

Assessment Cycle 2020 – 2021

MS in Computer Information Systems

Division: School of Business, College of Business and Technology

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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

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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. Demonstrate discipline-specific content knowledge. 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 choice 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 **not** met in every category. The ideal target was **not** met in every category.

Analysis: In AC 2020-2021, the target was not 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
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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%

AC 2020-2021: 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 is 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.

Decision:

In 2020-2021 the target was not met. Based on the analysis of the AC 2020-2021 results, the faculty will implement the following changes in 2021-2022 to drive the cycle of improvement.

First, the MS in Computer Information Systems has prerequisites for certain courses. During the 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. Students will now have to take the prerequisite courses before registering for any graduate courses.

Secondly, based on the academic preparation of the students seeking the degree, some changes will be made in the questions on the baseline knowledge exam. For example, the faculty member responsible for the Databases and Data Analysis questions will be presenting some changed questions for usage in the baseline knowledge exam after seeing the academic preparation of the incoming students.

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.

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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: Not Applicable (CIS 5950 has not been offered yet)

Analysis: Not Applicable (CIS 5950 has not been offered yet)

Decision: Not Applicable (CIS 5950 has not been offered yet)

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

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

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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 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 2: 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%

AC 2020-2021: 11 students took the baseline knowledge exam. The acceptable target was met for the baseline knowledge exam. The ideal target was not met.

Decision:

In 2020-2021 the ideal target was not met. At this time, no further actions will be taken until additional information is gathered from the knowledge exam in CIS 5950 as well as the final thesis/project. The main focus of this measurement is to provide 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: Not Applicable (CIS 5950 has not been offered yet)

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Analysis: Not Applicable (CIS 5950 has not been offered yet)

Decision: Not Applicable (CIS 5950 has not been offered yet)

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.

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 3: AC 2020-2021 Baseline Knowledge Exam Results

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

AC 2020-2021: 11 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 2020-2021 the ideal target was not met. At this time, no further actions will be taken until additional information is gathered from the knowledge exam in CIS 5950 as well as the final thesis/project. The main focus of this measurement is to provide 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: Not Applicable (CIS 5950 has not been offered yet)

Analysis: Not Applicable (CIS 5950 has not been offered yet)

Decision: Not Applicable (CIS 5950 has not been offered yet)

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

As this year is the first year of offering the MS in Computer Information Systems, much of the data collection has not yet occurred.

The area has collected data from 11 students for the baseline knowledge exam. In three of the categories, the students were meeting the acceptable and ideal targets. In

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two of the categories, the students were meeting the acceptable target, but not the ideal target. In four of the categories, the students were meeting neither target.

Many of the decisions that will lead to improvement will be based on how students progress through the program and improve their skills between entry and exit. Based on the data collected thus far as well as general observations of the students' academic preparation and characteristics, a couple changes will be made.

Plan of Action moving forward.

Based on analysis of the 2020-2021 results, the Computer Information Systems area has made a couple decisions to improve student learning and success.

First, the faculty will more strictly enforce prerequisite knowledge requirements. While students believe they can gain some of this knowledge on their own, students often fail to do so. Faculty members will enforce the taking of the various prerequisite classes except in cases where students can clearly demonstrate their knowledge of the material from work experience or other academic experience.

Second, faculty will revise some questions on the knowledge exam to more accurately reflect the academic preparation of the students as well as what is being taught in the graduate classes after an initial offering.

Additional data will be available after the 2021-2022 academic cycle as the first group of students will start taking the CIS 5950 – Thesis or Research Project class.