MIS Major Assessment Plan
University of Wisconsin - Parkside

Approved April 1, 2020

1. Introduction

This document describes an assessment plan for the Management Information Systems major at UW-Parkside. Following the discussion by such experts as Barbara Walvoord, Kathryn Martell and Thomas Calderon, our assessment plan is based on four fundamental steps (Martell and Calderon, 2005; Walvoord 2004).

1. Articulate goals for student learning.
2. Identify courses in which material related to these goals is taught and the course(s) in which these goals will be assessed.
3. Gather evidence on how well our students meet these learning goals using direct and indirect measures.
4. Use the evidence gathered in Step 3 for continuous improvement.

The rest of this assessment plan is organized as follows. Section 2 discusses five distinct program level learning goals for the MIS major degree program. This section also identifies MIS courses that provide students opportunities to achieve these goals. Section 3 presents rubrics (direct measures) for each of the five learning goals. Section 4 presents a plan on how this evidence will be used for improvement of the MIS major. Section 5 indicates other factors to consider for the MIS major assessment. This section also presents a few indirect measures that we will use to assess student learning.

2. Learning Goals for the MIS Major

The MIS faculty of the Department of Business have collectively identified five learning goals for MIS majors. These learning goals are referred to as MISLG1 (MIS Learning Goal 1) thru MISLG5 (MIS Learning Goal 5), and are consistent with the objectives of the MIS program as articulated in the "Authorization to Implement Management Information Systems Degree" document developed by the Department of Business and approved by the University of Wisconsin System Board of Regents in 2005. An excerpt from the objectives section of the above document reads as follows:

> "Students graduating with a major in MIS will be prepared to work with organizations to specify, design, develop, implement, and administer information technology (IT) solutions that address the organization's needs. MIS students are prepared for careers in areas such as: Systems analysis, systems design, programming, web development, database administration, network administration, and IT project management. A successful MIS student must know how to apply IT to a particular business problem."

MIS Program Learning Goals

Undergraduate MIS majors will be able to:

MISLG1: Identify, communicate, and recommend information system solutions to meet practical business needs.
MISLG2: Apply principles and tools of data modeling and analytics to practical business scenarios.
MISLG3: Utilize appropriate programming constructs and tools to develop an information system application.
MISLG4: Design information system infrastructure for a given business scenario.
MISLG5: Apply project management principles to practical information system projects.

Table 1. MIS Learning Goals (MISLG) versus Course Matrix.

	MISLG1 (Business Needs)	MISLG2 (Data Model/Analytics)	MISLG3 (Programming)	MISLG4 (Infrastructure)	MISLG5 (Project Management)
MIS 221			R		
MIS 322			RA **Yr1, Yr3**		
MIS 327				RA **Yr3, Yr5**	
MIS 328		RA **Yr2**			
MIS 422			R		
MIS 424				R	
MIS 425	RA **Yr3, Yr5**	R	R		R
MIS 426	R				
PMGT 341	R				RA **Yr2, Yr4**
New Data Analytics Course		RA **Yr4**			

A=Assessed
R=Required: Currently required in official course objective

Table 1 presents a matrix with these five learning goals and the courses in which content related to these learning goals is taught and assessed. An "A" at the intersection of a row-column in this matrix indicates that the MISLG is assessed in that course. An "R" indicates that the material is required in that class. Other classes may also teach the material, but it is at the instructor's discretion. Even though several courses can be used to measure each MISLG as indicated by

Table 1, in the next section we propose collecting data from only one course for each MISLG. Using one course per MISLG has the following advantages:

- It leads to implementation simplicity, since we are beginning measurement based on rubrics,
- Measuring each MISLG in a single course may lead to better consistency, since the results will be based on a single, consistent set of assignments.

The MIS learning goals map to the university's undergraduate shared learning goals. Table 2 highlights the relationship between the learning goals.

Table 2: Mapping between MIS learning goals and the university's shared learning goals.

MISLG	**University Shared Learning Goal**
MISLG1 (Business Needs)	Reasoned judgment, Communication
MISLG2 (Data Model/Analytics)	Reasoned judgment
MISLG 3 (Programming)	Reasoned judgment
MISLG 4 (Infrastructure)	Reasoned judgment, Communication
MISLG 5 (Project Management)	Reasoned judgment, Communication

Successful MIS graduates must possess the reasoning ability and communication skills reflected in these learning goals. However, they must also possess the abilities of a business major. Consequently, MIS majors are also assessed according to the business learning goals that are specified in the undergraduate business assessment plan. This plan includes mappings to the social and personal responsibility university shared learning goal.

3. Rubrics for MIS Learning Goals

Communication of the learning goals to students. The learning goals for the MIS program and the rubrics are published at the following web-site.
http://www.uwp.edu/departments/business/

The learning goals and the rubrics also will be made part of course syllabus and outline documents beginning Fall 2006, where appropriate. The learning goals and rubrics applicable to each course will be discussed in the first class by each instructor.

Communication of the learning goals to new instructors. The department chair will meet with every new faculty member and communicate the requirements of assessment for the course(s) they are scheduled to teach. The MIS program level learning goals and the corresponding rubrics for assessing student learning will be clearly discussed.

Process for development of these learning goals and rubrics. These learning goals were revised in 2020 based on the input from the Information Technology Practice Center (ITPC) advisory board and by the current MIS faculty, Dirk Baldwin, Suresh Chalasani, and Will Zheng. The

Information Technology Practice Center (ITPC) is an advisory board comprised of several companies, including: CNH, Modine, and Twin Disc. The ITPC board with representatives from these companies meets every month to provide feedback on issues ranging from MIS curriculum to IT projects for students. The MIS learning goals and the corresponding rubrics are periodically presented to the ITPC. The feedback from the advisory board is instrumental in arriving at the revisions to MIS learning goals.

Organization of this section. Sections 3.1 through 3.5 present rubrics for MIS learning goals MISLG1 through MISLG5. The rubrics for each learning goal are designed based on individual student work. In other words, each student must work on his/her own to complete the assignments/exams/quizzes/projects discussed in the rubric statements.

3.1 Rubrics Statement for MISLG1

MISLG1: Identify, communicate, and recommend information system solutions to meet practical business needs.

Course in which this learning goal is assessed: MIS 425: Systems Analysis and Design.

Course Embedded Activity for Assessment: An assignment that discusses the requirements of an information system in the form of a mini-case will be administered to the student. Each student is required to develop a use case diagram for the information system, develop use case descriptions, and present the business processes in the form of activity diagrams.

Assessment Rubric:

	Exemplary	Satisfactory	Unsatisfactory
Feasibility Study	Student develops a detailed and accurate financial and organizational feasibility study for an IT project.	Feasibility study adequately addresses the project but does not account for all aspects of the financial or organizational issues.	Student misses several key issues involved in the projects feasibility.
Information Requirements	Student uses appropriate modeling techniques (e.g., Use cases, Activity Diagrams) and text to identify key requirements for a redesigned information system.	Student identifies key requirements but misses some requirements through inaccurate models or text.	Student does not document key requirements through models or text.
Proposed System	Student proposes a new IT solution for the business problem with quality text and IT models (could include a UML models and prototypes).	Student proposes an adequate IT solution to the business problem but does not describe all aspect comprehensively through text or models.	Student does not adequately describe new IT solution that meets the business needs.

3.2 Rubrics Statement for MISLG2

MISLG2: Apply principles and tools of data modeling and analytics to practical business scenarios.

Course in which this learning goal is assessed: MIS 328: Database Management Systems. (or) A data analytics course.

Course Embedded Activity for Assessment: An assignment that discusses a business problem with several pieces of data that needs to be captured for the business will be administered to the student. Each student is required to develop a logical relational data model that satisfies the third normal form.

Assessment Rubric:

	Exemplary	Satisfactory	Unsatisfactory
Entities & Attributes	Student's solution captures all of the entities that correspond to the data requirements mentioned for the business problem.	Student's solution captures more than 75% of the entities that correspond to the data requirements mentioned for the business problem.	Student's solution does not correctly identify at least 25% of the entities for the data model based on the requirements mentioned for the business problem.
Relationships	Student's solution captures all of the relationships among entities correctly.	Student's solution captures more than 75% of the relationships among entities correctly.	Student's solution does not correctly identify at least 25% of the relationships among the entities.
Attributes	Student's data model correctly identifies all of the attributes for the data model.	Student's data model correctly identifies more than 75% of the attributes for the data model.	Student's data model does not correctly identify at least 25% of the attributes for the data model.
Normalization	Student's data model satisfies the requirements of the third normal form.	Student's data model satisfies the second normal form, but does not satisfy the requirements of the third normal form.	Student's data model does not satisfy the requirements of the second normal form.
Queries and Code	Student's solution constructs all of the queries and the code	Student's solution constructs about 75% or higher of the queries and the code	Student's solution captures less than 75% of the queries

	correctly to read (write) information from (to) the database.	correctly to read (write) information from (to) the database.	and the code correctly to read (write) information from (to) the database.

3.3 Rubrics Statement for MISLG3

MISLG3: Utilize appropriate programming constructs and tools to develop an information system application.

Course in which this learning goal is assessed: MIS 322: Business Programming II.

Course Embedded Activity for Assessment: An assignment that presents a business problem will be administered to the student. Each student is asked to develop object-oriented programs with appropriate classes to solve the business problem.

Assessment Rubric:

	Exemplary	Satisfactory	Unsatisfactory
Basic class design	The base class solves the problem by correctly defining the needed variables and methods.	The base class solves the problem by correctly defining at least 75% of the needed variables and methods.	More than 25% of the variables and methods are incorrectly defined.
Inheritance	The solution includes the required derived classes with correct use of overriding, inheritance and superclass methods. If the derived classes introduce redundant variables, methods or procedural logic already available in the superclass, it cannot be rated above satisfactory.	The solution includes the required derived classes with correct use of overriding, inheritance and superclass methods in at least 75% of situations.	More than 25% of the situations calling for overriding, inheritance and invocation of super class methods are improperly defined.
Procedural Logic	The solution correctly implements procedural logic throughout all methods.	The solution correctly implements 75% or more of the procedural logic.	Less than 75% of the procedural logic is implemented correctly.

Creating and using instances	Students correctly create instances of their classes and use the methods of the classes to solve business problems.	Students correctly create instances of their classes and use the methods of the classes to solve business problems in 75% or more of the cases.	More than 25% of the time, students do not correctly create instances and use their methods.

3.4 Rubrics Statement for MISLG4

MISLG4: Design information system infrastructure for a given business scenario.

Course in which this learning goal is assessed: MIS 327: IT Infrastructure.

Course Embedded Activity for Assessment: An assignment that asks the student to develop a proposal to install a LAN based system at a small business will be administered. Each student is asked to develop a business proposal along with a diagram of the proposed network and a project plan for implementing the proposal.

Scoring Rubric:

	Exemplary	Satisfactory	Unsatisfactory
LAN networking proposal technical requirements	Student's proposal includes all of the required LAN technical elements. In addition, the proposal includes at least two optional software/hardware enhancement products that will improve the LAN's operation.	Student's proposal includes all of the required LAN technical elements. No optional software/hardware products are included.	Student's proposal does not include all of the required LAN technical elements.
LAN networking business proposal	The proposal is a well written business proposal. All sections of the proposal are included and are properly organized.	The proposal is an adequately written business proposal. All sections of the proposal are included but may not be properly organized.	The proposal is poorly written or not all of the sections of the proposal are included.

LAN network diagram	Student submits a complete network diagram with all required technical components. The diagram is fully documented.	Student submits a complete network diagram with all required technical components. The network documentation is incomplete or missing.	Students submit an incomplete network diagram that does not include all of the technical components.

3.5 Rubrics Statement for MISLG5

MISLG5: Apply project management principles to practical information system projects.

Course in which this learning goal is assessed: PMGT 341: Basics of Project Management.

Course Embedded Activity for Assessment: Students in PMGT 341 will be given a case that discusses a project for an organization and are asked to submit a written assignment related to the case. The assignment requires them to discuss issues related to teamwork, scope management, and risk management. It will also ask the students to develop a project plan.

Assessment Rubric:

	Exemplary	Satisfactory	Unsatisfactory
Scope and Risk Management	Student recognizes the scope of the project and the risks associated with the project correctly. Student also provides a detailed plan to manage the scope and the risks of the project.	Student recognizes the scope of the project and the risks associated with the project correctly. However, does not provide a thorough plan to manage the scope and the risks of the project.	Student does not recognize either: (1) the scope of the project, or (2) the risks associated with the project.

Teamwork	Student recognizes the teamwork issues presented in the mini-case. Student also provides a thorough plan to improve the teamwork along dimensions such as communication, motivation, productivity and morale.	Student recognizes the teamwork issues presented in the mini-case. However, student does not identify concrete steps for improving the team's communication, motivation, productivity and morale.	Student does not recognize the positive and/or negative teamwork issues presented in the mini-case.
Project Plan	Project plan correctly all the details in terms of tasks, deadlines, precedence constraints, persons assigned to the task and the estimated time for each task.	Project plan correctly includes more than 75% of the details in terms of tasks, deadlines, precedence constraints, persons assigned to the task and the estimated time for each task.	Project plan lacks 25% or more of the details in terms of tasks, deadlines, precedence constraints, persons assigned to the task and the estimated time for each task.

4. Use of Rubrics Data to Improve the MIS Major

Every semester, instructors and the undergraduate curriculum and assessment committee in the Department of Business are involved in activities related to the collection of assessment data. The following steps indicate a process for collection of assessment data.

1. Instructor, at the beginning of the semester, includes applicable program level learning goals and rubrics in the course outline.
2. Instructor discusses the applicable learning goals and the rubrics for assessment in the class with students.
3. Instructor prepares an assignment, homework, or test questions to assess the learning goal for the semester.
4. Instructor submits the course outline document and the relevant assignment/homework/test questions to measure the learning goal to MIS colleagues for feedback.
5. Instructor administers the assignment, homework, or test to the students.
6. Instructor applies the rubric to assess the learning goal.
7. Instructor collects data for each dimension of the rubric on the number of students who Fall in the Exemplary, Satisfactory, and Unsatisfactory categories.
8. Data collected by the instructor is stored in spreadsheets – organized by year, course and semester – in the business department office.

9. Instructor submits sample work of students for the learning goal to the Associate Dean's office.

The data collected will be summary data. For each MISLG and each dimension of the rubric, the total number of students in each category (exemplary, satisfactory and unsatisfactory) will be compiled and stored in spreadsheets maintained by the department. In addition, student work to support these findings also will be maintained.

Assessment results will be presented to the MIS faculty, the Department of Business and the ITPC (external advisory board for MIS curriculum) every Fall semester. Based on the recommendations of the faculty and the external board and, if the data indicates that the curriculum related to these learning goals needs be changed, the course and/or curriculum will be updated.

Annual reports on assessment will be written every year. These reports will contain the following:

- Rubrics data and observations from rubrics data.
- Data and observations from indirect measures (such as alumni surveys), if any.
- Recommendations agreed upon by the faculty and the ITPC board based on the analysis of data from direct and indirect measures.
- Changes made to the curriculum, if any, based on the above recommendations.

This annual report will be widely disseminated to the other faculty members in the Department of Business, the ITPC board members and the College of Business, Economics, and Computing Advisory Board members.

5. Business Major Assessment Plan and the MIS Major Assessment Plan

This section is organized as follows. Section 5.1 discusses the indirect measures for MIS major assessment. Section 5.2 describes the course overview documents that instructors complete every semester for the courses they teach. Section 5.3 describes the assessment of MIS majors for the business program learning goals.

5.1 Indirect Measures for Assessment

In addition to the direct measures based on learning goals and rubrics described in Section 3, three processes will be used to obtain indirect measures for the assessment of the MIS major.

1. Surveys will be administered every three years to determine satisfaction with the MIS program.
2. Supervisors of MIS interns will be contacted and surveyed during the period of the internship in order to assess the strengths and weaknesses of the MIS student. The results of this survey will be analyzed once per year.
3. The ITPC (Information Technology Practice Center) board will act as a board of advisors to the MIS major. This board of advisors will review the curriculum annually and suggest changes.

Data from these indirect measures will be used in conjunction with the data from direct measures to improve the MIS curriculum as discussed in Section 4.

5.2 Course Overview Documents

Before the beginning of a semester, for each of the *required* undergraduate courses, including the upper-level business foundation core courses, the instructor will turn in the course syllabus and a course overview document. These documents will list the Learning Goals, and an explanation of how those goals are assessed within the course. A screen-shot of the course overview document is included in Appendix F-1. For example, a learning goal may be assessed through a combination of homework, assignment and exams.

The syllabi and course overview documents will be reviewed by the department chair to see if they are in line with the curricular and administrative policies of the department. If corrections are needed, they will be sent back to the instructor for revision. The documents will then be filed in the department pool office and made available to committees involved in assessment.

The Undergraduate Curriculum and Assessment Committee will examine the course syllabi and overviews periodically, at least once every two years, to ensure that the learning goals are in the curriculum and are assessed.

5.3 MIS Major Assessment versus Business Major Assessment

One factor to consider in the MIS major assessment plan is the business major assessment plan (see the undergraduate business major assessment plan). This plan identifies several program level learning goals (PLLGs). MIS majors will be assessed for the business program learning goals in addition to the MIS learning goals discussed in this document. For the purposes of the business program learning goals, currently we do not make any distinction between business majors in other concentrations and the MIS major. For example, the learning goal on effective writing will be measured for all business undergraduate students including MIS majors. At this time, our assumption is that the data on MIS majors for any business program learning goal mirrors the data for all business majors. In other words, we assume the MIS majors do not significantly deviate from the rest of the majors in the PLLG data. However, we may need to validate this assumption by collecting PLLG data and comparing the data for MIS majors versus the data for all business majors. Such comparative analysis is not in our current plans. However, we intend to revisit this issue in a future semester after we implement a majority of the plan discussed in the previous sections.

6. References

- Barbara E. Walvoord. 2004. Assessment Clear and Simple: A Practical Guide for Institutions, Departments, and General Education**.** Jossey-Bass Higher and Adult Education.
- Kathryn Martell and Thomas Calderon (Editors). 2005. Assessment of Student learning in Business Schools: Best Practices Each Step of The Way. Volume 1. Association for Institutional Research.

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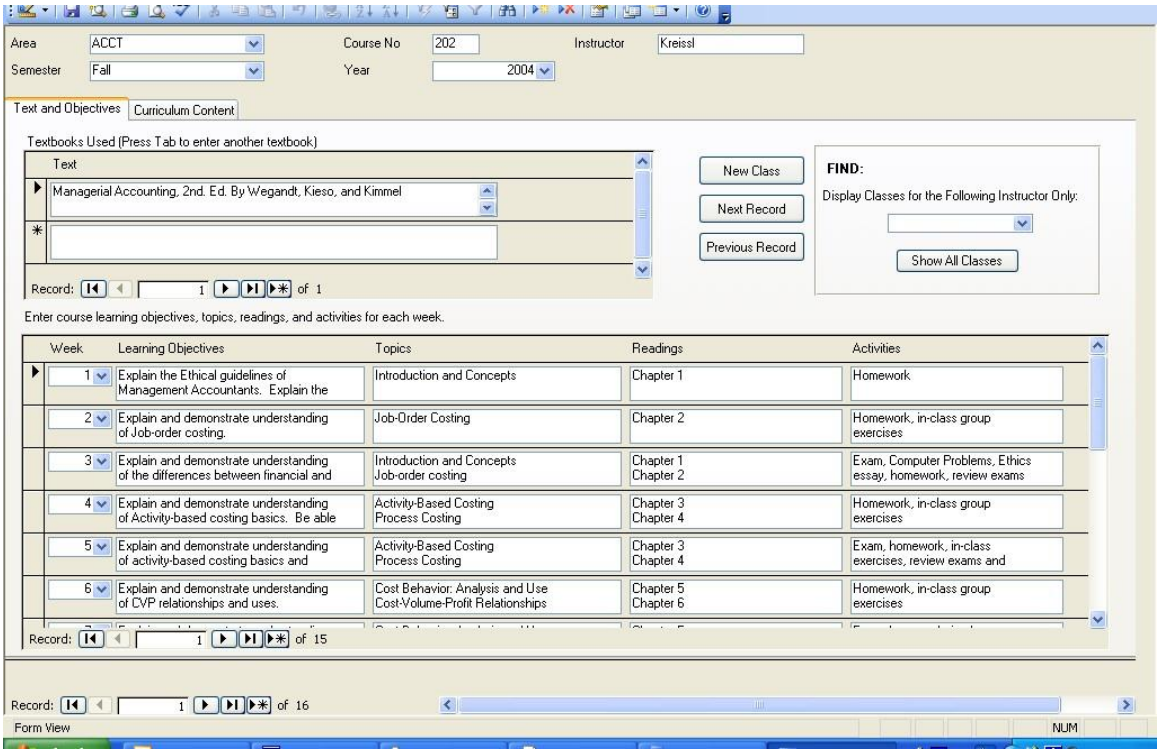
APPENDIX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Instructor Kreissl
Semester Fall
Year 2004
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New Class
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Previous Record
FIND:
Display Classes for the Following Instructor Only:
Show All Classes
Enter course learning objectives, topics, readings, and activities for each week.
Week
Learning Objectives
Topics
Readings
Activities
1 Explain the Ethical guidelines of Management Accountants. Explain the
Introduction and Concepts
Chapter 1
Homework
2 Explain and demonstrate understanding of Job-order costing.
Job-Order Costing
Chapter 2
Homework, in-class group exercises
3 Explain and demonstrate understanding of the differences between financial and
Introduction and Concepts
Job-order costing
Chapter 1
Chapter 2
Exam, Computer Problems, Ethics essay, homework, review exams
4 Explain and demonstrate understanding of Activity-based costing basics. Be able
Activity-Based Costing
Process Costing
Chapter 3
Chapter 4
Homework, in-class group exercises
5 Explain and demonstrate understanding of activity-based costing basics and
Activity-Based Costing
Process Costing
Chapter 3
Chapter 4
Exam, homework, in-class exercises, review exams and
6 Explain and demonstrate understanding of CVP relationships and uses.
Cost Behavior: Analysis and Use
Cost-Volume-Profit Relationships
Chapter 5
Chapter 6
Homework, in-class group exercises
Record: 1 of 15
Record: 1 of 16
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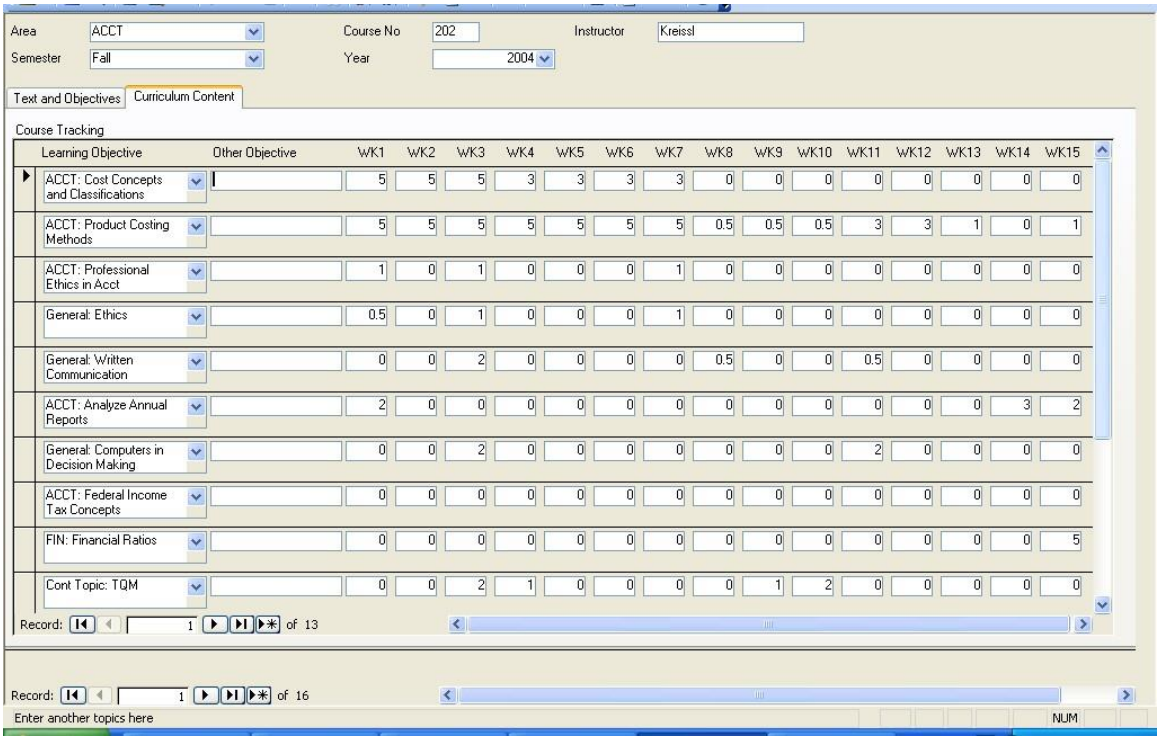
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Semester Fall
Year 2004
Text and Objectives
Curriculum Content
Course Tracking
Learning Objective
Other Objective
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ACCT: Professional Ethics in Acct 1 0 1 0 0 0 1 0 0 0 0 0 0 0 0
General: Ethics 0.5 0 1 0 0 0 1 0 0 0 0 0 0 0 0
General: Written Communication 0 0 2 0 0 0 0 0.5 0 0 0.5 0 0 0 0
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