessment instrument Milestone *8*: Milestone 8 activities include developing a test plan that contains various scenarios. The test plan includes a test plan template where students specify the objective, describe steps required to achieve an acceptable outcome, demonstrate what an acceptable outcome looks like, and provide a reporting space to describe the outcome of an actual test (**PI-c**).

CISSO-2 Assessment Results								
					Rubric summary (n = 18)			
Performance Indicator	**Semester**	**Course**	**Instructor**	**Instrument(s)**	**Exemplary**	**Proficient**	**Other**	**Result**
a) Identify design principles appropriate to the problem.	Spring, 2022	CSC 3710 Systems Analysis & Design	Brady Chen	Milestone 4	4	13	1	94.4%
		CSC 4700 Systems Design & Implementation		Milestone 5	0	17	1	94.4%
				Milestone 6	9	8	1	94.4%
b) Plan and document computing-based solution development.	Spring, 2022	CSC 3710 Systems Analysis & Design	Brady Chen	Milestone 1	8	9	1	94.4%
				Milestone 4	0	17	1	94.4%
		CSC 4700 Systems Design & Implementation		Milestone 5	12	5	1	94.4%
				Milestone 6	4	13	1	94.4%
				Milestone 7	0	17	1	94.4%
c) Design and implement test cases for solution evaluation.	Spring, 2022	CSC 4700 Systems Design & Implementation	Brady Chen	Milestone 8	12	5	1	94.4%

d) Implement a computing-based solution.	Spring, 2022	CSC 4700 Systems Design & Implementation	Brady Chen	Milestone 5 Milestone 6 Milestone 7	12 0 0	5 17 17	1 1 1	94.4% 94.4% 94.4%

CISSO-2 Analysis

Target proficiency was achieved for all performance indicators. Milestones 7 and 8 were the last assignments of the capstone sequence. Throughout the academic year we all adapted to the challenges of the pandemic and our ability to adapt is demonstrated here. It's still challenge for the team members to communicate and meet each other. The large team size was a reasonable choice given the technical challenges faced by the students. It made having a quorum more likely when teams met outside of class and allowed for more time for in-class instruction and team interaction because fewer teams meant less time was needed for student presentations. In some cases, assignments were revised to help students deal with pandemic stress issues. Clearly, team size, class time, and assignment workload all played a role in helping students achieve on this outcome.

Rubric for CISSO-2: Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

Performance Indicator	Exemplary	Proficient	Marginal	Weak
a) Identify design principles appropriate to the problem.	Demonstrates a mature understanding of 1. Underlying mathematical and computational ideas. 2. Modularize the problem. 3. Selecting appropriate design elements for the solution.	Demonstrates some understanding of 1. Underlying mathematical and computational ideas. 2. Modularize the problem. 3. Selecting appropriate design elements for the solution.	Demonstrates some awareness of 1. Underlying mathematical and computational ideas. 2. Modularize the problem. 3. Selecting appropriate design elements for the solution.	Shows no awareness of 1. Underlying mathematical and computational ideas. 2. Modularize the problem. 3. Selecting appropriate design elements for the solution.
b) Plan and document computing-based solution development.	Demonstrates full ability to 1. Identify the sequence of tasks and the dependencies. 2. Identify the needed tools. 3. Document the process.	Demonstrates some ability to 1. Identify the sequence of tasks and the dependencies. 2. Identify the needed tools. 3. Document the process.	Demonstrates some awareness of how to 1. Identify the sequence of tasks and the dependencies. 2. Identify the needed tools. 3. Document the process.	Demonstrates no awareness of how to 1. Identify the sequence of tasks and the dependencies. 2. Identify the needed tools. 3. Document the process.

c) Design and implement test cases for solution evaluation.	Demonstrates full ability to 1. Identify all test cases and set of exceptions. 2. Implement the tests and exception handling methods.	Demonstrates some ability to 1. Identify all test cases and set of exceptions. 2. Implement the tests and exception handling methods.	Demonstrates some awareness of how to 1. Identify all test cases and set of exceptions. 2. Implement the tests and exception handling methods.	Demonstrates no awareness of how to 1. Identify all test cases and set of exceptions. 2. Implement the tests and exception handling methods.
d) Implement a computing-based solution.	Demonstrates full ability to 1. Identify an appropriate computational solution. 2. Develop logical design of the solution. 3. Implement the solution appropriate to the computing context. 4. Test the implementation in phases.	Demonstrates some ability to 1. Identify an appropriate computational solution. 2. Develop logical design of the solution. 3. Implement the solution appropriate to the computing context. 4. Test the implementation in phases.	Demonstrates some awareness of how to 1. Identify an appropriate computational solution. 2. Develop logical design of the solution. 3. Implement the solution appropriate to the computing context. 4. Test the implementation in phases.	Demonstrates no awareness of how to 1. Identify an appropriate computational solution. 2. Develop logical design of the solution. 3. Implement the solution appropriate to the computing context. 4. Test the implementation in phases.

CISSO-3 Communicate effectively in a variety of professional contexts.

Assessment Methods for CISSO-3. Students gave presentations throughout the semester to report on project activities to a variety of audiences. Assessment rubrics were applied to student presentations and written documentation related to milestones 3, presentation, and peer evaluation.

Assessment instrument *Milestone 3*: In completing Milestone 3, students gather and analyze information to establish system requirements and create a work plan. Each team gathered and analyzed information from stakeholders to establish a detailed list of use cases. Students in each team were responsible for performing the requirement gathering and would need to conduct some interviews. They then determined three individuals or groups that they would most want to obtain information from. Prepare for those interviews by creating a one-page list of questions for each of the three interviewees. (**PI-a**).

Assessment instrument Presentation, *Peer Evaluation*: Students submitted written documentation for each milestone. In addition, each team made an oral presentation to demonstrate their work for a variety of audiences: customer, project managers, team members (**PI-b**). After completing the presentation for each milestone, students were asked to evaluate the performance of each of their teammates as well as the performance of the other team on a scale of 1 (worst) to 10 (best). Each evaluator had an opportunity to also provide helpful comments (**PI-c, PI-d**).

CISSO-3 Assessment Results								
					Rubric summary (n = 18)			
Performance Indicator	**Semester**	**Course**	**Instructor**	**Instrument(s)**	**Exemplary**	**Proficient**	**Other**	**Result**
a) Understand and translate stakeholder requirements into computing specifications.	Fall, 2021	CSC 3710 Systems Analysis & Design	Brady Chen	Milestone 3	17	0	1	94.4%
b) Present solution prototypes to the customer.	Spring, 2022	CSC 3710 Systems Analysis & Design CSC 4700 Systems Design & Implementation	Brady Chen	Presentation, Peer Evaluation	17	0	1	94.4%
c) Communicate the solution design to the project managers.	Spring, 2022	CSC 3710 Systems Analysis & Design	Brady Chen	Presentation, Peer Evaluation	17	0	1	94.4%

		CSC 4700 Systems Design & Implementation						
d) Participate in group discussions with team members.	Fall, 2021 & Spring, 2022	CSC 3710 Systems Analysis & Design CSC 4700 Systems Design & Implementation	Brady Chen	Presentation, peer evaluation	17	0	1	94.4%

CISSO-3 Analysis

Target proficiency was achieved for all performance indicators. All of the students achieved exemplary performance for PI-b, PI-b, and PI-c except one (in each semester) who missed almost all the presentations and team communications. All the performances were assessed through the oral presentations and peer=evaluation. Group participation (PI-b and PI-d) is best assessed when the instructor has the opportunity to observe. As mentioned in the assessment of previous outcomes, pandemic stress was a difficulty we all had to overcome and for some students, technical issues made communication difficult. However, students were still managed to do a excellent jobs for all the milestone presentations.

Rubric for CISSO-3: Communicate effectively in a variety of professional contexts.

Performance Indicator	Exemplary	Proficient	Marginal	Weak
a) Understand and translate stakeholder requirements into computing specifications.	Demonstrates full ability to 1. Interact with stakeholders to establish requirements. 2. Communicate the specifications to all the stakeholders. 3. Document the specifications.	Demonstrates some ability to 1. Interact with stakeholders to establish requirements. 2. Communicate the specifications to all the stakeholders. 3. Document the specifications.	Demonstrates some awareness of how to 1. Interact with stakeholders to establish requirements. 2. Communicate the specifications to all the stakeholders. 3. Document the specifications.	Demonstrates no awareness of how to 1. Interact with stakeholders to establish requirements. 2. Communicate the specifications to all the stakeholders. 3. Document the specifications.
b) Present solution prototypes to the customer.	Demonstrate full ability to present the prototypes to customers and solicit feedback.	Demonstrate some ability to present the prototypes to customers and solicit feedback.	Demonstrate some awareness of how to present the prototypes to customers and solicit feedback.	Demonstrate no awareness of how to present the prototypes to customers and solicit feedback.

c) Communicate the solution design to the project managers.	Demonstrate full ability to organize and present the solution design to the project managers.	Demonstrate some ability to organize and present the solution design to the project managers.	Demonstrate some awareness to organize and present the solution design to the project managers.	Demonstrate no awareness to organize and present the solution design to the project managers.
d) Participate in group discussions with team members.	Demonstrate leadership through peer evaluation.	Demonstrate significant contribution through peer evaluation.	Demonstrate inconsistent contribution through peer evaluation.	Demonstrate no contribution to the team discussions.

CISSO-4: Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

Assessment Instruments for CISSO-4

Introduction. This outcome was assessed using written student responses to chapter questions from the textbook (Ethics for the Information Age, 8th edition by Michael J. Quinn) for the course CSC 4100 (Ethical Issues in Computer Science).

Assessment instrument *Quiz 1* : By thoughtfully answering Quiz 1 questions students demonstrate their understanding of general ethical theories, their limitations and ways to determine one's own ethical responsibilities (**PI-a**)

Assessment instrument *Quiz 2*: By thoughtfully answering Quiz 2 questions, students demonstrate their understanding of legal issues, their limitations, and how they may differ from the ethical and moral considerations (**PI-b**)

Assessment instrument *Quiz 3*: By thoughtfully answering Quiz 3 questions, students demonstrate their understanding of how to assess the social impacts of various information technologies. (**PI-b, PI-c**)

Assessment instrument *Quiz 4*: By thoughtfully answering Chapter 9 discussion questions, students demonstrate their understanding of issues related to professional ethics, ethical decision-making in the workplace (**PI-c**)

Assessment instrument *Project 1*: In Project 1, each team was required to read and summarize the ACM Code of Ethics and Professional Conduct. Students demonstrated their understanding of fundamental ethical principles, professional responsibility, professional leadership principles, and principles involving compliance with the Code (**PI-a, PI-b**)

Assessment instrument *Project 2* : In completing Project 2, students demonstrated understanding of the impact of computing technologies on privacy and copyright issues (**PI-c**).

Assessment instrument *Project 3*: In Project 3, each team used an example of online voting to discuss the roles of governments in shaping the policies that govern the conduct of computing solutions and the future trends in computing technologies and their potential impacts (**PI-c, PI-d**).

Assessment instrument *Project 4*: Project 4 involved the discussion on the future trends in computing technologies and their potential impacts with the computer simulations (**PI-c**)

CISSO-4 Assessment Results								
					Rubric summary (n = 10)			
Performance Indicator	**Semester**	**Course**	**Instructor**	**Instrument**	**Exemplary**	**Proficient**	**Other**	**Results**
a) Understand ethical responsibilities.	Spring, 2022	CSC 4100	Frits Lander	Project 1 Quiz 1	13 4	0 4	0 5	100% 61.5%
b) Understand legal responsibilities	SP 22	CSC 4100	Frits Lander	Project 1 Quiz 3	13 5	0 5	0 3	100% 77.0%
c) Understand social impacts of potential solutions.	SP 22	CSC 4100	Frits Lander	Project 2 Project 3 Project 4 Quiz 3 Quiz 4	13 13 13 5 4	0 0 0 5 4	0 0 0 3 3	100% 100% 100% 77.0% 77.0%
d) Make informed ethical decisions.	SP 22	CSC 4100	Frits Lander	Project 3	5	2	3	70%

CISSO-4 Analysis

As part of the continuous improvement, the one credit hour Ethics course CSC 4102 was replaced with this three-credit hour course CSC 4100. The results show that the students' performance have been improved dramatically. Our proficiency target was almost realized for all PIs.

Rubric for CISSO-4: Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

Performance Indicator	Exemplary	Proficient	Marginal	Weak
a) Understand ethical responsibilities.	Demonstrate full ability to identify and evaluate ethical issues in computing practices.	Demonstrate some ability to identify and evaluate ethical issues in computing practices.	Demonstrate some awareness of how to identify and evaluate ethical issues in computing practices.	Demonstrate no awareness of how to identify and evaluate ethical issues in computing practices.
b) Understand legal responsibilities.	Demonstrate full ability to identify and evaluate legal issues in computing practices.	Demonstrate some ability to identify and evaluate legal issues in computing practices.	Demonstrate some awareness of how to identify and evaluate legal issues in computing practices.	Demonstrate no awareness of how to identify and evaluate legal issues in computing practices.
c) Understand social impacts of potential solutions.	Demonstrate full ability to identify impacts of potential solutions on society.	Demonstrate some ability to identify impacts of potential solutions on society.	Demonstrate some awareness of how to identify impacts of potential solutions on society.	Demonstrate no awareness of how to identify impacts of potential solutions on society.
d) Make informed ethical decisions.	Demonstrate full ability to make proper ethical choices.	Demonstrate some ability to make proper ethical choices.	Demonstrate some awareness of how to make proper ethical choices.	Demonstrate no awareness of how to make proper ethical choices.

CISSO-5: Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

Assessment Instruments for CISSO-5

Assessment instrument *Peer Evaluations*: After completing the presentation for each milestone, students were asked to evaluate the performance of each of their teammates as well as the performance of the other team on a scale of 1 (worst) to 10 (best). Each evaluator had an opportunity to also provide helpful comments.

CISSO-5 Assessment Results								
					Rubric summary (n = 18)			
Performance Indicator	**Semester**	**Course**	**Instructor**	**Instrument(s)**	**Exemplary**	**Proficient**	**Other**	**Result**

a) Cooperate and contribute fully within the team.	Fall, 2021 and Spring, 2022	CSC 3710 Systems Analysis & Design CSC 4700 Systems Design & Implementation	Brady Chen	Presentation, peer evaluation	17	0	1	94.4%
b) Communicate effectively with the team.	Fall, 2021 and Spring, 2022	CSC 3710 Systems Analysis & Design CSC 4700 Systems Design & Implementation	Brady Chen	Presentation, peer evaluation	17	0	1	94.4%
c) Demonstrate time and project management skills.	Fall, 2021 and Spring, 2022	CSC 3710 Systems Analysis & Design CSC 4700 Systems Design & Implementation	Brady Chen	Presentation, peer evaluation	17	0	1	94.4%

CISSO-5 Analysis

Target proficiency was achieved based on a peer evaluation instrument that provided an assessment for the entire outcome across all performance indicators. Using this measure, we were unable to distinguish each of the three aspects of performance associated with this outcome (cooperation, communication, and time management) and it was not possible to properly apply the rubric for the individual PIs.

CISSO-5 Prescribed Intervention

After reviewing the procedure to assess this outcome, we determined that using a single scale to assess student performance does not allow the three PIs to be distinguished and evaluated individually. Going forward, peer evaluations will ask students to use a rubric to rate their peers based on each of the three performance indicators so the rubric can be applied properly.

Rubric for CISSO-5: Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

Performance Indicator	Exemplary	Proficient	Marginal	Weak
a) Cooperate and contribute fully within the team.	Considered by peers as fully cooperating and contributing to the team project.	Considered by peers as significantly cooperating and contributing to the team project.	Considered by peers as somewhat cooperating and contributing to the team project.	Considered by peers as not cooperating and contributing to the team project.

b) Communicate effectively with the team.	Considered by peers as an excellent communicator.	Considered by peers as a good communicator.	Considered by peers as having communication issues.	Considered by peers as non-communicative.
c) Demonstrate time and project management skills.	Demonstrate full ability to set milestones and meet them.	Demonstrate some ability to set milestones and meet them.	Demonstrate some awareness of setting milestones and meet them.	Demonstrate no ability to set milestones and meet them.

CISSO-6: Support the delivery, use, and management of information systems within an information systems environment.

Assessment Methods for CISSO-6. Assessment rubrics were applied to student documentation of milestones 1, 2, 3, 6, 7, and 8.

Assessment instrument Milestone *1*: Milestone 1 activities were all related to the planning phase of the SDLC for a project in a simulated IS environment. Each team determined the scope and purpose of the project, and identified the perceived problems, the business opportunities, and directives that triggered the project which are directly related to planning an IS project (**PI-a**). Each team produced documentation that summarized business needs and how information systems can be used to address the needs and create business value. Other documentation to support the plan included a cost/benefit analysis and a feasibility study.

Assessment instrument Milestone *2*: As part of the planning phase, students identified the project size and determined the number of staff needed by using either the Planning Phase Approach or Function Point Approach in Milestone 2 (**PI-a**).

Assessment instrument Milestone *3*: In completing Milestone 3, students gather and analyze information to establish system requirements and create a work plan. Each team gathered and analyzed information from stakeholders to establish a detailed list of use cases. Use cases were analyzed to provide a system description that included inputs, outputs, and the functional and non-functional requirements (**PI-b**).

Assessment instrument Milestone *6 & 7*: Milestone 6 activities finalize the system design. Teams use a quantitative method to make the best choice from multiple solution strategies to identify the design principles that will move the project forward. Students cooperate to design a user interface prototype and make a presentation of the completed design. Milestone 7 activities include finalizing physical data flow diagrams (DFDs), entity relationship diagrams (ERDs), and arranging project modules in a structure chart to specify the final design. Such activities demonstrate understanding of the computing principles relevant to the system design **(PI-c).**

Assessment instrument Milestone *8*: Milestone 8 activities include finalizing the design and developing a plan for system implementation which includes system testing. Each team submits a written report and gives a 30-minute presentation intended for

Performance Indicator	Exemplary	Proficient	Marginal	Weak
a) Cooperate and contribute fully in the planning phase of the systems development life cycle (SDLC) in a project within an IS environment.	Demonstrated as a key coordinator and contributor in the planning of the project.	Demonstrated as a major coordinator and contributor in the planning of the project.	Considered by peers as somewhat cooperating and contributing in the planning of the project.	Considered by peers as not cooperating and contributing in the planning of the project.
b) Cooperate and contribute fully in the analysis phase of the systems development life cycle (SDLC) in a project within an IS environment.	Demonstrated as a key coordinator and contributor in the analysis of the project.	Demonstrated as a major coordinator and contributor in the analysis of the project.	Considered by peers as somewhat cooperating and contributing in the analysis of the project.	Considered by peers as not cooperating and contributing in the analysis of the project.
c) Cooperate and contribute fully in the design phase of the SDLC in a project within an IS environment.	Demonstrated as a key coordinator and contributor in the design of the project.	Demonstrated as a major coordinator and contributor in the design of the project.	Considered by peers as somewhat cooperating and contributing in the design of the project.	Considered by peers as not cooperating and contributing in the design of the project.
d) Cooperate and contribute fully in the implementation phase of the SDLC in a project within an IS environment.	Demonstrated as a key coordinator and contributor in the implementation of the project.	Demonstrated as a major coordinator and contributor in the implementation of the project.	Considered by peers as somewhat cooperating and contributing in the implementation of the project.	Considered by peers as not cooperating and contributing in the implementation of the project.

Current Assessment Summary

CIS program assessment is largely focused on a two-course capstone sequence starting in the Fall with CSC 3710 and ending in the Spring with CSC 4700. The project initiated during the Fall semester was continued in the Spring semester and teams were maintained between the two semesters.

Overall, proficiency targets were realized for most CIS program student outcomes: CISSO-1, CISSO-2, CISSO-3, CISSO-5, and CISSO-6. The proficiency targets were dramatically improved after we replaced the one credit hour Ethics course CSC 4102 with three-credit hour course CSC 4100.

Continuous Improvement

We actively make changes to our courses and curriculum to improve our student outcomes in a continuous and regular way. The aforementioned interventions will be implemented in the coming year and their effectiveness will be assessed in the next assessment

cycle. Previous assessment cycles raised an issue that has been the focus of recent documented continuous improvement effort in the area of CISSO-4 (Ethics).

The first phase of a continuous improvement initiative related to outcome CSSO-4 (professional responsibilities) is now complete. In AY2020, the committee recognized difficulties related to providing complete coverage of CSSO-4 with our required 1-credit course (CSC 4102 – Ethical Issues in Computer Science) and took actions to improve the coverage of professional responsibilities. Clearly, a 1-credit course limits both breadth and depth of coverage. As a remedy, a new 3-credit course was developed (CSC 4100 - Ethics and Impacts of Computing Solutions). CSC 4100 was proposed in AUC#33 on 10/21/2019, recommended by the All-University Committee's Curriculum sub-committee, and received approval from President Lapidus in May, 2020. The new course is required for all CIS majors entering in Fall, 2021 (Class of 2025). As with CSC 4102, the only course prerequisite is Junior or Senior status. In the meantime, we continue to offer, assess, and work to improve CSC 4102 for the students who are currently in our program as it is listed as a requirement.

Final Word

We take pride in the work we do and courses we teach. Each of us individually adapts to changing circumstances within the courses we teach to make undocumented improvements every semester. We handle issues in our individual courses as they arise because that is what is required of conscientious instructors. We constantly review our curriculum and course delivery and adapt to numerous external and internal factors: discussions with the Program Advisory Board, discussions with our feeder community colleges, the changing liberal arts and science requirements of the university, the conferences we attend to understand trends in educational practice, the assessments administered in each course we teach, the feedback we receive from students in and outside of class, and the departmental retreats and other meetings where we discuss improvements to courses and curriculum. Systematic assessments such as those reported here play an important role. However, documenting all aspects of our process is a major, time-consuming task that continues to grow and take us away from our main focus: student learning. At FSU, faculty salaries are based on a 9-month contract from September 1 through May 31. Many of the hundreds of hours we have collectively spent trying to make this document comply with reviewer suggestions have been contributed without compensation. Each of us is assigned four courses to teach every semester. We do not have the luxury of TAs that monitor our labs, maintain our equipment, tutor our students, and grade student work. Here, everything is on us: the faculty. The University assigns new administrative duties to the department leadership every year and provides less and less support. This has the effect of draining our energies from the important duties of teaching, helping students, and advancing our curriculum. With every ABET review, we encounter radically different expectations. With each review, we collectively spend thousands of hours, many without compensation, adapting to develop new assessment materials and procedures to satisfy the feedback we receive. Then, when the next review team steps in, our diligent follow-through ... based on the feedback we received by the previous review team ... is rejected. There needs to be a simplified, streamlined, and consistent process that will honor our sincere effort and not be radically changed from one site visitation to the next. It should not assume that we have the same resources available to those who

teach in affluent or prestigious technical universities. We sincerely work every day to make our program as helpful as possible to our students moving forward. Processes that add to administrative burden diminish our ability to focus on what's important: quality teaching to promote student learning.

Present: All 7 faculty members: Kevin, Ricky, Robin, Natasha, Frits, Brady and Mahadev

Minutes from the department meeting on May 11 (Tuesday) 11 – 12:15

Agenda was: Discussions on CS and CIS program assessments for the current assessment cycle.

- Mahadev reviewed the CAC report from site visit in 2019-20 cycle. A weakness was observed for both the programs in the "continuous improvement" category.
- Mahadev summarized the job ahead.
    - Since then we have already revamped the process, created rubrics for each student outcome, and assigned a faculty-in-charge (FIC) of each outcome.
    - The FIC is responsible for gathering the assessment data and complete the assessment table and present for departmental discussion.
    - FIC will then summarize the discussion points and action to be taken, and add it to the report.
- Mahadev presented the template for the assessment tables.
- Question: Should the performance data, the student work and the descriptions of the instruments be moved to the end of the report as an appendix, so as to prevent cluttering the assessment tables and the analysis?
- Everyone agrees to do that.
- Download the actual student data from the blackboard, compute the percentages and create a table in word document and post to the shared google doc.
- This is done for the CSC 4400 as a demo and was posted to the google share. This needs to be updated after the finals.
- Make sure that the data of graduating students is not removed from blackboard. Talk to Heather.
- Archive the course because that will save all the student data as well.
- The capstone course and the Ethics course together meet all the student outcomes.
- Question: Do we need a two year cycle?
- In order to capture every graduating student, it should be done every year at the end of the spring semester.
- The report is modified to reflect that.
- Steps:
    - Each year, a template will be created in the google share.
    - After the finals, post the data in Appendix of that share.
    - Then fill the assessment tables and discuss in a series of meetings until everything is discusses and reports written.
- Mahadev will update the template for CIS assessment also based on today's discussions.
- We meet next Tuesday at 11 AM again.
- Ask Heather to give access to Natasha for Lori's blackboard course.
- Meeting adjourned at 12:20 PM

Minutes of Department meeting on May 18 (Tuesday) 11 – 12:15

Agenda

Summer Orientation dates and help

- June 14 (MON): Kevin, Brady
- June 15 (TUE): Brady, Natasha
- June 17 (THU): Natasha, Brady
- June 21 (MON): Robin,
- June 22 (TUE): Robin, Frits.
- June 24 (THU): Frits
- June 25 (FRI): Kevin

Orientation Plan

1) Program brochures should be available at the tables. Mahadev will see if they are up-to-date.
2) You will have an hour from 3:15 - 4:15 to meet with your students. Many students have deposited in multiple colleges, so treat this time as "recruitment". Speak to opportunities and the excitement of being part of the major. Don't assume we have "closed the deal"
3) Tables will be set up with program names throughout Hammond.
4) Bring a laptop as you may have to help students to see their schedules. There could be students who have yet to be given a schedule.
5) The Registrar will meet with them at 2:15 so hopefully they will all know how to find their schedule and you won't have to do #4.
6) Testing is by remote proctoring again this year. If students haven't tested, they may take the test at 10:15 on the day of their orientation. They will not have a schedule.

Discussions on CS and CIS program assessments for the current assessment cycle.

1. Introduced glossary to define the tables better.
2. Each faculty-in-charge mapped the instruments to PIs and edited the shared tables. This is done in consultation with the instructors outside department meetings.
3. Question arose as to how the actual percentages are calculated when multiple instruments are used to measure a single performance indicator. Based on the feedback from the instructors it was decided to use the average percentages taken over all the instruments used since all the instruments measure the same PI at difference levels.
4. Department as a whole began to discuss the tables and verify if the targets are met.
5. Meet next on Thursday (May 20) at 11 AM to continue.

Minutes of the May 20 meeting.

The department completed the assessment discussions and generated the report to be submitted to ABET.

Minutes of Department meeting on June 3 (Thursday) 14:00 – 16:00

- After Zoom meeting with ABET evaluator (June 2), it was clear that our current report was not being understood. As a result, we adopted a new format to communicate the assessment for each outcome more clearly:
  - This is the objective
  - This is how it is assessed (describe the instrument fully)
  - This is the data for this objective
  - This is the outcome
  - This is what we think about it
  - This is what we decided from our discussion
  - Suggested improvement and how it may be assessed
- We discussed how to write the stuff.
- We will work with CSSO-1 using the new template and send it to the evaluator for feedback.

ADDENDUM:

Subsequent additional feedback from the ABET evaluator (June 5) indicated that this proposed format was overly repetitive and redundant. We completely reworked the format of the report based on that feedback.

Continuous Improvement: AUC#033

Record of action taken ...

AUC Number	Academic Year of Submission	Submission Date	Proposal Title Click underlined titles to download proposal file.	Author/Contact	Subcommittee	Subcommittee Referral Date	Subcommittee Recommendation
033	2020	01/27/2020	New Course-Ethics and Impacts of Computing Solutions Revised/Final Proposal	Nadimpalli Mahadev	CC,	02/06/2020	Recommended with Amend

Subcommittee Amendments	AUC Action	AUC Vote Date	AUC Amendments	AUC Number	President's Action	President's Action Date	President's Comments
1) Section 13: Add the number 3 to the Credit [read all]	Recommended with Amend	04/02/2020	AUC accepted Friendly Amendments #1 and #2, but rejected #3 [read all]	033	Approved	05/19/2020	

The complete record shown above can be searched for from this web page:
https://web.fitchburgstate.edu/aucproposals/

A direct link to the complete proposal as approved:
https://web.fitchburgstate.edu/aucproposals/upload/AUC33-New_Course-Ethics_and_Impacts_of_Computing_Solutions-with_Syllabus-Amended.pdf