

Assurance of Learning: Strategy and Implementation Plan
Management Information Systems Program
April 27, 2008

Overview:

The MIS faculty has undertaken an initiative to identify learning stages and ‘competency clusters’ important to preparing students for jobs in industry. Concurrently, the College of Business created a list of seven learning outcomes that span all programs. Both of these efforts can be merged to form a practical plan for implementing an outcomes assessment and continuous improvement program for the MIS program.

Learning Stages:

The MIS faculty identified four learning stages that our students are expected to achieve in the course of completing their studies: User, Problem Identifier, Problem Solver and Solution Implementer. At the end of each student’s program, that student should be at the ‘Solution Implementer’ level of professional development. Operational definitions appear below:

Developmental Stage	Operational Definition
User	Expected incoming competency level of students in our program. Competency building needed to reach this developmental stage will be considered remedial
Problem Identifier	Well versed in basic business skills. Able to identify organizational problems, particularly information problems, and to state them in business terminology.
Problem Solver	Able to form potential solutions to organizational problems, particularly information problems, and select the most appropriate one based on organizational impact and feasibility.
Solution Implementer	Able to manage the efforts of others to plan and execute solutions to organizational problems. Able to cope with unexpected complications within a framework of priorities and constraints.

Competency Clusters:

Program faculty identifies four ‘competency clusters’ or sets of skills and attributes which were important to develop in our students. Those clusters are: Technical, Analytical, Managerial, and Communication. Definitions are given below:

Competency Cluster	Operational Definition
Technical	Understanding of the mechanics of information technology and the importance of system performance in achieving organizational goals. Ability to use information technology tools.
Analytical	Ability to identify organizational problems and locate their root causes. This includes problem framing and boundary issues as well as logical cause and effect.
Communicative	Ability to communicate verbally and in writing cogently and succinctly. This includes the ability to frame a problem in business terms and to structure communications in acceptable business format.
Managerial	Ability to coordinate and direct the efforts of others toward an organizational goal. This includes the ability to identify, state and execute goal directed plans.

College of Business Learning Objectives:

Subsequent to the identification of these clusters, but prior to full implementation and incorporation, the College of Business promulgated and obtained a high degree of consensus on the following seven learning objectives, stated below:

1. *Students will be knowledgeable about current business practices and concepts.*
 - A. Students will understand the functional areas of and interdisciplinary nature of business, and will be able to solve business problems utilizing current theory and practices.
2. *Students will be able to make prudent business decisions by employing analytical and critical thinking.*
 - A. Students will demonstrate the ability to solve business problems by applying appropriate decision-making techniques, including defining the problem, collecting appropriate data, identifying alternatives, analyzing information, and interpreting results.
3. *Students will be effective communicators. (Communication)*
 - A. Students will demonstrate the ability to effectively convey information using appropriate means of communication.
4. *Students will be competent in applying relevant technology to business problems.*
 - A. Students will understand the nature, function and limitations of commonly used business information systems.
 - B. Students will demonstrate proficiency in using technology to solve business problems.
5. *Students will be competent in ethical decision making.*
 - A. Students will be able to explain and defend the ethical framework in which they make business decisions.
 - B. Students will be able to identify parties affected by a business decision, identify how a decision may affect each stakeholder, and arrive at a decision that is (ideally) mutually beneficial or one that minimizes harm to any one party.
6. *Students will be able to function effectively in professional settings. (Professional Skills)*
 - A. Students will demonstrate commitment to standards of professional behavior.

- B. Students will demonstrate an understanding of individual and group dynamics in organizations, including team building and collaborative behavior in the accomplishment of tasks.
7. *Students will be cognizant of the complexities of operating in a global business environment.*
(Global Awareness)
- A. Students will understand the basic economic, political, cultural and operational motivations for international business.

MIS Program Assessment:

In some areas (for example, Communication) the MIS program's competency clusters closely align with College of Business Learning Objectives. In Communication, the definitions are close enough that College level assessment (including the required MIS course) will be sufficient to measure student development in that area. In the three remaining (Technical, Analytical, and Managerial), while there is some overlap with College level learning goals, the MIS program has specific outcomes that it feels are appropriate to measure, analyze, and use. Therefore, the MIS program's learning goals for purposes of program level assurance of learning will be: Technical Competency, Analytical Competency, and Managerial Competency.

Program Specific Outcomes:

In each competency cluster, MIS faculty has identified several outcomes that would place students at the 'Problem Solver (PS)' or 'Solution Implementer (SI)' level of professional development. Those outcomes are listed here:

Managerial

- Develop project goals and objectives for an Information Systems problem (PSM-1)
- Identify steps, sequencing and resources needed to complete a project (PSM-2)
- Manage a team to successful project or sub-project completion (SIM-1)

Analytical

- Develop a logical model for an information system based on stated user requirements (PSA-1)
- Use appropriate analytical tools to evaluate solution alternatives to an information based problem (PSA-2)
- Modify implementation plan appropriately in response to unexpected requirements or environmental change. (SIA-1)

Technical

- Select and apply appropriate programming structures and techniques based on specific problem context. (PST-1)
- Design specifications for a program which conforms to stated user requirements (SIT-1)
- Develop computer based application to meet a user need in an organizational context (SIT-2)
- Demonstrate understanding of system administration in an organizational context (SIT-3)

Outcomes Map:

The following table maps the outcomes just listed to courses where they may be observed. The degree of emphasis on a specific outcome in a specific course is indicated by the number of stars, from 1 to 3. The stars may be interpreted as follows:

- * - The specified outcome is covered as a topic is covered in this course
- ** - The specified outcome is demonstrated in this course
- *** - The specified outcome is a central theme and principal performance criteria in this course

	MIS 300	MIS 310	MIS 376	MIS 420	MIS 430	MIS 476
Develop Goals (PSM1)	**	*	*	**	*	*
Identify Solution Steps (PSM2)	**	*	*	**	**	*
Manage a Team (SIM1)	**			***	*	*
Develop Logical Model (PSA1)	***	*	*	**	*	**
Evaluate Alternatives (PSA2)	***	*		*	***	***
Respond to Change (SIA1)	**	*		***	*	*
Apply Prgrm Structures (PST1)	*	***	**	**		*
Design Specifications (SIT1)	***	*	*	***	**	*
Develop Application (SIT2)	*	**	**	***		*
System Administration (SIT3)	*	*		*	**	***

Implementation Plan:

In each of the core MIS major courses shown above, Key Learning Activities (KLA's) have been identified. While performance on these activities will contribute to the individual's course grade, the KLA scores will not necessarily have a perfect correlation with course grade. There will be far more than just KLA's which contribute to course grade, and KLA's may not be scored in the same fashion for purposes of Outcomes Assessment as they would be for grading. Below is a sample of Key Learning Activities (one per course, although courses may have more than one) for the MIS core major courses.

Course Title	Description of KLA's	Outcomes Demonstrated	Scoring Rubric
MIS 300 – Systems Analysis and Design	Individual Logical Design Project	PSA1, PSA2, SIT1	1. Does Not Meet Standard 2. Meets Standard 3. Exceeds Standard
MIS 310 – Introduction to Business Programming	Independent Programming Project	PST1, SIT2	1. Does Not Meet Standard 2. Meets Standard 3. Exceeds Standard
MIS 376 – Business Application Development	Individual Application Project	PST1, SIT2	1. Does Not Meet Standard 2. Meets Standard 3. Exceeds Standard
MIS 420 – Database Management	Group Development Project	PSM1, SIM1, SIA1	1. Does Not Meet Standard 2. Meets Standard 3. Exceeds Standard
MIS 430 – Distributed Systems	Individual Research Paper	PSM2, PSA2	1. Does Not Meet Standard 2. Meets Standard 3. Exceeds Standard
MIS 476 – Management of Information Systems	Individual Case Study	SIT3, PSA1, PSA2	1. Does Not Meet Standard 2. Meets Standard 3. Exceeds Standard

Performance standards will be promulgated and maintained by all MIS faculty for all courses. It will be the responsibility of course instructors to evaluate and record performance on each Key Learning Activity for each student during the semester. When multiple sections of a course are taught in a single semester, a minimum of one section will be monitored and reported. When the cumulative score for a course based on all Key Learning Activities falls below 2.25, that course will be evaluated and modified as deemed appropriate by the faculty to ensure that learning goals are consistently achieved.