

MS in MIS

Annual Program Report Template

Year:	2023-2024
Program:	MS in MIS
Contact Person (include email & phone#)	Dr. Kakoli Bandyopadhyay, k.b@lamar.edu , 409 880 8627

Summary of Continuous Improvement Efforts since Last Report

Provide a brief description of how assessment results have been used for program improvement. Point to a specific example of how an assessment provided the program with data it could use for improvement and what that improvement was, if possible, also show evidence of the improvement. You may look at data from the two previous academic years to support this case.

Respond here: In the Fall of 2023 and the Spring of 2024, we made several changes in the assignments, introduced new software and technology, introduced new teaching styles, made more video sessions available to the students for the online sections, and provided more technical help, as part of the action plans. This is reflected in our assessment results. Since most of the changes were implemented in Fall 2023, we measured in Spring 2024. We would measure the outcomes again in the Fall 2024.

Program Highlights Since Last Report

(Identify and briefly discuss any programmatic curriculum changes made since the last report (e.g. new courses, course changes, SLO changes, course deletions).

Curriculum changes are listed here:

In MISY 5300 - Database Management Systems, new videos were prepared for students experiencing technical difficulties in databases. Additionally, multiple Collaborate sessions were conducted beyond the officially scheduled ones to address students' concerns during the course. While no changes were made to the existing assignments or exams, quizzes were added to almost every class session to assess the day's learning. Schedule serialization in transactions and advanced SQL queries were incorporated into the database course. New slides were added to the existing presentations for each course the second time they were taught to elaborate more on the connections between the concepts. Various websites were used to demonstrate the SQL syntactical differences across multiple RDBMSs, such as Oracle, MySQL, and SQLServer.

For MISY5380 – CRM/Enterprise Systems, instructional videos have been updated to align with the latest platform changes, and new topics on artificial intelligence—covering its theory, utilization, and current developments—have been introduced.

MISY5320 – Information Assurance and Security, has undergone revisions in assignment instructions based on student feedback to enhance clarity and effectiveness.

In MISY5310 – Information Technology Project Management, similar AI topics have been integrated into the lectures, and a new group presentation component has been added as an evaluative method to encourage students to explore and present innovative applications of artificial intelligence across various fields.

For MISY 5370 – Data Mining and Predictive Analysis, new lecture videos were created in the Fall 2023 semester.

MISY 5340 - ERP Overview, is being taught using the most recent version of the textbook and updated SAP ERP assignments. The exams have also been updated. Additionally, the presentation topics in the MISY 5340 course have been refreshed. A strict adherence to the updated case studies aligned with the newer Fiori 4.1 version, revised by Mrs. Liz Simmons, our SAP coordinator was ensured. To support students encountering challenges with assignments, walkthrough videos specifically tailored to their needs were created. Additionally, following recommendations from Mrs. Liz Simmons, an Extra Credit assignment focusing on the Enterprise Asset Management case study was added to the course. During the Spring of 2024, students played the ERP SIM game in the classroom, resulting in a better experience communicating with their team members and a significant improvement compared to playing the game virtually.

In MISY 5315 – Introduction to Programming for Business Solutions, AI-assisted programming using Co-Pilot within VS Code has been introduced. The course now emphasizes breaking down large business problems or opportunities into manageable blocks of logic. With a foundational understanding of programming and the aid of AI-assisted tools, students can develop straightforward business solutions. These AI-assisted changes aim to transform non-programmers, including MIS and other non-MIS students, into novice programmers.

MISY 5325 – Cybersecurity Management, this course now focuses on risk management in the context of information systems functions. Students utilize cloud labs to gain hands-on experience with various cybersecurity tools, including Metasploit Framework, nbtscan, nmap, Kali Linux, and others. Alongside practical lab exercises, students also develop comprehensive risk management plans for a fictional internet-based company, covering aspects such as risk assessment, risk mitigation, business impact analysis, and business continuity.

MGMT 5370 – Supply Chain Management, this course now focuses on supply chain management fundamentals, including purchasing, logistics, demand planning, and materials management. With an emphasis on technology, sustainability, and new green SCM systems, the course provides the student with SCM knowledge for the ever-changing world of supply chain management. The course uses SAP as the primary SCM tool, with material management and production planning using the GBI environment, SAP Ariba for purchasing, and introduces the student to the new SAP IBP (integrated business planning) supply chain management software.

A pilot curriculum has been added for using the Ariba B2B Purchasing software. The Integrated Business Processes (IBP) curriculum for Materials Planning in SAP is added as well. This is a Beta program, so is also pretty new. These two new curriculum offerings are added to the GBI Production exercise students have completed for several years.

For MISY 5360 Business Intelligence, speakers contributed guest lectures, enriching the educational journey of the students. To maintain student enthusiasm, interesting YouTube videos related to the course topics were included in class lectures. Additionally, extra credit quizzes were designed to be taken immediately after class lectures to keep students stay focused. Changes were made to the mid-term exam questions, and a few hands-on questions based on Tableau were added to the final exam, complementing the existing textbook-based questions.

New MIS Elective Courses under Development (to be offered in Fall 2024):

MISY 5335 – ERP Configuration – This course will discuss the concepts, principles, and techniques for configuring organizational processes in an enterprise system to ensure key organizational processes are executed efficiently and effectively. Attention will be given to the cross-functional nature of processes.

MISY 5390: Special Topic: Advanced Data Analysis with Excel

Advanced design of spreadsheets to access, present, and analyze data from sources such as economic, demographic, and market research databases. Includes topics such as pivot tables and charts, modeling, regression analysis, advanced formulas and functions, macros, and spreadsheet programming. Completion of this course provides the tools to pass the Microsoft Excel intermediate and expert level certification exams.

Table 1. Assessment Results and Analyses for Current Cycle.

STAGE 1: PLAN				STAGE 2: DO		STAGE 3: STUDY
Departmental Student Learning Goal	Program Student Learning Outcome	Assessment	Assessment Method/Location	Benchmark Expectations	Data Results	Actions/Goals Based on Data Results* What do the data tell you? How will you use this data? How were data from the last cycle used to make changes during this cycle, and What were the results of those changes?
LG 1 Comprehend Fundamental Business Processes -Interpret the working of major business processes, such as Sales and Distribution, Materials Management, Production Planning, and Finance and Control.	Integration of the major business processes. Students must learn how to integrate major business processes using SAP as the desired software	Direct Measure: ERP Simulation Game in MISY 5340 The ERP Simulation Game: A Distribution Game to Teach the Value of Integrated Systems Indirect Measure: A survey of student's perception of the use of ERP Simulation game to learn the integration of the major business processes	MISY 5340	Direct Measure: 90% of the class must complete the game successfully 90% of the class must be satisfied with the simulation game Indirect Measure: 90% of the class must be satisfied with the simulation game	Direct Measure: Since we were updating out measurement matrix in the Fall of 2023, we only measured outcomes in Spring 2024. Spring 2024: In the face-to-face section, 97.6% of a total of 176 students completed the HEC simulation game successfully. In the online sections, 97.1% of a total of 292	Direct Measure: Target is met In the last assessment year, 94% of the students only completed the game successfully in both the online and the face-to-face sections. The following changes reflected on the outcome achieved: <ul style="list-style-type: none"> ERP Overview, is being taught using the most recent version of the textbook and updated SAP ERP assignments. The exams have also been updated. Additionally, the presentation topics in the MISY 5340 course have been refreshed. A strict adherence to

					<p>students completed the game successfully.</p> <p>Indirect Measure: 91% of the class are either satisfied or extremely satisfied with the ERP simulation game.</p>	<p>the updated case studies aligned with the newer Fiori 4.1 version, revised by Mrs. Liz Simmons, our SAP coordinator was ensured.</p> <ul style="list-style-type: none"> • To support students encountering challenges with assignments, walkthrough videos specifically tailored to their needs were created. • Additionally, following recommendations from Mrs. Liz Simmons, an Extra Credit assignment focusing on the Enterprise Asset Management case study was added to the course. • During the Spring of 2024, students played the ERP SIM game in the classroom, resulting in a better experience communicating with their team members and a significant improvement compared to playing the game virtually
LG 2 Demonstrate Competency with Enterprise Systems - The graduates of the MS program in	Develop hands-on skills in SAP Students must gain knowledge of how SAP works to	Direct Measure: SAP assignments used in MISY 5340	MISY 5340	Direct Measure: 85% of students must receive a minimum of	Direct Measure Spring 2024: In the face-to-face sections,	Target is met for the on-campus sections. The target is not met for the online sections. Particularly, one section is responsible for

MIS will have the marketable skills of having hands-on experience with an Enterprise Systems such as SAP which is in use today in the world's largest organizations.	automate business processes	There are seven SAP assignments on seven different SAP modules: Sales and Distribution, Material Management, Production, Financial Accounting, Managerial Accounting, Navigation, and Project Systems. Indirect Measure: A survey of student's perception of the use of SAP assignments to learn different business processes		95% or better than the class average. Indirect Measure: 85% of the students must be extremely satisfied with the SAP assignments	85.5 (154/176) of the students scored 95% or better than the class average. In the online sections, 78% (227/287) of the students scored 95% or better than the class average. Indirect Measure In Spring 2024, 95% of the students were either extremely satisfied (63%) or satisfied (32%) with the SAP assignment.	pulling the number down to 78%. We made many changes (listed above) from the last cycle, we will measure again in Fall 2024, and verify if the changes positively impact the student outcome. The indirect measure is met if we combine the extremely satisfactory and satisfactory categories. There is scope for improvement here. We will measure again in the Fall of 2024 and verify if the brought in changes make any positive impact.
LG 3 Enhance Effective Decision Making with Data Analytics- The students will work with the user-centered process of exploring data, data relationships, and trends which will help them to	Develop skills in Data Analytics Students must develop hands-on skills in data analytics by using tools and technologies	Direct Measure: SAP Assignments on Data Analytics used in MISY 5360 and MISY 5370 There will be several SAP assignments on data analytics	MISY 5360 MISY 5370	Direct Measure: 85% of students must receive a minimum of 95% or better than the class average Indirect Measure: 85% of the students must	Direct Measure: In MISY 5360, in Spring 2024 82% scored better than 95% of the class average in the SAP assignments.	The targets are partially met. For MISY 5360 Business Intelligence, the following changes were made: <ul style="list-style-type: none"> speakers contributed

improve overall decision-making.		to be worked on by students. Indirect Measure: A survey of student's perception of the use of SAP assignments to learn data analytics		be extremely satisfied with the SAP assignments on data analytics	<p>In Spring 2024, in MISY5370 online section- 134 out of 149 which means 90% of students received a minimum of 95% or better than the class average in the non-SAP assignments.</p> <p>In Spring 2024, in MISY 5370, in the face-to-face section, 56 out of 62, which means 90% of students received a minimum of 95% or better than the class average in the SAP assignments. In the online section, 126 out of 149, which means 85% of students received a minimum of</p>	<p>guest lectures, enriching the educational journey of the students.</p> <ul style="list-style-type: none"> To maintain student enthusiasm, interesting YouTube videos related to the course topics were included in class lectures. Additionally, extra credit quizzes were designed to be taken immediately after class lectures to keep students stay focused. Changes were made to the mid-term exam questions, and a few hands-on questions based on Tableau were added to the final exam, complementing the existing textbook-based questions. <p>For MISY 5370 – new lecture videos were created in the Fall 2023 semester.</p>
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					<p>95% or better than the class average in the SAP assignments.</p> <p>Indirect Measure: 310/330 (94%) of the students were either extremely satisfied or satisfied with the SAP assignments on data analytics.</p>	
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LG 4 Incorporate Technical Skills to Solve Business Problems - Students graduating from the MS in MIS program must be provided with the necessary technical skills to solve business problems	Apply technology-based solutions to solve business problems. Students must gain knowledge in a variety of commercial in-demand software to help businesses perform better.	Direct Measure: Non-SAP Assignments used in MISY 5360 and MISY 5370 Indirect Measure: Graduating exit questionnaire	MISY 5360 MISY 5370 Graduating exit questionnaire	Direct Measure: 85% of students must receive a minimum of 95% or better than the class average Indirect Measure: 85% of the students will be extremely or moderately satisfied with the technology covered in core and elective courses offered in the MS in MIS program	Direct Measure: 79% of the students in MISY 5360 received 95% or better than the class average on non-SAP assignments. 90.3% of the students in MISY 5370 received 95% or better than the class average on non-SAP assignments Indirect Measure: For Spring 2024, 30 students completed the survey. 83.3% were either extremely or moderately satisfied with the use of SAP in the program. Also, 90% were extremely or moderately satisfied with	Target is not met for MISY 5360 for the direct measure. The target is met for MISY 5370. We added the following changes. The assessment will be done in Fall 2024 again to verify if the changes were reflected in the outcome. In MISY 5300 - Database Management Systems, new videos were prepared for students experiencing technical difficulties in databases. Additionally, multiple Collaborate sessions were conducted beyond the officially scheduled ones to address students' concerns during the course. While no changes were made to the existing assignments or exams, quizzes were added to almost every class session to assess the day's learning. Schedule serialization in transactions and advanced SQL queries were incorporated into the database course. New slides were added to the existing presentations for each course the second time they were taught to elaborate more on the connections between the concepts. Various websites were used to demonstrate the SQL syntactical differences
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					<p>the use of non-SAP technology in the program.</p>	<p>across multiple RDBMSs, such as Oracle, MySQL, and SQLServer.</p> <p>For MISY5380 – CRM/Enterprise Systems, instructional videos have been updated to align with the latest platform changes, and new topics on artificial intelligence—covering its theory, utilization, and current developments—have been introduced.</p> <p>MISY5320 – Information Assurance and Security, has undergone revisions in assignment instructions based on student feedback to enhance clarity and effectiveness.</p> <p>In MISY5310 – Information Technology Project Management, similar AI topics have been integrated into the lectures, and a new group presentation component has been added as an evaluative method to encourage students to explore and present innovative applications of artificial intelligence across various fields.</p> <p>For MISY 5370 – Data Mining and Predictive</p>
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						<p>Analysis, new lecture videos were created in the Fall 2023 semester.</p> <p>MISY 5340 - ERP Overview, is being taught using the most recent version of the textbook and updated SAP ERP assignments. The exams have also been updated. Additionally, the presentation topics in the MISY 5340 course have been refreshed. A strict adherence to the updated case studies aligned with the newer Fiori 4.1 version, revised by Mrs. Liz Simmons, our SAP coordinator was ensured. To support students encountering challenges with assignments, walkthrough videos specifically tailored to their needs were created. Additionally, following recommendations from Mrs. Liz Simmons, an Extra Credit assignment focusing on the Enterprise Asset Management case study was added to the course. During the Spring of 2024, students played the ERP SIM game in the classroom, resulting in a better experience communicating with their team members and a significant improvement</p>
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					<p>compared to playing the game virtually.</p> <p>In MISY 5315 – Introduction to Programming for Business Solutions, AI-assisted programming using Co-Pilot within VS Code has been introduced. The course now emphasizes breaking down large business problems or opportunities into manageable blocks of logic. With a foundational understanding of programming and the aid of AI-assisted tools, students can develop straightforward business solutions. These AI-assisted changes aim to transform non-programmers, including MIS and other non-MIS students, into novice programmers.</p> <p>MISY 5325 – Cybersecurity Management, this course now focuses on risk management in the context of information systems functions. Students utilize cloud labs to gain hands-on experience with various cybersecurity tools, including Metasploit Framework, nbtscan, nmap, Kali Linux, and others. Alongside practical lab exercises,</p>
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					<p>students also develop comprehensive risk management plans for a fictional internet-based company, covering aspects such as risk assessment, risk mitigation, business impact analysis, and business continuity.</p> <p>MGMT 5370 – Supply Chain Management, this course now focuses on supply chain management fundamentals, including purchasing, logistics, demand planning, and materials management. With an emphasis on technology, sustainability, and new green SCM systems, the course provides the student with SCM knowledge for the ever-changing world of supply chain management. The course uses SAP as the primary SCM tool, with material management and production planning using the GBI environment, SAP Ariba for purchasing, and introduces the student to the new SAP IBP (integrated business planning) supply chain management software.</p> <p>A pilot curriculum has been added for using the Ariba B2B Purchasing software.</p>
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						<p>The Integrated Business Processes (IBP) curriculum for Materials Planning in SAP is added as well. This is a Beta program, so is also pretty new. These two new curriculum offerings are added to the GBI Production exercise students have completed for several years.</p> <p>For MISY 5360 Business Intelligence, speakers contributed guest lectures, enriching the educational journey of the students. To maintain student enthusiasm, interesting YouTube videos related to the course topics were included in class lectures. Additionally, extra credit quizzes were designed to be taken immediately after class lectures to keep students stay focused. Changes were made to the mid-term exam questions, and a few hands-on questions based on Tableau were added to the final exam, complementing the existing textbook-based questions.</p>
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Table 2. Continuous Improvement Results Since Last Report

Stage 4: ACT		
Actions/Goals Based on Data Results <i>*Copy last cycle's actions/goals and report on progress toward continuous improvement on those here.</i>	Status <i>C=Complete</i> <i>P=Progressing</i> <i>N=No Action Taken</i>	Discussion of Status <i>If C, describe efforts that led to accomplishment of actions/goals.</i> <i>If P, provide update on progress made toward accomplishing actions/goals and what tasks remain</i> <i>If N, discuss why action toward accomplishing actions/goals has been delayed and what work will be initiated toward accomplishment.</i>
LG1: Integrate major business processes	C	<p>Target is met. The efforts that led to the accomplishment of goals are: We made many changes from the last cycle which is reflected in the better score of this cycle. We did have some changes to the ERPSim game in that we played the Maple Syrup Game instead of the discontinued Distribution Game. There were a few more things students had to deal with such as Warehouse Costs, 8 Maple Syrup products instead of 6 Water Bottles, many more Customers (though they are all similar in size now), and marketing costs. How students play the game remains the same, there are just more things to monitor and take into consideration when setting pricing and marketing your products. Inventory quantities were increased from 1000 to 1500 to start due to the increase in customers. The students also compete against the computer in addition to the other teams in their session.</p> <p>This game does have a fee students need to pay; however, Dr. Zhao was able to obtain IDs for the students for her class and other sections due to her research.</p>

LG2: Develop hands-on skills in SAP	C	<p>We made many changes from the last cycle which is reflected in the better score of this cycle. The following changes were made:</p> <p>In the previous academic year, SAP assignments in MISY 5340 were updated to a new version, and students used SAP Fiori, a browser-based version of SAP that works on both Windows and MAC PCs. Students do not need to install software for this class now compared to the previous installation requirement.</p>
LG3: Develop skills in data analytics	P	<p>In the previous academic year, all SAP assignments were completely replaced, and students used SAP Analytics Cloud, a browser-based version of SAP that works on both Windows and MAC PCs. Students do not need to install SAP software for this class now compared to the previous installation requirement. Moreover, the textbook was updated to a newer version. Furthermore, textbook assignments were updated to reflect the changes. Besides, MISY5370 class was completely redesigned. Students make presentations in class based on relevant topics, and they ask questions and make comments about their classmates' presentations. Besides practicing their presentation skills, students did their research on applications of the techniques they learned from the class, which enhanced their understanding of the knowledge gained in the classroom and how to apply them in the real world. In addition, recorded lectures were recorded for online classes, and step-by-step instructions on how to work on the assignments were provided to students as well.</p>

		<p>In MISY 5360, All new video lectures for the online section were recorded and made available for students. Playback quizzes were embedded in all the video lectures for Fall 2022 in order to increase student learning. SAP GUI, SAP Business Objects and Eclipse were updated to the most recent version. Software installation instructions were also updated accordingly. A new assignment based on Optimization using MS Excel Solver was added to the course.</p>
<p>LG4: Apply technology-based solutions to solve business problems.</p>	P	<p>Since software and technologies change with time, we have made the following changes to keep up with the changing field of study.</p> <ol style="list-style-type: none"> 1. Updated all software versions. Opted for the latest version of SAP S4HANA. 2. MISY 5315 - an elective non-SAP course 3. Added 3 weeks of quantum computing using IBM Quantum Experience and Python Library Qiskit 4. Used qiskit.org and ibm.com/quantum for materials 5. Created 4 programming assignments that run on a quantum simulator and IBM Quantum cloud 6. Created quizzes and test questions on quantum computing 7. In MISY 5350 - an SAP-enabled Core Course we updated the textbook to the current version to reflect current trends in ERP E-commerce 8. Updated quizzes and test banks 9. We introduced Oracle Academy to our database class, MISY 5300 10. Added Accounting Analytics course with PowerBI and Tableau 11. MGMT 5370 Supply Chain Management was redesigned with supply chain fundamentals in mind. In addition to the core

		<p>SAP exercises in MGMT 5370, two openSAP tutorials to the curriculum, one on digital supply chain and one on supply chain sustainability. The course also has several case-based assignments as well as several short answer essays on many different supply chain topics. Discussion posts are used to cover specific supply chain concepts and to facilitate discussion among the students. The course culminates in a virtual group presentation on supply chain technology. The students form teams, select a topic from a list of technologies that are currently implemented in the supply chain or could be implemented in the future. The teams write up a synopsis, and an outline and then create a presentation on that technology. The presentations are graded not only on content but on presentation continuity, speaker transition, and overall timing to reflect the team's commitment to practicing the presentation as a virtual team.</p> <p>12.In MISY 5315 – Introduction to Programming for Business Solutions, AI-assisted programming using Co-Pilot within VS Code has been introduced. The course now emphasizes breaking down large business problems or opportunities into manageable blocks of logic. With a foundational understanding of programming and the aid of AI-assisted tools, students can develop straightforward business solutions. These AI-assisted changes aim to transform non-programmers, including MIS and other non-MIS students, into novice programmers.</p> <p>13.MISY 5325 – Cybersecurity Management, this course now focuses on risk management in the context of information systems functions.</p>
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		<p>Students utilize cloud labs to gain hands-on experience with various cybersecurity tools, including Metasploit Framework, nbtscan, nmap, Kali Linux, and others. Alongside practical lab exercises, students also develop comprehensive risk management plans for a fictional internet-based company, covering aspects such as risk assessment, risk mitigation, business impact analysis, and business continuity.</p> <p>focus. The course uses SCM software from SAP as a base technology with 3 core SAP assignments along with an SAP Fiori navigation exercise.</p>