2021-2022

Management Information Systems BBA

Management Information Systems- A Broad Base Of Knowledge

Goal Description:

The goal of the BBA program in Management Information Systems is to provide students with a broad base of knowledge in the Management Information System discipline.

Providing Department: Management Information Systems BBA

Progress: Completed

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

Data Analytics

Learning Objective Description:

The Data Analytics focus is placed on the importance of collecting and analyzing data by creating models for making better decisions and improving business practices and strategies. Topics covered include descriptive analytics, predictive analytics, and prescriptive analytics. Students learn to apply business analytic tools, and to communicate the results. Emphasis is placed on applications, concepts and interpretation of results. (MGIS4315)

RELATED ITEM LEVEL 2

Data Analytics Assessment Indicator Description:

Assessment of the Learning Objectives will be measured using assignments and exams related to collecting and analyzing data by creating models for making better decisions and improving business practices and strategies. (MGIS4315)

Criterion Description:

Students will average at least a 70% mastery level in the following areas:

descriptive analytics, predictive analytics, and prescriptive analytics

Findings Description:

- Objective 1: Assess MGIS 4315 in Fall 2021 to see if learning is occurring and where improvements can be made in MGIS 4315 Decision Analysis & Analytics. This class is a requirement for all SCM majors in the College of Business Administration and an elective for many other majors.
- Procedure: Fall 2021 is the second time MGIS 4315 is offered. Students apply topics related to business analytics. A major focus is placed on the importance of collecting and analyzing data by creating models for making better decisions and improving business practices and strategies. Topics covered include descriptive analytics, predictive analytics, and prescriptive analytics. Students learn to apply business analytic tools,

and to communicate the results. Emphasis is placed on applications, concepts, and interpretation of results.

The **Course Learning Objectives** are:

- LO1 Analyze data to generate information and knowledge that lead to informed decisions for businesses
- LO2 Create enterprise dashboards that are used to summarize and visualize data in a way that supports insight into trends and "what-if" analysis in real time.
- LO3 Show how business intelligence can be derived from data warehouses
- LO4 Create standard reports for business users
- LO5 Derive insightful trends using data mining techniques
- LO6 Apply the latest in analytics technology in real world case studies

Ten (10) homework assignments and three (3) tests were used to assess the level of learning for each of the course learning objectives.

The "Level of Understanding" is shown in the Tables below.

Results: For each of the course learning objectives, the percentage of students performing "Excellent" (≥90%), "Good" (between 70% and 90%), and "Poor" (<70%) were calculated. The class size was 19.

8			
Course Learning Objectives	Excellent	Good	Poor
LO1 - better	33%	18%	49%
	200/	240/	470/
LO2 - dashboard	29%0	24%0	4 / %0
LO3 - bi from	58%	12%	30%
warehouses	5070	12/0	5070
LO4 - reports	37%	26%	37%
LO5 - trends	47%	19%	33%
LO6 - latest	270/	250/	220/
technology	5270	5570	3370

 Table 1: Student Performance on Course Learning Objectives

Findings: The sample size increased from last year from 13 to 19. An observation of the results indicates that while many students were "Excellent" on many of the Learning Objectives, there were also quite a few in the "Poor" category. There was a disproportionate number of students who did not bother coming to class.

RELATED ITEM LEVEL 3

Data Analytics Assessment

Action Description:

Actions: Increase the enrollment for this course, by bringing attention to the course by informing the Advisement Center and the Department Chairs of how MGIS 4315 will satisfy various Degree Plans for other majors in COBA.

Place more emphasis on the Learning Objectives that had elevated numbers in the "Poor" category. More emphasis will be in the form of additional exercises and in-class lectures.

RELATED ITEM LEVEL 1

Database

Learning Objective Description:

Students who complete the BBA in Management Information Systems will demonstrate an understanding of the design and implementation of database applications and how database software works and its inclusion in design solutions. (MGIS 3330 and 4330)

RELATED ITEM LEVEL 2

Database Assessment Indicator Description:

Assessment of the Learning Objectives will be measured using student performance in the areas of design and implementation of database applications will be measured through practical exams in MGIS 3330 and specific exam questions on the design and implementation topics in MGIS4330. (MGIS3330 and MGIS 4330)

Criterion Description:

Students are assumed to have no previous knowledge of database design and implementation skills and are not given a pretest. The class average on both, **design** and **implementation** of databases will be 70% correct. Skills in these two areas will be included on each unit examination. M/C questions and/or hands-on exercises/projects may be utilized dependent on the instructor and course, MGIS 3330 and MGIS 4330.

Findings Description:

Results:

One section of <u>face to face MGIS 3330</u> – Database (I) (18 students) Spring 2022 was assessed. Table 1 below indicates the percentage of students that demonstrated an understanding of topic areas

Table 2 shows the level of understanding of students performing "Excellent" (>=90%), "Good" (between 70% and 90%), and "Poor" (<70%) for each topic area.

The performance of the students exceeded the criterion for Part 1 topic areas. Both Part 2 and 3 had below criterion performance.

Topics	Average
Part 1: -Creating a database -Building database relationships -Querying a database for information	80.86%
Part 2: -Creating simple forms/reports -Advanced queries -Advanced form design -Advanced report design	69.04%
Part 3: -Normalization or optimizing the database -Action queries for efficiency -Automating processes with macros/SQL basics -Managing & Securing databases	66.3%

Findings:

Table 2: Student Performance on Specific Topic Areas

Topic	Excellent	Good	Poor
Part 1: -Creating a database -Building database relationships -Querying a database for information	44.4%	22.2%	33.4%
Part 2:* -Creating simple forms/reports -Advanced queries -Advanced form design -Advanced report design	11.1%	22.2%	61.1%
Part 3:** -Normalization or optimizing the database -Action queries for efficiency -Automating processes with macros/SQL basics	22.2%	33.3%	27.8%

-Managing & Securing databases

- *1 student was exempt from Part 2 exam
- ** 1 student was exempt from Part 3 exam and 3 students did not take the exam

It is worth noting that post COVID19 I saw a lack of engagement from the students. As noted, 3 students did not even show up for the Part 3 exam. Part 2, which is the most difficult material, had too many in the poor category.

It should be noted that 7 students (38.9%) passed the MOS Access Certification Exam at the end of the semester. The certification is harder than the in-class exams and this passing rate demonstrates that many students mastered the Access skills

RELATED ITEM LEVEL 3

Database Assessment

Action Description:

More time in class going over Part 2 examples for practice is planned.

RELATED ITEM LEVEL 1

Electronic Commerce

Learning Objective Description:

Students who complete the BBA in Management Information Systems will demonstrate the ability to implement business oriented systems for electronic commerce and skills in using Internet technologies. (MGIS4320)

RELATED ITEM LEVEL 2

Electronic Commerce Assessment

Indicator Description:

Assessment of the Learning Objectives will be measured using assignments and exams related to the ecommerce and internet technology topics. (MGIS 4320)

Criterion Description:

Students will average at least a 70% mastery level in the following areas: XHTML, CSS, Graphics, and JavaScript.

Findings Description:

Objective: Assess MGIS 3320 in Fall 2021 to see if learning is occurring and where improvements can be made in MGIS 3320 – Electronic Commerce Implementation. This class is a requirement for all MIS majors in the College of Business Administration.
Procedure: MGIS 3320 was last assessed in Spring 2020. The topics covered in this course are the latest versions of HTML, CSS, JavaScript, and discussion regarding Graphics. HTML and CSS are so closely related that they will be assessed together.

Nine (9) homework assignments and two (2) tests are used to assess the level of learning of the specific topics. The course is divided up with homework assignments for each topic area, HTML/CSS (4), JavaScript (3), and Graphics (2). Each of these topics are an extension of the other. Tests have a written closed book portion and a hands-on lab portion.

The "Level of Understanding" is shown in the Table below.

Results: This course was previously assessed in 2012, 2015, and 2020. In 2012, JavaScript was an area targeted for improvement. Additional class time and more targeted

assignments were used to improve this particular area. Significant improvement was recognized in 2015, but JavaScript remained an area for more improvement. In the last few semesters, JavaScript was moved to the middle of the semester following CSS. This move was done in order to spend more time on JavaScript and also with the thought that most students have additional distractions at the end of the semester with more projects and end of semester obligations. In 2020, JavaScript improved and in 2021 also realized more improvement.

The instructor's qualitative assessment (based on working with the students on Exams and Homework) of what the students' learned in the course and where improvements can be made is as follows. While the homework grades are very good, it is believed that the students worked very closely with one another and didn't master the material well enough to perform on the exam. Action item is to emphasize and draw attention to not being reliant on others to complete the assignments.

It was determined that in order to ensure the student's understanding of the topics that increased one-on-one interaction is necessary.

For each of the Topics, the percentage of students getting performing "Excellent" (\geq 90%),

"Good" (between 70% and 90%), and "Poor" (<70%) were also calculated.

Торіс	Excellent	Good	Poor
1.HTML/CSS	33%	33%	34%
2.JavaScript	12%	66%	21%
3.Graphics	57%	22%	20%

 Table 1: Student Performance on Specific Topic Areas

Findings: Post COVID era, I noticed a disproportionate number of students that were not engaged in the course and there was difficulty getting them to come to class. HTML/CSS has too many in the Poor category. There continues to be a slight improvement in the JavaScript component. Graphics is doing very well.

RELATED ITEM LEVEL 3

Electronic Commerce Assessment

Action Description:

Actions: Increase emphasis will be placed on improving HTML/CSS. The Poor category should be significantly lower. While JavaScript has improved, more in the Excellent group would be better.

RELATED ITEM LEVEL 1

Information Systems

Learning Objective Description:

Students who complete the BBA in Management Information Systems will be able to:

- 1. Recognize and describe the role of and developments in management information systems for various businesses and industries.
- 2. Demonstrate the ability to use of information systems to solve business problems. (MGIS3310)

RELATED ITEM LEVEL 2

Information Systems Assessment

Indicator Description:

Assessment of the Learning Objectives will be made with the student's performance on exams and practical labs. Exams will have sections/topics targeting the Learning Objective 1 and the practical labs will be evaluated for Learning Objective 2. (MGIS 3310)

Criterion Description:

The learning objective is accomplished when an average score of 70% or higher for concepts and

principles is obtained by 70% of the students taking MGIS3310.

Results of the assessment for online modality is attached.

For each of the Topics areas, the percentage of students getting performing "Excellent" (>90%), "Good" (between 70% and 90%), and "Poor" (<70%) were also calculated.

Findings Description:

Information Systems is not to be assessed for this cycle. December 3, 2021 is the deadline for Indicators and Criterion, however any Findings that will be reported will not be available until next semester.

RELATED ITEM LEVEL 3

Information Systems Assessment

RELATED ITEM LEVEL 1

Networking

Learning Objective Description:

Students who complete the BBA in Management Information Systems will demonstrate an understanding of telecommunications services and networking technologies and skills in installing and managing networks within business organizations. (MGIS4350)

RELATED ITEM LEVEL 2

Networking Assessment

Indicator Description:

Assessment will be made using test performance on understanding of telecommunications services and networking technologies. A project will be used to assess skills in working as a team to install and manage a network. (MGIS4350)

Criterion Description:

The class average on individual test questions will be 70% correct. Test questions will be included on each unit examination. Seventy five percent of Management Information Systems majors will receive a score of at 70% on the Test and the Networking Project.(MGIS4350)

Findings Description:

One section of MGIS 4350 – Business Network Management (39 students) Fall 2021 were assessed.

Table 1 below indicates the percentage of students that demonstrated an understanding of topic areas comprising the first learning objective and their performance on the project for the second learning objective. Included in the table is the % Correct for each Learning Objective.

Table 2 shows the level of understanding of students performing "Excellent" (>=90%), "Good" (between 70% and 90%), and "Poor" (<70%) for each topic area.

The performance of the students exceeded the criterion for all topic areas.

Table 1:Student Performance on Learning Objectives

Торіс	% Correct	Learning Objective	% Correct
 General Knowledge Reference Models Hardware and Media 	84.25%	Students will be able to contrast and distinguish telecommunication	84.26%
 4. Security 5. Troubleshooting 	83.99%	services and networking technologies.	
 6. Virtual Environment 7. Server Project 	85.40%	The ability to demonstrate skills in installing and managing networks within business organizations.	85.40%

Table 2: Student Performance on Specific Topic Areas

Topic	Excellent	Good	Poor
1. General Knowledge 2. Reference Models	78.61%	4.98%	16.42%
3. Hardware and Media			

 Security Troubleshooting 	82.29%	8.18%	9.53%
6. Virtual Environment 7. Server Project	70.94%	22.22%	6.84%

RELATED ITEM LEVEL 3

Networking Assessment

Action Description:

Emphasis was placed on "General Knowledge", "Reference Models" and "Hardware and Media" to try and improve student understanding. As a result of this increased emphasis, "Security" and "Troubleshooting" suffered. The plan will be to integrate "Security" and "Troubleshooting" further into each topic and thus hopefully increase student outcomes in all areas being assessed.

RELATED ITEM LEVEL 1

Programming Learning Objective Description:

Students who complete the BBA in Management Information Systems will demonstrate the ability to analyze and define business problems from a programming perspective and an understanding of the basic concepts of programming, problem solving, and program logic. This includes the understanding of fundamental concepts of procedural, object-oriented, and event-driven programming paradigms and the ability to apply them to solve business problems. (MGIS2320)

RELATED ITEM LEVEL 2

Programming Assessment Indicator Description:

Assessment will be made using exams to evaluate both the understanding of fundamental concepts of the three programming paradigms (procedural, object-oriented, and event-driven) and the ability to apply them to solve business problems. Common multiple-choice questions will be used to assess the understanding, while coding problems will be used to assess the ability to apply. (MGIS 2320)

Criterion Description:

The average across class sections on each exam will be 75% (originally 70% correct, but we determined that the hurdle needed to be higher to stay competitive with peer schools) correct. The class average on the section testing the understanding of fundamental concepts of both procedural and object-oriented paradigms will be 75% (originally 70% correct, but we determined that the hurdle needed to be higher to stay competitive with peer schools)correct. Also, the class average on the section testing the ability to apply the concepts of both procedural and object-oriented paradigms will be 75% (originally 70% correct, but we determined that the hurdle needed to be higher to stay competitive with peer schools)correct. Also, the class average on the section testing the ability to apply the concepts of both procedural and object-oriented paradigms will be 75% (originally 70% correct, but we determined that the hurdle needed to be higher to stay competitive with peer schools)correct. The class average on the exam on event-driven paradigm will be 70% correct; this last exam contains one coding problem, combining the understanding and application. We are particularly interested to determine whether our interventions are working with the procedural paradigm, a weakness that emerged in 2010-2011. (MGIS2320)

Findings Description:

Pogramming is not to be assessed for this cycle. December 3, 2021 is the deadline for Indicators and Criterion, however any Findings that will be reported will not be available until next semester.

RELATED ITEM LEVEL 3

Programming Assessment

RELATED ITEM LEVEL 1

Systems Analysis And Design Learning Objective Description:

Students who complete the BBA in Management Information Systems will demonstrate an understanding of the design and application of information systems in business and a knowledge of the tools and processes used in systems analysis and design. (MGIS4340)

RELATED ITEM LEVEL 2

Systems Analysis And Design Assessment Indicator Description:

Assessment of the Learning Objectives will be measured using vocabulary exam questions and semester long project assignments targeting specific related topics. (MGIS 4340)

Criterion Description:

For each Learning Objective there is a 70% cutoff level whereby above 70% is deemed achieving the learning objective and below 70% attainment is considered no achieving the learning objective.

The class average on the vocabulary exam will be =>70% correct to be deemed acceptable.

The rubric is based on the four phases of development methodology. A draft version of each phase I-III deliverable is graded as well as a final version. Only one version of the phase IV deliverable is graded as this phase is an outline of deliverables (installation guidelines, recovery guidelines, etc.). Management Information Systems majors will receive a score of at least 70% on the rubric for the project final draft. (MGIS4340).

Findings Description:

Systems Analysis and Design is not to be assessed for this cycle. December 3, 2021 is the deadline for Indicators and Criterion, however any Findings that will be reported will not be available until next semester.

RELATED ITEM LEVEL 3

Systems Analysis And Design Assessment

Update to Previous Cycle's Plan for Continuous Improvement Item

Previous Cycle's Plan For Continuous Improvement (Do Not Modify):

Closing Summary

Courses to be assessed in the next cycle (Fall2021-Spring2022):

- e-Commerce Implementation (MGIS3320)
- Data Analytics (MGIS4315)
- Database I f2f (MGIS3330)
- Networking (MGIS4350)

Update of Progress to the Previous Cycle's PCI:

Courses were assessed. We continue to discuss including additional topics in existing courses or consideration towards creating new courses, such as Agile in Systems Analysis & Design, adding an additional course in web development, programming, and databases.

New Plan for Continuous Improvement Item

Closing Summary:

Discussion on requiring MGIS 4315 Decision Analytics & Analysis for MIS majors is tabled for future discussion. We'll explore various options for providing certifications towards data analytics. There was additional discussion regarding a second Decision Analytics course to include more advanced topics.

Courses to be assessed for 2022 - 2023

MGIS 3310 f2f (Fall 2022) MGIS 3330 online (Spring 2023) MGIS 4330 (Fall 2022) MGIS 4340 (Spring 2023)