Assessment Cycle 2021 – 2022

MS in Computer Information Systems

Division: School of Business, College of Business and Technology

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Approved by: Dr. Greg Handel **Date: 23 June 2022**

Northwestern Mission. Northwestern State University is a responsive, student-oriented institution committed to acquiring, creating, and disseminating knowledge through innovative teaching, research, and service. With its certificate, undergraduate, and graduate programs, Northwestern State University prepares its increasingly diverse student population to contribute to an inclusive global community with a steadfast dedication to improving our region, state, and nation.

College of Business and Technology Mission. The College of Business and Technology is dedicated to providing a high quality – market responsive business and technology education, preparing our diverse student population for successful careers and enriched lives in the public, private and nonprofit sectors, and enhancing our students' academic experiences through our research and scholarly activities.

School of Business Mission. The mission of the School of Business is to provide our diverse student population with innovative skills in business and technology to prepare them for successful careers and responsible citizenship roles to have a positive societal impact in the world of business. (Adopted 2017-2018 – mission wording was revised to include "our diverse population"; Adopted 2020-2021 – mission wording was revised to reflect societal impact)

As such, NSU's School of Business is committed to …

Providing students with a business education. This means that we strive to provide students with opportunities to become effective communicators, critical thinkers, develop knowledge across the business disciplines, and global perspective.

Preparing them for successful careers and citizenship roles. This means that we provide education experience and opportunities.

…In the world of Business. This implies developing a global perspective that involves managing activities that foster the transfer of goods and services in organizations of all types wherever found.

Computer Information Systems Program Mission Statement: The mission of the MS in Computer Information Systems in the School of Business at Northwestern State is to prepare our diverse student populations for careers as

information systems and technology professionals in the public, private and nonprofit sectors, and/or for advancement into doctoral programs. This purpose will be met by providing quality online and face-to-face business and technology instruction and academic support with high academic standards, superior teaching, quality research, significant service, and effective use of technology for the citizens of our region. (Approved by CIS faculty on 6/9/2021).

Purpose: To prepare students for careers as business professionals in the public, private and nonprofit sectors, and/or for advancement into graduate programs.

Methodology: The assessment process for the School of Business includes:

(1) The MS in Computer Information Systems collects SLO data each year.

(2) A variety of assessment tools (quantitative, qualitative, direct and indirect) are used to collect data for analysis for each of the Student Learning Outcomes (SLOs).

(3) Data is collected and returned to the SLO Chairs.

(4) Summary results are analyzed to determine if students have achieved or "met" the measurable outcomes. When necessary, proposed action steps are created by each SLO chairman in collaboration with the SLO committee members, faculty teaching core courses, and the program coordinator.

(5) Following discussion and review by appropriate faculty, if needed, proposed recommended action steps, and recommended changes are implemented by the faculty responsible for teaching the courses tied to the SLO.

(6) Individual meetings are held with faculty and staff as required.

(7) In consultation with the staff and senior leadership, proposed changes to measurable outcomes, assessment tools for the next assessment period and, where needed, service changes will be recommended.

(8) These proposed recommended action steps and recommended changes are implemented by the faculty responsible for teaching the courses tied to the SLO.

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Student Learning Outcomes (SLOs):

SLO 1. <u>Demonstrate discipline-specific content knowledge</u>. Students should be able to demonstrate understanding of key concepts and theories in areas of CIS as well as demonstrate the ability to draw on knowledge and insights from a variety of disciplines when analyzing and formulating solutions to problems and opportunities.

Course Map (Tied to course syllabus objectives):

CIS 5950 – Research Project and/or Thesis

Measure 1.1 (Direct – Exam; Entrance Exam)

Details/Description: The unit strives to give students the baseline knowledge exam prior to registration for their first semester. This exam covers key concepts and theories in Computer Information Systems. The exam included multiple choices questions as well as short answer questions. The questions are grouped into categories: Programming, Software Applications, Networking, Cyber Security, Databases, Data Analysis, and Project Management. The exam also includes questions related to analytical techniques and research questions.

Acceptable Target: In each category, 50% or more of students will get at least one answer correct.

Ideal Target: In each category, 75% or more of students will get at least one answer correct.

Implementation Plan (timeline): This measurement is completed as students are entering the program and registering for classes. Students can enter the program in the spring, summer, or fall semesters.

Key/Responsible Personnel: A faculty member is currently receiving an extra services contract to coordinate the graduate program and is responsible for this administration. Upon determination of a permanent coordinator of the program, that coordinator would be responsible for the administration of the baseline knowledge exam.

Finding: The acceptable target was **<u>not met</u>** in every category. The ideal target was **<u>not met</u>** in every category.

Analysis: In AC 2020-2021, the target was <u>not</u> met. The table below shows the results for the 2020-2021 assessment cycle for Measure 1.1.

Table 1: AC 2020-2021 Baseline Knowledge Exam Results

Area	% with No Answers Correct	% with Some Answers Correct	% with All Answers Correct

Programming	9%	27%	64%
Software Applications	9%	45%	45%
Networking	36%	55%	9%
Cyber Security	0%	45%	55%
Databases	91%	9%	0%
Data Analysis	91%	0%	9%
Project Management	100%	0%	0%

11 students took the baseline knowledge exam. The acceptable and ideal targets were met in the areas of Programming, Software Applications, and Cyber Security. The acceptable, but not the ideal target was met in Networking. Neither target was met in Databases, Data Analysis, and Project Management. Thus, overall, the acceptable target was not met, and the ideal target was not met for all categories. As this year was the first year of entry into the MS in Computer Information Systems, this baseline knowledge exam reflects the preparedness of students in the various areas of Computer Information Systems.

Based on the analysis of the AC 2020-2021 results, the faculty implemented the following changes in AC 2021-2022 to drive the cycle of improvement.

First, the MS in Computer Information Systems has prerequisites for certain courses. During the AC 2020-2021 year, some students were allowed to enter these courses with the promise that they would be taking advantage of external resources to prepare themselves for the classes. This preparation did not always occur. Effective AC 2021-2022, students now must take the prerequisite courses before registering for any graduate courses.

As a result of these changes, in AC 2021-2022, the target was not met. The table below shows the results for the AC 2021-2022 assessment cycle for Measure 1.1

Table 2: AC 2021-2022 Baseline Knowledge Exam Results

Area	% with No Answers Correct	% with Some Answers Correct	% with All Answers Correct
Programming	0%	0%	100 %
Software Applications	0%	33%	67%
Networking	0%	33%	67%
Cyber Security	0%	67%	33%
Databases	100%	0%	0%
Data Analysis	33%	67%	0%
Project Management	0%	100 %	0%

Three students took the baseline knowledge exam. The acceptable and ideal targets were met in the areas of Programming, Software Applications, Networking, Cyber Security, and Project Management. The acceptable, but not the ideal target was met in Data Analysis. Neither target was met in Databases. Thus, overall, the acceptable target was not met, and the ideal target was not met for all categories. While the targets were not met for every category, the second-year cohort did improve in almost every category as compared to the first-year cohort. The change of requiring the prerequisites appeared to help enhance the baseline knowledge exam results.

Decision:

In AC 2021-2022, the target was not met. Based on the analysis of the AC 2021-2022 results, the faculty will implement no changes in 2022-2023 to drive the cycle of improvement. Based on the increase in exam scores, the CIS faculty will continue to require students to meet the prerequisites before officially entering the MS program. Additionally, this target serves as a baseline against which to measure the results of the exit exam.

Measure 1.2 (Direct – Exam; Exit Exam)

Details/Description: In CIS 5950, students will again take the MS in Computer Information Systems knowledge exam. These students will be taking the exam in their last semester (or close to it) and their attempt should reflect the knowledge they have gained through the program.

Acceptable Target: In each category, 75% of students will get all answers correct.

Ideal Target: In each category, 95% of students will get all answers correct.

Implementation Plan (timeline): This measure should be completed each semester CIS 5950 is offered.

Key/Responsible Personnel: The School of Business faculty teaching CIS 5950 will be responsible for administering the exam.

Finding: Target was not met.

Analysis: In AC 2020-2021, the target was not applicable. CIS 5950 was not offered until Spring 2022. No changes were made as there was no data to analyze.

In AC 2021-2022, the target was not met. The table below shows the results for the AC 2021-2022 assessment cycle for Measure 1.2.

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Table 3: AC 2021-2022 Exit Exam Results

Area	% with No Answers Correct	% with Some Answers Correct	% with All Answers Correct
Programming	0%	0%	100%
Software Applications	0%	67%	33%
Networking	0%	67%	33%
Cyber Security	0%	0%	100%
Databases	67%	33%	0%
Data Analysis	67%	33%	0%
Project Management	0%	100 %	0%

Three students took the knowledge exit exam. The acceptable target was not met for the knowledge exit exam. The ideal target was not met for the knowledge exit exam.

The acceptable target and the ideal target were met for the categories of Programming and Cyber Security. The acceptable target and the ideal target were not met for the remainder of the categories. As compared to the entry exam, students did the same or better in the categories of Programming, Cyber Security, Databases, and Project Management. As compared to the entry exam, students did worse in the categories of Software Applications, Networking, and Data Analysis.

Decision: In AC 2021-2022, the target was not met. Based on the analysis of the AC 2021-2022 results, the faculty will implement the following changes in AC 2022-2023 to drive the cycle of improvement.

First, after teaching the classes a couple of times, the CIS faculty are updating the questions in the Databases and Data Analysis categories to align with expectations of what the students would be able to answer after finishing those classes.

Additionally, the faculty will monitor these results for a couple years. While the latest class had to meet the prerequisite standards, the first class did not. Some of those students will graduate in the next couple of years. The CIS faculty will be able to see if a difference occurs once that cohort of student has graduated, and the only graduates are those who met the prerequisite standards.

SLO 2. Analytical Techniques. Students must be able to apply appropriate analytical techniques to identify and frame problems, generate and compare alternatives, use knowledge of analytic processes and reasoning skills to optimize organizational performance, and understand and use current organizational technologies.

Course Map: Tied to course syllabus objectives. CIS 5950 – Research Project and/or Thesis

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Measure 2.1 (Direct – Exam; Entrance Exam)

Details/Description: The unit strives to give students the baseline knowledge exam prior to registration for their first semester. This exam covers key concepts and theories in Computer Information Systems. The exam included multiple choices questions as well as short answer questions. The questions are grouped into categories: Programming, Software Applications, Networking, Cyber Security, Databases, Data Analysis, and Project Management. The exam also includes questions related to analytical techniques and research questions.

Acceptable Target: In the Analytical Techniques category, 50% or more of students will get at least one answer correct.

Ideal Target: In the Analytical Techniques category, 75% or more of students will get at least one answer correct.

Implementation Plan (timeline): This measurement is completed as students are entering the program and registering for classes. Students can enter the program in the spring, summer, or fall semesters.

Key/Responsible Personnel: A faculty member is currently receiving an extra services contract to coordinate the graduate program and is responsible for this administration. Upon determination of a permanent coordinator of the program, that coordinator would be responsible for the administration of the baseline knowledge exam.

Finding: The acceptable target was **not met** in the Analytical Techniques category. The ideal target was **not met** in the Analytical Techniques category.

Analysis: In AC 2020-2021, the ideal target was not met. The table below shows the results for the 2020-2021 assessment cycle for Measure 2.1.

Table 5: AC 2020-2021 Baseline Knowledge Exam Results

Area	% with No Answers Correct	% with Some Answers Correct	% with All Answers Correct
Analytical Techniques	45%	45%	9%

Eleven students took the baseline knowledge exam. The acceptable target was met for the baseline knowledge exam. The ideal target was not met.

Based on the analysis of the AC 2020-2021 results, the faculty did not make any changes in AC 2021-2022 to drive the cycle of improvement. Faculty wished to gather information from the knowledge exam in CIS 5950 as well as the final thesis/project. The focus of this measurement was to provide a baseline measurement against which to compare the growth at the end of the program.

As there were no changes made in AC 2020-2021, in AC 2021-2022, the target was not met. The table below shows the results for the 2021-2022 assessment cycle for Measure 2.1.

Table 6: AC 2021-2022 Baseline Knowledge Exam Results

Area	% with No Answers Correct	% with Some Answers Correct	% with All Answers Correct
Analytical Techniques	67%	33%	0%

Three students took the baseline knowledge exam. The acceptable target was not met for the baseline knowledge exam. The ideal target was not met.

Decision:

In AC 2021-2022, the target was not met. Based on the analysis of the AC 2021-2022 results, the faculty will implement no changes in 2022-2023 to drive the cycle of improvement.

This measurement continued to serve as a baseline measurement against which to compare the growth at the end of the program.

Measure 2.2 (Direct – Student Artifact; Thesis/Research Project)

Details/Description: In CIS 5950, students will complete and present their thesis or research project. The instructor of the class will utilize a rubric to determine the extent to which the students are able to apply appropriate analytical techniques.

Acceptable Target: Based on the rubric, 75% of students will score at the highest level for applying appropriate analytical techniques.

Ideal Target: Based on the rubric, 90% of students will score at the highest level for applying appropriate analytical techniques.

Implementation Plan (timeline): This measure should be completed each semester CIS 5950 is offered.

Key/Responsible Personnel: The School of Business faculty teaching CIS 5950 will be responsible for administering the exam.

Finding: Target was **not evaluated**.

Analysis: In AC 2020-2021, the target was not applicable as CIS 5950 had not been offered yet. Thus, no changes were made in the AC 2021-2022 assessment cycle.

In the 2021-2022 assessment cycle, the target was not evaluated. The CIS faculty originally planned for the CIS 5900 class to be a Research Methods class while the CIS 5950 class was originally planned to be the class in which students conducted most of the research and wrote the paper. The CIS 5950 instructor designed the rubric based on this original plan. As the first cohort started working through these classes and started approaching IRB and Graduate School due dates, the CIS faculty realized the original plan was not feasible and made changes to the plan for the first cohort. These changes

meant the original rubric was not completed for the 2021-2022 assessment cycle.

Decision: In 2021-2022, the target was not evaluated. Based on the analysis of the AC 2021-2022 results, the faculty will implement the following changes in 2022-2023 to drive the cycle of improvement.

In AC 2021-2022, the CIS faculty are taking the lessons learned from the first cohort of students and making changes to the CIS 5900 and CIS 5950 classes. These will be designed in a way so that students can still learn the basics of statistical techniques and research methods, but also complete a research project in a timely manner. Students who choose to do a thesis will work with a major professor to take a different path. Based on this changed approach, the CIS 5950 instructor is designing a new rubric that will be utilized in the class as well as for this student learning outcome.

Three students did complete CIS 5950 successfully in Spring 2022 with two of the students becoming the first graduates of the MS in CIS program. Their route to get to the degree was just a little different than originally planned.

Measure 2.3 (Direct – Exam; Exit Exam)

Details/Description: In CIS 5950, students will again take the MS in Computer Information Systems knowledge exam. These students will be taking the exam in their last semester (or close to it) and their attempt should reflect the knowledge they have gained through the program.

Acceptable Target: In each category, 75% of students will get all answers correct.

Ideal Target: In each category, 95% of students will get all answers correct.

Implementation Plan (timeline): This measure should be completed each semester CIS 5950 is offered.

Key/Responsible Personnel: The School of Business faculty teaching CIS 5950 will be responsible for administering the exam.

Finding: Target was **not met**.

Analysis: In AC 2020-2021, the target was not applicable. CIS 5950 was not offered until Spring 2022. No changes were made as there was no data to analyze.

In AC 2021-2022, the target was not met. The table below shows the results for the 2021-2022 assessment cycle for Measure 2.3.

Table 7: AC 2021-2022 Knowledge Exit Exam Results

Area	% with No Answers Correct	% with Some Answers Correct	% with All Answers Correct
Analytical Techniques	0%	33%	67%

Three students took the knowledge exit exam. The acceptable target was not met for the knowledge exit exam. The ideal target was not met for the knowledge exit exam.

However, in comparison to the baseline knowledge exam results, the students have improved their overall scores. This increase in scores could reflect their exposure to the statistical tests needed for quantitative research while the missing of the targets could be attributable to a need to delve deeper into this area.

Decision: In AC 2021-2022, the target was not met. Based on the analysis of the AC 2021-2022 results, the faculty will implement the following changes in AC 2022-2023 to drive the cycle of improvement.

The primary change will involve the CIS 5900 (Research Methods) and CIS 5950 (Research Project) classes. As originally conceived, the CIS 5900 class was the class where students would develop their research method skills including the proper usage of statistical tests. However, as the first group of students starting progressing through the class, the CIS faculty realized the class would need to be changed to allow students to meet IRB and Graduate School deadlines. This realization caused a dramatic shift in the way these two courses were presented.

For the AC 2022-2023 year, the CIS faculty are taking what we learned during the first cohort and returning CIS 5900 to its original focus as a Research Methods class where statistical concepts are reinforced. Students will then be able to complete a research project in the CIS 5950 class without having to meet some of the earlier deadlines. If a student wishes to complete a thesis, then that student will work with a major professor on an alternate timeline than the rest of the students.

SLO 3. Research Proficiency. Students will demonstrate proficiency in evaluating and analyzing CIS research and being able to frame their own research questions.

Course Map: Tied to course syllabus objectives.

CIS 5950 – Research Project and/or Thesis

Measure 3.1 (Direct – Exam; Entrance Exam)

Details/Description: The unit strives to give students the baseline knowledge exam prior to registration for their first semester. This exam covers key concepts and theories in Computer Information Systems. The exam included multiple choices questions as well as short answer questions. The questions are grouped into categories: Programming, Software Applications, Networking, Cyber Security, Databases, Data Analysis, and Project Management. The exam also includes questions related to analytical techniques and research questions.

Acceptable Target: In the Research category, 50% or more of students will get at least one answer correct.

Ideal Target: In the Research category, 75% or more of students will get at least one answer correct.

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Implementation Plan (timeline): This measurement is completed as students are entering the program and registering for classes. Students can enter the program in the spring, summer, or fall semesters.

Key/Responsible Personnel: A faculty member is currently receiving an extra services contract to coordinate the graduate program and is responsible for this administration. Upon determination of a permanent coordinator of the program, that coordinator would be responsible for the administration of the baseline knowledge exam.

Finding: The acceptable target was **not met** in the Research category. The ideal target was **not met** in the Research category.

Analysis: In AC 2020-2021, the ideal target was not met. The table below shows the results for the 2020-2021 assessment cycle for Measure 3.1.

Table 8: AC 2020-2021 Baseline Knowledge Exam Results

Area	% with No Answers	% with Some Answers	% with All Answers
	Correct	Correct	Correct
Research	64%	36%	0%

Eleven students took the baseline knowledge exam. The acceptable target was not met for the baseline knowledge exam. The ideal target was not met. At that time, no further actions were taken until additional information was gathered from the knowledge exam in CIS 5950 as well as the final thesis/project. The focus of this measurement was to provide a baseline measurement against which to compare the growth at the end of the program.

As there were no changes made in AC 2020-2021, in AC 2021-2022, the target was not met. The table below shows the results for the 2021-2022 assessment cycle for Measure 2.1.

Table 9: AC 2021-2022 Baseline Knowledge Exam Results

Area	% with No Answers Correct	% with Some Answers Correct	% with All Answers Correct
Analytical Techniques	67%	0%	33 %

Three students took the baseline knowledge exam. The acceptable target was not met for the baseline knowledge exam. The ideal target was not met.

Decision:

In AC 2021-2022, the target was not met. Based on the analysis of the AC 2021-2022 results, the faculty will implement no changes in AC 2022-2023 to drive the cycle of improvement.

This measurement continued to serve as a baseline measurement against which to compare the growth at the end of the program.

Measure 3.2 (Direct – Student Artifact; Thesis/Research Project)

Details/Description: In CIS 5950, students will complete and present their thesis or research project. The instructor of the class will utilize a rubric to determine the extent to which the students are able to demonstrate proficiency in evaluating and analyzing CIS research and being able to frame their own research questions.

Acceptable Target: Based on the rubric, 75% of students will score at the highest level for research proficiency.

Ideal Target: Based on the rubric, 90% of students will score at the highest level for research proficiency.

Implementation Plan (timeline): This measure should be completed each semester CIS 5950 is offered.

Key/Responsible Personnel: The School of Business faculty teaching CIS 5950 will be responsible for administering the exam.

Finding: Target was **not evaluated**.

Analysis: In 2020-2021, the target was not applicable as CIS 5950 had not been offered yet. Thus, no changes were made in the AC 2021-2022 assessment cycle.

In the 2021-2022 assessment cycle, the target was not evaluated. The CIS faculty originally planned for the CIS 5900 class to be a Research Methods class while the CIS 5950 class was originally planned to be the class in which students conducted most of the research and wrote the paper. The CIS 5950 instructor designed the rubric based on this original plan. As the first cohort started working through these classes and started approaching IRB and Graduate School due dates, the CIS faculty realized the original plan was not feasible and made changes to the plan for the first cohort. These changes meant the original rubric was not completed for the 2021-2022 assessment cycle.

Three students did complete CIS 5950 successfully in Spring 2022 with two of the students becoming the first graduates of the MS in CIS program. Their route to get to the degree was just a little different than originally planned.

Decision: In AC 2021-2022, the target was not evaluated. Based on the analysis of the AC 2021-2022 results, the faculty will implement the following changes in AC 2022-2023 to drive the cycle of improvement.

In AC 2021-2022, the CIS faculty are taking the lessons learned from the first cohort of students and making changes to the CIS 5900 and CIS 5950 classes. These will be designed in a way so that students can still learn the basics of statistical techniques and research methods, but also complete a research project in a timely manner. Students who choose to do a thesis will work with a major professor to take a different path. Based on this changed approach, the CIS 5950 instructor is designing a new rubric that will be utilized in the class as well as for this student learning outcome.

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Measure 3.3 (Direct – Exam; Exit Exam)

Details/Description: In CIS 5950, students will again take the MS in Computer Information Systems knowledge exam. These students will be taking the exam in their last semester (or close to it) and their attempt should reflect the knowledge they have gained through the program.

Acceptable Target: In each category, 75% of students will get all answers correct.

Ideal Target: In each category, 95% of students will get all answers correct.

Implementation Plan (timeline): This measure should be completed each semester CIS 5950 is offered.

Key/Responsible Personnel: The School of Business faculty teaching CIS 5950 will be responsible for administering the exam.

Finding: Target was **met**.

Analysis: In AC 2020-2021, the target was not applicable. CIS 5950 was not offered until Spring 2022. No changes were made as there was no data to analyze.

In AC 2021-2022, the target was met. The table below shows the results for the 2021-2022 assessment cycle for Measure 3.3.

Table 10: AC 2021-2022 Knowledge Exit Exam Results

Area	% with No Answers Correct	% with Some Answers Correct	% with All Answers Correct
Analytical Techniques	0%	0%	100%

Three students took the knowledge exit exam. The acceptable target was met for the knowledge exit exam. The ideal target was met for the knowledge exit exam.

In comparison to the baseline knowledge exam results, the students have improved their overall scores. This increase in scores shows students have enhanced their research skills even with the unexpected changes that were made in the CIS 5900 and CIS 5950 classes.

Decision: In AC 2021-2022, the target was met. Based on the analysis of the AC 2021-2022 results, the faculty will implement the following changes in AC 2022-2023 to drive the cycle of improvement.

The primary change will involve the CIS 5900 (Research Methods) and CIS 5950 (Research Project) classes. As originally conceived, the CIS 5900 class was the class where students would develop their research method skills including the proper usage of statistical tests. However, as the first group of students starting progressing through the class, the CIS faculty realized the class would need to be changed to allow students to meet IRB and Graduate School deadlines. This realization caused a dramatic shift in

the way these two courses were presented.

For the AC 2022-2023 year, the CIS faculty are taking what we learned during the first cohort and returning CIS 5900 to its original focus as a Research Methods class where statistical concepts are reinforced. Students will then be able to complete a research project in the CIS 5950 class without having to meet some of the earlier deadlines. If a student wishes to complete a thesis, then that student will work with a major professor on an alternate timeline than the rest of the students.

Finally, the professor will also make some slight changes to the wording on the exit exam research questions to make them a little clearer for students.

Comprehensive Summary of Key evidence of improvement based on the analysis of results.

As the AC 2021-2022 year was the second year of offering the MS in Computer Information Systems, data collection occurred for the first time for the CIS 5950 class. Due to lessons learned from the first cohort, plans for the CIS 5900 and CIS 5950 classes changed during the AC 2021-2022 academic year.

While the three students in the CIS 5950 class did successfully complete the class, the CIS faculty learned from their journey and are making changes to the structure of the two classes for the 2022-2023.

Based on the entrance exams and exit exams, students are increasing their knowledge in the areas of research proficiency and analytical techniques.

The area has collected data from three students for the baseline knowledge exam. In five of the categories, the students were meeting the acceptable and ideal targets. In one of the categories, the students were meeting the acceptable target, but not the ideal target. In one of the categories, the students were meeting neither target. These results have improved from the AC 2020-2021 year.

The area has also collected data from three students for the exit exam. Intwo of the categories, the students were meeting the acceptable and ideal targets. In the remaining categories, the students were meeting neither target.

Plan of Action moving forward.

Based on analysis of the AC 2021-2022 results, the Computer Information Systems area has made decisions to improve student learning and success.

First, the faculty will continue to strictly enforce prerequisite knowledge requirements. The increase in the entrance exam scores show the enforcement of the prerequisites helped with that knowledge. The faculty will continue to monitor the exit exam scores as the cohort of students not required to complete the prerequisites continues to move out of the program.

Second, faculty will revise some questions on the knowledge exam related to Databases and Data Analysis to reflect the current setup of the classes and the expected ability of the students in those areas.

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One of the main changes in AC 2021-2022 involves the change of structure to the topics covered in CIS 5900 and CIS 5950. Based on the lessons learned from the first cohort, the original plan was not feasible. Adjustments were made during the AC 2021-2022 year with additional planned changes to occur in AC 2022-2023. These changes will necessitate a change in the rubrics used in those classes. However, the changes should lead to a smoother journey for the students as they complete their research and approach graduation.