

Student Learning Outcomes Committee
Department/Program Assessment Results Report

Department/Program: IDS / Information Systems

Degree: BSBA - Information Systems

Date Submitted: 04/01/2010

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 results reported in last year's assessment report indicated that most of the students had met the objectives stipulated in the student learning objectives (SLOs) that were assessed (see Appendix A for the program's goals and SLOs). More specifically, 90 percent or more of the students met the learning objectives in three of the five SLOs assessed, 89 percent met the fourth learning objective, and 78 percent met the fifth objective. These results suggested no immediate need for program alterations. The assessment results, as well as the University SLO Committee's response to the report, were shared with the information systems faculty. The importance of employing "closing the loop" activities in an effort to improve student learning and performance was re-emphasized to the faculty. Unfortunately, we were unable to implement some of the recommendations made by the University SLO Committee in response to last year's report due to some logistical constraints. Most notable of these was the suggestion to develop a pool of multiple-choice and short-answer items from which questions may be randomly drawn for assessment purposes (the "item pool strategy"). The information systems program assessment is based on the calendar, rather than the academic, year; therefore we were already well into data collection for this report when we received the suggestion mid-year, and it was impractical to make any modifications. Compounding this problem further was our mandatory furlough situation last year, which rendered faculty meetings a bit of a challenge. However, we will endeavor to begin implementing this suggestion in subsequent semesters.

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).

During the 2009 calendar year, our assessment focus was on Goals 4 and 5 (see Appendix A). Within Goal 4, SLOs 4.2, 4.3, and 4.4 were assessed, and within Goal 5, SLOs 5.1, 5.2, 5.3, and 5.4 were 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 2010 calendar year, our assessment focus will be on Goal 6, specifically SLOs 6.1 and 6.2 (see Appendix A).

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 4.2, 4.3, and 4.4 were assessed by Dr. Theo Addo in his IDS 315 class, where he conducted the assessment using programming projects. SLOs 5.1, 5.2, 5.3, and 5.4 were assessed by Dr. Bongsik Shin in his IDS 483 class where he used examination questions to do the assessments. The rubrics used for the assessment of these SLOs can be found in Appendices B through E.

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 established learning goals and objectives. With the exception of SLO 4.4, in which 89 percent of students met the learning objectives, the remaining six SLOs had in excess of 90 percent of students meeting the objectives. Of particular note is the fact that 100 percent of students met the SLO 5.1 objective. Overall, this is a very satisfactory level of performance. The specific SLO results are presented in a bit more detail below.

Note: The scores are reported on the following scale: 4-Very Good; 3-Good; 2-Satisfactory; 1-Unsatisfactory. The specific meaning of these scores can be found in the respective rubrics shown in Appendices B through E.

A breakdown of the student scores for SLO 4.2 is shown below. Ninety-two percent of the students received a score of "Satisfactory" or better, with 58 percent receiving the highest score of "Very Good". The mean score was 3.3 out of 4, which represents an average rating approximating "Good".

SLO 4.2 - Develop a fully functional computer program from given specifications

Score	No. of Students (N=38)	% of Students	Cumulative %
4 - Very Good	22	58%	58%
3 - Good	7	18%	76%
2 - Satisfactory	6	16%	92%
1 - Unsatisfactory	3	8%	100%

Mean Score: 3.3 out of 4

A breakdown of the student scores for SLO 4.3 is shown below. Ninety-seven percent of the students received a score of "Satisfactory" or better, with 58 percent receiving the highest score of "Very Good." The mean score for the class was 3.4 out of 4, representing an average rating between "Good" and "Very Good."

SLO 4.3 - Use the logic of selection (decision) in procedures such as data validation

Score	No. of Students (N=38)	% of Students	Cumulative %
4 - Very Good	22	58%	58%
3 - Good	9	23%	81%
2 - Satisfactory	6	16%	97%
1 - Unsatisfactory	1	3%	100%

Mean Score: 3.4 out of 4

A breakdown of the student scores for SLO 4.4 is shown below. Eighty-nine percent of the students received a score of "Satisfactory" or better, with 73 percent receiving the highest score of "Very Good." The mean score for the class was 3.4 out of 4, which represents an average rating between "Good" and "Very Good".

SLO 4.4 - Use the logic of iteration (looping) to process lists and arrays

Score	No. of Students (N=37)	% of Students	Cumulative %
4 - Very Good	27	73%	73%
3 - Good	1	3%	76%
2 - Satisfactory	5	13%	89%
1 - Unsatisfactory	4	11%	100%

Mean Score: 3.4 out of 4

Actions to be taken based on results ("closing the loop"):

The preceding three SLOs all pertain to various aspects of computer programming. Dr. Theo Addo will continue his practice of providing tutors (previous outstanding students) to help current students with their programming projects as a supplement to classroom instruction.

A breakdown of the student scores for SLO 5.1 is shown below. On this SLO, all students obtained a score of "Good" or "Very Good," with 70 percent obtaining the latter. The mean score for the class was 3.7 out of 4, which represents an average rating quite close to the highest rating of "Very Good."

SLO 5.1 - Identify fundamental issues of networking, including networking devices, transmission media, and various interfaces

Score	No. of Students (N=27)	% of Students	Cumulative %
4 - Very good	19	70%	70%
3 - Good	8	30%	100%
2 - Satisfactory	0	0%	-
1 - Unsatisfactory	0	0%	-

Mean Score: 3.7 out of 4

A breakdown of the student scores for SLO 5.2 is shown below. Ninety-three percent of the students received a score of "Satisfactory" or better, with 38 percent receiving the highest score of "Very Good." The mean score for the class was 3.0 out of 4, which represents an average rating of "Good".

SLO 5.2 – Explain standard architectures (TCP/IP, OSI, and Hybrid) in terms of layer functions and PDUs

Score	No. of Students (N=27)	% of Students	Cumulative %
4 – Very good	10	38%	38%
3 - Good	9	33%	71%
2 - Satisfactory	6	22%	93%
1 - Unsatisfactory	2	7%	100%

Mean Score: 3.0 out of 4

A breakdown of the student scores for SLO 5.3 is shown below. Ninety-seven percent of the students received a score of "Satisfactory" or better. The mean score for the class was 2.8 out of 4, which represents an average rating just slightly less than "Good."

SLO 5.3 – Explain the Internet protocol (IP) and transport layer protocols (TCP and UDP) and associated concepts including IP addressing

Score	No. of Students (N=28)	% of Students	Cumulative %
4 – Very good	7	26%	26%
3 - Good	8	30%	56%
2 - Satisfactory	11	41%	97%
1 - Unsatisfactory	1	3%	100%

Mean Score: 2.8 out of 4

A breakdown of the student scores for SLO 5.4 is shown below. Ninety-three percent of the students received a score of "Satisfactory" or better. The mean score for the class was 2.9 out of 4, which represents an average rating approximating "Good".

SLO 5.4 – Describe Ethernet (802.3) and Wireless (802.11) LAN standards

Score	No. of Students (N=28)	% of Students	Cumulative %
4 – Very good	9	33%	33%
3 - Good	9	33%	66%
2 - Satisfactory	7	27%	93%
1 - Unsatisfactory	2	7%	100%

Mean Score: 2.9 out of 4

Actions to be taken based on results (“closing the loop”):

The preceding four SLOs pertain to aspects of data communications and networks. Even though students were given several hands-on assignments, more are planned for future semesters, especially in the area of IP addressing, the area in which students showed the biggest weakness. Other areas for further hands-on projects include wireless LAN (IEEE 802.11) and Ethernet (802.3). Students will be introduced to network simulation software, such as Packet Tracer, to use in these hands-on projects.

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 presented in this report are very encouraging. However, more can and will continue to be done in the endless effort to improve student learning. The “Actions to be taken” segments in the preceding section represent some actions that will be undertaken in that effort. The information systems faculty will meet to discuss these actions, in conjunction with indirect measures obtained from the alumni survey conducted by Dr. Bruce Reinig and Dr. Theo Addo in spring 2008 to further inform appropriate decision making.

Appendix A

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

BSBA in Information Systems -- Assessment

Vision Statement

To develop students who can apply information systems and technologies to add value to organizations.

Undergraduate IS Assessment Schedule

Goals and SLOs	Point(s) of Assessment	Assessment Method	Planned Assessment Date	Assessment Completed (Y/N)
Goal 1: Explain fundamental database concepts and be able to apply it to the design and development of relational databases.				
SLO 1.1 – Design a conceptual relational database in 3 rd Normal Form	IDS 380	Project	Spring 2007	Y
SLO 1.2 – Build a relational database using a common DBMS software package.	IDS 380	Project	Spring 2007	Y
SLO 1.3 – Write SQL statements to query a relational database consisting of at least two tables.	IDS 380	Project	Spring 2007	Y
Goal 2: Learn the major steps pertaining to the planning and analysis phases of the systems development life cycle (SDLC) and demonstrate the ability to produce the associated deliverables.				
SLO 2.1 – Demonstrate ability to estimate and quantify the present value of tangible and intangible costs and benefits (including strategic benefits) arising from an information system investment.	IDS 306	Assignment	Spring 2008	Y
SLO 2.2 – Demonstrate ability to identify information system requirements and model the functionality of a requirements-compliant system.	IDS 306	Assignment	Spring 2008	Y
Goal 3: Learn the major steps pertaining to the design and implementation phases of the system development life cycle (SDLC) and demonstrate ability to produce the associated deliverables.				
SLO 3.1 – Demonstrate ability to create data models to support the functionality of an information system.	IDS 406	Assignment	Spring 2008	Y
SLO 3.2 – Demonstrate ability to create a user-interface and architecture design to support the functionality of an information	IDS 406	Assignment and Examination	Spring 2008	Y

system.				
SLO 3.3 – Identify and evaluate alternative conversion and migration strategies for implementing an information system in an organization.	IDS 406	Exam question	Spring 2008	Y
Goal 4: Acquire fundamental working ability of a computer programming language, and be able to use it to write programs to solve common business problems.				
SLO 4.1 – Represent program logic in the form of a flowchart or pseudocode.	IDS 315	Project	Fall 2007	Y
SLO 4.2 – Develop a fully functional computer program from given specifications.	IDS 315	Project	Fall 2009	Y
SLO 4.3 – Use the logic of selection (decision) in procedures such as data validation.	IDS 315	Project	Fall 2009	Y
SLO 4.4 – Use the logic of iteration (looping) to process lists and arrays.	IDS 315	Project	Fall 2009	Y
Goal 5: Explain fundamental capability (both theoretical and practical) of data communications, computer networking, and related hardware concepts.				
SLO 5.1 – Identify fundamental issues of networking, including networking devices, transmission media, and various interfaces.	IDS 483	Exam question	Spring 2009	Y
SLO 5.2 – Explain standard architectures (TCP/IP, OSI, and Hybrid) in terms of layer functions and PDUs.	IDS 483	Exam question	Spring 2009	Y
SLO 5.3 – Explain the Internet protocol (IP) and transport layer protocols (TCP & UDP) and associated concepts including IP addressing.	IDS 483	Exam question	Spring 2009	Y
SLO 5.4 – Describe Ethernet (802.3) and Wireless (802.11) LAN standards.	IDS 483	Exam question	Spring 2009	Y
Goal 6: Acquire ability of contemporary information systems issues, including the use of information technology for competitive advantage.				
SLO 6.1 – Analyze information systems management issues or information technology trends.	IDS 492	Assignment	Spring 2010	
SLO 6.2 – Identify and describe opportunities and challenges facing information systems executives in today’s global economy.	IDS 492	Exam	Fall 2010	
SLO 6.3 – Analyze the strategic impact of an organization’s current information systems portfolio vis-à-vis the information systems under development	IDS 492	Exam question	Summer 2006	Y
Goal 7: Demonstrate competence in communicating technical information effectively to both technical and non-technical audiences.				

SLO 7.1 – Create and deliver a structured walkthrough presentation that communicates the results of the analysis and design phases of the SDLC to a non-technical audience.	IDS 306 / IDS 406	Presentation	Spring 2011	
SLO 7.2 – Construct and articulate an appropriate framework for exposing the inter-relationships in the analysis- and design-phase deliverables.	IDS 306 / IDS 406	Presentation	Spring 2011	
SLO 7.3 – Present, explain and defend the analysis- and design-phase deliverables to an audience.	IDS 306 / IDS 406	Presentation	Spring 2011	
SLO 7.4 – Present research findings geared towards a managerial audience on technological issues, including specific technologies and/or technological trends.	IDS 492	Presentation	Spring 2007	Y

Appendix B

Rubric used for assessing SLO 4.2

	4 - Very Good	3 - Good	2 - Satisfactory	1 - Unsatisfactory
Program's logical functionality	Complete and accurate functionality of programming logic, following given specifications	Only minor error(s) in programming logic and functionality and/or minor deviation from given specifications	Predominantly accurate program functionality but with some errors and/or deviations from specifications	Mostly inaccurate or abortive logical functionality of the program; significant deviation from given specifications
Program documentation	Comprehensive, complete, and accurate documentation of program functionality, following given standards	Good program documentation but with minor omissions and/or slight deviations from standards	Adequate program documentation but with significant omissions, inaccuracies, and/or departure from given standards	Poor or non-existent program documentation
Graphical user interface (GUI) design	GUI design follows the given specifications and standards accurately, and is esthetically pleasing	Some minor design issues with the GUI design	Adequate GUI design but with notable departure from standards	Poor GUI design; significant departure from standards and esthetically unappealing
Graphical user interface (GUI) functionality	All user controls, tools, and other elements on the GUI function as intended	User controls and GUI elements mostly function as intended but with only minor deficiencies	Some notable deficiencies in the GUI functionality	GUI controls and tools mostly do not work as intended

Appendix C

Rubric used for assessing SLO 4.3

	4 - Very Good	3 - Good	2 - Satisfactory	1 - Unsatisfactory
Accuracy of decision (selection) logic	Accurate navigation of multiple logic/decision branches to arrive at desired outcome	Mostly accurate navigation of multiple logic/decision branches; but with minor error(s)	Sufficiently accurate navigation of multiple logic/decision branches but with some notable errors	Mostly inaccurate navigation of logic/decision branches resulting in erroneous outcomes
Logic control	Flow of logic is accurately and effectively controlled (displaying messages, and pausing and resuming as needed)	Accurate flow of logic; but minor errors in logic control	Good logical flow but with more notable errors in the flow and/or control	Major errors in logic flow and/or control; poor logic flow could result in program aborting

Appendix D

Rubric used for assessing SLO 4.4

	4 - Very Good	3 - Good	2 - Satisfactory	1 - Unsatisfactory
Accuracy of iteration (looping) logic	Use of a loop structure to accurately navigate (search and retrieve data from) both a one-dimensional and a two-dimensional array	Minor errors in using a loop structure to navigate a one- and/or two-dimensional array	Sufficiently accurate logical looping structure to navigate one- and two-dimensional arrays, but with more notable errors	Logic to use a loop structure to navigate one- and two-dimensional arrays mostly inaccurate
Logic control	Loop structure is properly and effectively controlled in the logic (i.e., correct number of iterations; no out of range errors; and no infinite loops)	Looping is effectively controlled, but there may be minor errors	Looping is sufficiently controlled, but there are more notable errors	Loop structure is poorly controlled, resulting in significant errors, including possible infinite lops

Appendix E

Rubric used for SLOs 5.1, 5.2, 5.3, and 5.4

SLO	4 – Very Good	3 – Good	2 - Satisfactory	1 - Unsatisfactory
SLO 5.1	Students demonstrate solid understanding of the fundamentals of networking concepts including networking devices, transmission media, and various interfaces.	Students demonstrate significant knowledge of the fundamentals of networking concepts including networking devices, transmission media, and various interfaces.	Students Demonstrate Satisfactory knowledge of the fundamentals of networking concepts including networking devices, transmission media, and various interfaces.	Students demonstrate minimal or complete lack of knowledge of the fundamentals of networking concepts including networking devices, transmission media, and various interfaces.
SLO 5.2	Students demonstrate a complete understanding of standard architectures including TCP/IP, OSI, and Hybrid in terms of their layer functions and Protocol Data Units.	Students show a significant understanding of standard architectures including TCP/IP, OSI, and Hybrid in terms of their layer functions and Protocol Data Units.	Students show a satisfactory understanding of standard architectures including TCP/IP, OSI, and Hybrid in terms of their layer functions and Protocol Data Units.	Students demonstrate minimum knowledge of standard architectures including TCP/IP, OSI, and Hybrid in terms of their layer functions and Protocol Data Units.
SLO 5.3	Students demonstrate a complete understanding of the Internet protocol (IP) and transport layer protocols (TCP & UDP) and associated concepts including IP addressing.	Students demonstrate a significant understanding of the Internet protocol (IP) and transport layer protocols (TCP & UDP) and associated concepts including IP addressing.	Students demonstrate a satisfactory understanding of the Internet protocol (IP) and transport layer protocols (TCP & UDP) and associated concepts including IP addressing.	Students demonstrate a minimal or complete lack of knowledge of understanding of the Internet protocol (IP) and transport layer protocols (TCP & UDP) and associated concepts including IP addressing.
SLO 5.4	Students demonstrate a complete understanding of the Ethernet (802.3) and Wireless (802.11) LAN standards	Students demonstrate a significant understanding of the Ethernet (802.3) and Wireless (802.11) LAN standards	Students demonstrate a satisfactory understanding of the Ethernet (802.3) and Wireless (802.11) LAN standards	Students demonstrate the lack of understanding of the Ethernet (802.3) and Wireless (802.11) LAN standards