Student Learning Outcomes Committee
Department/Program Assessment Results Report

Department/Program: <u>IDS / Information Systems</u>　　　Degree:　<u>MSBA – Information Systems</u>

Date Submitted:　<u>3/20/2009</u>

I.　Working from your assessment report of last year, please discuss some changes made or strategies implemented in response to last year's results.

The 2008 calendar year presented our first opportunity to actually assess specific student learning outcomes (SLOs) in the MSBA in Information Systems (MSBA-IS) program, having spent the preceding periods developing and refining the assessment activities and processes for our undergraduate (BSBA-IS) program, and using that experience to guide the development of a vision, goals, learning outcomes, and an assessment schedule for the graduate program (see Appendix A). This document reports on the specific SLOs assessed within the MSBA-IS program during the Spring and Fall semesters of 2008.

An on-line survey, designed by Drs. Bruce Reinig and Theo Addo in Spring 2008, was administered to alumni of the MSBA-IS program from late spring through summer of last year. This survey asked the alumni their views and opinions about the program goals and objectives developed by the information systems faculty, including whether or not they thought the goals and objectives should be kept, and how well they felt the program helped them to achieve these goals and objectives. It is clear from the results of the survey that most of the alumni feel that the goals are largely desirable and should be included in the program and, also, that the program, for the most part, helped them achieve most of these goals and objectives. However, the survey also shows that there are several areas for improvement with respect to student achievement in the eyes of our alumni, specifically for those goals and objectives where the mean values of the responses were below or near 3.0, the midpoint of the 1-5 scale (see Appendix B for the results of these indirect measures). Even though the sample size was rather small (16), the results of the survey provide some useful insights for action as we begin implementation of our assessment plan. The IS faculty have not yet had opportunity to fully digest the results of our alumni survey, but we will definitely be meeting to discuss them relative to our findings from direct measures of the goals and student learning outcomes and to formulate plans and strategies for making improvements. We expect to report on the outcome of our deliberations in next year's report.

II.　Drawing upon the goals and objectives contained in the department/program student learning assessment plan, what was the focus of the department's student learning assessment for the past academic year?
　　A.　　　This section should list the student learning goals and objectives that were the focus for the report year (selected from your complete set of goals and objectives).

Our focus for the 2008 calendar year was on Goals 1 and 4 (see Appendix A). Within Goal 1, the following specific SLOs were assessed: SLOs 1.1, 1.2, and 1.3 (please note that the assessment dates for SLOs 1.3 and 1.4, as reported in last year's schedule, have been swapped). Within Goal 4, SLO 4.4 was assessed.

B.   It would also be helpful to note here the student learning goals and objectives that you intend to assess during the next year.

For the 2009 calendar year, we intend to assess the following learning objectives: SLOs 1.4, 2.2, 2.4, and 3.1. (We strive to make a good faith effort to stick to the letter of the assessment schedule presented in Appendix A. However, at times, logistical considerations and other circumstances, such as an instructor's schedule or availability may necessitate minor departures from the schedule, as evidenced in II-A above.)

III.   What information was collected, how much, and by whom?

A.   This section should briefly describe the methodology used to examine the targeted goals and objectives. Please attach relevant scoring rubrics, surveys, or other materials used to examine student learning to the back of the report, as Appendices.

SLOs 1.1, 1.2, and 1.3 were assessed by Dr. Alexis Koster in his IDS 686 class during the Fall 2008 semester. For SLOs 1.2 and 1.2, he did the assessment via a relational database project assignment, while for SLO 1.3, he used an examination question on database administration. The rubric employed by Dr. Koster for these assessments can be found in Appendix C.

SLO 4.4 was assessed by Dr. Murray Jennex in his IDS 697 class during the Spring 2008 semester. He used an essay exam question on IT auditing for the assessment. The rubric used for this assessment can be found in Appendix D.

IV.   What conclusions were drawn on the basis of the information collected?
A.   This section should briefly describe the results (in summary form) in regard to how well students have met the targeted goals and objectives. For example, what percentage of students met the objectives? Is this a satisfactory level of performance? What areas need improvement?

The results obtained from all the SLO assessments indicate that the vast majority of the students have met the targeted goals and objectives.

A breakdown of the student scores for SLO 1.1 is shown below. Ninety-three percent of the students received a score of "Satisfactory" or better, with half of them receiving a score of "Very Good" (the highest possible). The mean score for the class was 3.24 out of 4, which represents an average rating between "Good" and "Very Good".

SLO 1.1 – Design a database from the analysis of information requirements

Score	No. of Students (N=26)	% of Students
4 – Very good	13	50%
3 - Good	8	31%
2 - Satisfactory	3	12%
1 - Unsatisfactory	2	7%

Mean Score: 3.24 out of 4

Actions to be taken based on results ("closing the loop"):
Even though the results above are good (81 percent of the students scored "Good" or "Very Good"), Dr. Koster believes that their performance could be improved by breaking down the conceptual design project into two steps, with the expectation that feedback from the first step will help improve the overall database design.

A breakdown of the student scores for SLO 1.2 is shown below. Again, about 93 percent of the students received a score of "Satisfactory" or better. Eighty-five percent received a score of "Good" or "Very Good". The mean score for the class was 3.43 out of 4, representing an average rating between "Good" and "Very Good".

SLO 1.2 – Build and process a relational database using a common DBMS software package

Score	No. of Students (N=26)	% of Students
4 – Very good	16	62%
3 - Good	6	23%
2 - Satisfactory	2	7.5%
1 - Unsatisfactory	2	7.5%

Mean Score: 3.43 out of 4

Actions to be taken based on results ("closing the loop"):
Again, improvement in performance could be achieved by splitting this ORACLE project into two steps, with students using feedback from the first step of the project to help guide the creation of an improved version of the complete database.

A breakdown of the student scores for SLO 1.3 is shown below. On this SLO, there were *no* students with "Unsatisfactory" scores; 96 percent of the students scored "Good" or "Very Good". The mean score for the class was 3.34 out of 4, representing an average rating between "Good" and "Very Good".

SLO 1.3 – Explain the functions of database administration

Score	No. of Students (N=24)	% of Students
4 – Very good	10	42%
3 - Good	13	54%
2 - Satisfactory	1	4%
1 - Unsatisfactory	0	0

Mean Score: 3.34 out of 4

Actions to be taken based on results ("closing the loop"):
To improve performance even further and to move more students from "Good" to "Very good", Dr. Koster intends to spend more time in class on the discussion of the functions of database administrators and will also try to invite a database administrator as a guest lecturer.

A breakdown of the student scores for SLO 4.4 is shown below. All the students scored "Satisfactory" or better, with 50 percent receiving a score of "Good" and 11 percent a score of "Very Good". The mean score for the class was 2.72 out of 4, which represents an average rating between "Satisfactory" and "Good". The results indicate that this learning objective is being met. However, they also indicate that there is room for improvement. Efforts could be undertaken to move more students from "Satisfactory" to "Good" and from "Good" to "Very Good".

SLO 4.4 – Explain IT Auditing

Score	No. of Students (N=18)	% of Students
4 – Very good	2	11%
3 - Good	9	50%
2 - Satisfactory	7	39%
1 - Unsatisfactory	0	0%

Mean Score: 2.72 out of 4

Actions to be taken based on results obtained ("closing the loop"):
Dr. Jennex believes improvements in performance can be achieved by taking the following actions: (1) revise the presentation materials to include all the issues listed in the "Very Good" column of the assessment rubric, (2) add the option to prepare an audit plan to the list of practical exercises that the student can perform, and (3) locate an example of a real audit plan and post it on Blackboard under the sample documents section (this may not be possible but he will attempt to find a good example).

V. **How will the information be used to inform decision-making, planning, and improvement?**
   A.   This section should describe the strategies that will be implemented for program improvement as a result of the conclusions drawn from the assessment activities.

The overall assessment results obtained and reported above are very encouraging. However, there is always room for improvement. The "Actions to be taken" segments in the preceding section represent specific actions that will be taken to further improve student performance. The IS faculty will meet to discuss these actions and adopt further improvement strategies as needed. Also, the indirect measures from the IS alumni survey provide some potentially useful information regarding areas where our former students feel additional effort needs to be made to facilitate attainment of student learning objectives. Such measures, taken over time, should, hopefully, reflect a positive trend in this endeavor.

Report completed by: Theo Addo   Date: 3/20/09

Appendix A

Goals, SLOs, and Assessment Schedule for MSBA-IS Program

MSBA in Information Systems – Assessment

Vision Statement
To produce students who can lead organizations in the evaluation, adoption, and implementation of information systems and technologies for the strategic benefit of organizations.

Graduate IS Assessment Schedule

Goals and SLOs	Point(s) of Assessment	Assessment Method	Planned Assessment Date	Assessment Completed (Y/N)
Goal 1: Analyze organizational data, information, and knowledge requirements for the design and implementation of information systems				
SLO 1.1 – Design a database from the analysis of information requirements	IDS 686 /IDS 695/ IDS 697	Project	Fall 2008	Y
SLO 1.2 – Build and process a relational database using a common DBMS software package.	IDS 686 /IDS 697	Project	Fall 2008	Y
SLO 1.3 – Explain the functions of database administration.	IDS 686	Exam question	Fall 2008	Y
SLO 1.4 – Model and document information system requirements.	IDS 695 /IDS 697	Exercise	Fall 2009	
Goal 2: Understand implications of enterprise information technology infrastructure and architecture in a global environment.				
SLO 2.1 – Identify and explain general information systems components.	IDS 680 / IDS 697	Exam/assignment	2010-2011	
SLO 2.2 – Describe standard information technology architectures and key protocols.	IDS 680 /IDS 687 /IDS 790	Exam/assignment	2009-2010	
SLO 2.3 – Explain technology standards for local area networks and wide area networks.	IDS 687 /IDS 790	Exam/assignment	2010-2011	
SLO 2.4 – Analyze global impacts on infrastructure and architecture.	IDS 688 /IDS 790	Exam/assignment	2009-2010	
Goal 3: Align information strategy with organizational strategy.				

SLO 3.1 – Describe frameworks for strategic alignment of IT and corporate goals.	IDS 695 /IDS 688 /IDS 790	Exam/assignment	2009-2010	
SLO 3.2 – Explain how IT investments support an organization's competitive strategy.	IDS 688 /IDS 790	Exam/assignment	2010-2011	
SLO 3.3 – Explain IT procurement strategy.	IDS 688 /IDS 695 /IDS 697	Exam/assignment	2011-2012	
Goal 4: Understand information technology threats and challenges and trends in the global environment.				
SLO 4.1 – Discuss security issues of networking infrastructure.	IDS 687 /IDS 790	Exam/assignment	2011-2012	
SLO 4.2 – Analyze information assurance needs.	IDS 695 /IDS 697	Exam/assignment	2010-2011	
SLO 4.3 – Analyze emerging information technology trends and how they can affect the organization.	IDS 688 /IDS 697 /IDS 790	Exam/assignment	2011-2012	
SLO 4.4 – Explain IT auditing.	IDS 697	Exam question	Spring 2008	Y

Appendix B

Assessment Results from Survey of MSBA-IS Alumni

<u>Notes</u>
1. Respondents were asked to indicate the extent of their agreement with the following two essential statements pertaining to each goal and objective, using a scale of 1 to 5 (1 = Strongly Disagree; 5 = Strongly Agree). The numerical values reported below are mean values for each response:
    (a) The goal/objective should be included in the set of goals/objectives for the graduate Information Systems major.
    (b) The goal/objective was accomplished with respect to my own education in the graduate program. That is, I achieved the goal/objective while at SDSU.
2. The goals and objectives stipulated in the survey are the same ones shown in Appendix A
3. No. of respondents (N) = 16

Goals and Objectives	Should be included	Achieved at SDSU
Goal 1	4.69	4.19
SLO 1.1	4.06	4.25
SLO 1.2	3.62	3.88
SLO 1.3	4.00	3.20
SLO 1.4	4.56	4.31
Goal 2	4.67	3.27
SLO 2.1	4.80	4.47
SLO 2.2	4.47	3.73
SLO 2.3	4.53	3.80
SLO 2.4	4.40	3.00
Goal 3	4.33	3.40
SLO 3.1	4.33	3.20
SLO 3.2	4.60	3.47
SLO 3.3	4.13	2.73
Goal 4	4.60	3.33
SLO 4.1	4.73	3.07
SLO 4.2	4.00	2.80
SLO 4.3	4.80	3.07
SLO 4.4	4.07	2.33

Appendix C

Rubric Used for Assessing SLOs 1.1, 1.2, and 1.3

SLO	4 – Very Good	3 - Good	2 - Satisfactory	1 - Unsatisfactory
SLO 1.1	Design shows complete and accurate knowledge of designing a database from information requirements	Design demonstrates significant knowledge of designing a database from information requirements. There are a few minor errors	Design demonstrates satisfactory knowledge of designing a database from information requirements A few concepts are not completely understood.	Design demonstrates minimal or complete lack of knowledge of relations and normalization.
SLO 1.2	Students show a complete understanding of the creation of relational tables, and complete mastery of the subset of SQL expected for this class	Students show a significant knowledge of the creation of relational tables. The attribute are sometimes not specified in the best way. The students use SQL commands that show a significant knowledge of the subset of the SQL language expected for this class. SQL commands chosen work, but are sometimes overly complex.	Students show a satisfactory knowledge of the creation of relational tables. There are problems in the identification and specification of foreign keys and some primary keys. The students use SQL commands that show a satisfactory knowledge of the subset of the SQL language expected for this class. Some features are not correctly understood.	Students demonstrate minimal knowledge of the creation of relational tables. Many attributes are missing, primary keys and foreign keys are not specified or incorrectly specified. The students demonstrate minimal or lack of knowledge of SQL. SQL commands are incorrectly written, resulting in incorrect processing of data
SLO 1.3	Students show a complete understanding of the functions of the Database Administrator	Students understand well the functions of the Database Administrator	Students show a satisfactory knowledge of the functions of the Database Administrator	Students show minimal understanding of the functions of the database administartor.

Appendix D

Rubric Used for Assessing SLO 4.4

	4 – Very Good	3 - Good	2 - Satisfactory	1 - Unsatisfactory
Explain IT Auditing	Understands the concept of auditing and that it is used to monitor: • project performance • conformance to standards, life cycles, and process • conformance to user requirements • identify lessons learned • ensure requirements are maintained during the maintenance phase Understand that auditing is needed to make project performance repeatable and to advance the maturity of the organization	Understands the concept of auditing and that it is used to monitor: • project performance • conformance to standards, life cycles, and process • conformance to user requirements • identify lessons learned • ensure requirements are maintained during the maintenance phase	Understands the concept of auditing and know that most of the following are monitored: • project performance • conformance to standards, life cycles, and process • conformance to user requirements • identify lessons learned • ensure requirements are maintained during the maintenance phase	Not understanding the concept of auditing and/or not knowing what auditing monitors or does.