Information Technology
Oregon Tech Assessment Report
2015-2016

I.   Program History

History

The Information Technology degree was first offered at Oregon Tech in 1999. Options included Applications Development and Business/Systems Analysis. In 2015 the above options were consolidated into a B.S. in Information Technology. This degree is offered in Klamath Falls, Wilsonville and online. Fall 2015 enrollment in Information Technology was 156 students, including 25 students in Klamath Falls, 75 students in Wilsonville, and 56 students online. Twenty-six students graduated with an Information Technology degree in June 2016.

Employers of our 2016 graduates include Bureau of Land Management, David Evans and Associates, AspenGIS, Balzhiser and Hubbard Engineers, Rhine-Cross Group LLC. The average reported starting salary for this degree is $55,000.

The Information Technology programs were awarded accreditation by the International Assembly of Collegiate Business Educators (IACBE) in 2008, and reaccredited in 2015.

II.   Program Purpose

The Management faculty reviewed the program purpose, objectives, and learning outcomes during the fall faculty meeting in September 2015. The faculty reaffirmed the statements below:

Information Technology Mission Statement:

The Information Technology degree provides students with the foundation necessary to enable them to design and implement business information systems.

Educational Objectives:

(1) Graduates of the IT Degree can assess and apply their strengths in marketing.
(2) Graduates of the IT Degree can distinguish themselves as effective communicators.
(3) Graduates of the IT Degree excel in problem solving.
(4) Graduates of the IT Degree model ethical and professional behavior.
(5) Graduates of the IT Degree are prepared to pursue professional development opportunities and/or graduate education.

Management Department Student Learning Outcomes (SLO):

The Information Technology degree consists of the five, core Management Department student learning outcomes. Upon completion of this program, Information Technology graduates will be able to:

(1) Communicate the major concepts in the functional areas of accounting, marketing, finance, information technology, and management.
(2) Describe the legal, social, ethical, and economic environments of business in a global context.
(3) Solve organization problems, individually and/or in teams, using quantitative, qualitative, and technology-enhanced approaches.
(4) Demonstrate professional communication and behavior.
(5) Apply knowledge of business concepts and functions in an integrated manner.

Program Student Learning Outcomes (PSLO):
Upon completion of this program, Information Technology graduates will be able to:

(1) Solve business problems though the use of information systems and technology.
(2) Design and implement information systems.

III.   Assessment Cycle

Assessment Schedule
A. Oregon Tech's ESLOs are assessed on a six-year cycle. The ESLO assessment schedule may be found on the Oregon Tech website under Essential Student Learning Outcomes.

B. IACBE requires all accredited institutions to complete a full assessment cycle for all IACBE core student learning outcomes (Core SLOs 1-5) on an annual basis.

Outcomes:	Direct	Indirect
1. Communicate the major concepts in the functional areas of accounting, marketing, finance, information technology, and management.	• Case Study	• Senior Exit Survey
2. Describe the legal, social, ethical, and economic environments of business in a global context.	• Case Study • Simulation – International Strategy	• Senior Exit Survey
3. Solve organization problems, individually and/or in teams, using quantitative, qualitative, technology-enhanced approaches.	• Simulation- BSG Exam • Senior Project	• Senior Exit Survey
4. Demonstrate professional communication and behavior.	• Stockholder Presentations • Senior Project	• Senior Exit Survey
5. Apply knowledge of business concepts and functions in an integrated manner.	• Case Study • Simulation- BSG Exam	• Senior Exit survey

C. Program Based Annual Assessment Schedule and Activity (PSLO):

Outcomes:	Direct	Indirect
1. Solve business problems though the use of information systems and technology.	• MIS 442 System Design Project • MIS 498 Senior Project	• Senior Exit Survey
2. Design and implement information systems.	• MIS 498 Senior Project	• Senior Exit Survey

IV.   2015-2016 Assessment Activities

A. Student Learning Outcomes (SLOs):

Direct Assessment
(1) Case Study:
The comprehensive case study analysis was assessed in BUS 478: Strategic Management.

SLO Outcomes:
1. Communicate the major concepts in the functional areas of accounting, marketing, finance, information technology and management.
2. Describe the legal, social, ethical, and economic environments of business in a global context.
5. Apply knowledge of business concepts and functions in an integrated manner.
Assessment Outcome Goal/Minimum Acceptable Performance: **80% achieving 3 or 4 rating**

Case Study: Performance Scale 1-4	Minimum Acceptable Performance	IT Results N=22	Aggregate Results N=85
Communicate the major concepts in the functional areas of accounting, marketing, finance, information technology and management.	80% achieve 3 or 4 rate	**91%**	**86%**
Apply knowledge of business concepts and functions in an integrated manner. Utilizes strategic management tools.	80% achieve 3 or 4 rate	**100%**	**85%**
Describe the legal, social, ethical and economic environments of business in an internal/external (global) context.	80% achieve 3 or 4 rate	**82%**	**79%**

Strengths
All IT students met minimum acceptable performance levels in all assignment areas.
This is consistent with the previous year's results.

Action Plans

In the spring, the case study was moved to the first week of the term in BUS478 which helped raise the aggregate scores for the assignment. The case study being used is a bit dated and needs to be replaced. Overall, the department needs to identify some place(s) in the curriculum where students get opportunity practice core functional areas.

(2) **Business Strategy Game Comprehensive Exam**:

Comprehensive exam in BUS478, Strategic Management, was given following a term-long business simulation experience. The exam tests student's ability to problem solve and integrate all business functional areas.

SLO Outcomes:
3. Apply knowledge of business and functions in an integrated manner.
5. Solve organizational problems, individually and or in teams, using quantitative and/or qualitative approaches.
Assessment Outcome Goal/Minimum Acceptable Performance: 80% achieving 50% or higher percentile ranking. Percentile Rankings Are Versus All Participants in United States Completing the Comprehensive Exam Since November 17, 2014. (Population Statistics: Exams = 4413, Schools = 87, Countries = 1)

	Correct	Percentile
Interpreting/Analyzing Market Data	**61.5%**	**64%**
Evaluating Strategies of Rivals	**52.9%**	**59.6%**
Improving Company Performance	**63.4%**	**59.9%**
Build Competitive Advantage	**67.7%**	**66.7%**
Improving Operating Efficiency	**58.6%**	**65.4%**
Global Market Factors	**62.5%**	**65.6%**
Overall	**62.1%**	**60.3%**
Results	**Percentage of Scores at or above 50%**	**Percentage at or above 50th Percentile**
IT Students (N=20)	**80%**	**65%**
Aggregate Students (all management degrees)	**66%**	**51%**

Strength

The IT students met the minimal acceptable goal of 80% achieving 50% of higher. One reason for this is that most IT students take this course online, which performed higher overall. Those students taking BUS478 in the spring tended to score lower overall.

Action Plans

Overall the faculty are not sure that this exam reflects the mission of the department or institution – hands-on learning, therefore this exam will be removed as an assessment.

(3) **BSG Stockholder Presentation:**

Students are assessed on a presentation based on a business simulation in BUS 478: Strategic Management.

SLO Outcome:
4. Demonstrate professional communication and behavior.
Assessment Outcome Goal/Minimum Acceptable Performance: 80 % achieving score of 3 or 4.

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Presentation: Performance Scale 1-4	Minimum Acceptable Performance	IT Results N=19	Aggregate Results N=85
Content	80% achieve 3 or 4 rate	95%	90%
Organization	80% achieve 3 or 4 rate	100%	98%
Style	80% achieve 3 or 4 rate	84%	83%
Delivery	80% achieve 3 or 4 rate	89%	77%
Visuals	80% achieve 3 or 4 rate	84%	65%

Strengths

Once again, students in IT scored well in this assessment meeting outcome goals.

Action Plan

During the previous assessment year, we assessed this outcome with the senior project only and did not break down the elements. These results should be communicated to the presentation course instructor to focus on these areas, especially implementing updated approaches to visuals.

(4) **International Business Assignment**:

Students are assessed on an international assignment based on a business simulation in BUS 478: Strategic Management.

SLO Outcomes:
2. Describe the legal, social, ethical, and economic environments of business in a global context.
Assessment Outcome Goal/Minimum Acceptable Performance: **80% achieving 3 or 4 rating**

International Assignment: Performance Scale 1-4	Minimum Acceptable Performance	IT Results N=22	Aggregate Results N=79
Assignment	80% achieve 3 or 4 rate	59%	62%

Weaknesses

Students performed poorly on the international assignment overall.

Action Plans

Evaluate this assignment to ensure the instructions prompt effective performance in this area. By the end of this class, most students understand most of the international strategic tools and concepts, therefore an evaluation of the assignment and timing seem appropriate.

(5) <u>**Senior Project:**</u>
Students complete a senior project that requires project management, research, analysis, written and oral communication.

SLO Outcomes:
1. Apply knowledge of business and functions in an integrated manner.
4. Demonstrate professional communication and behavior.
5. Solve organizational problems, individually and/or in teams, using quantitative, qualitative, and technology-enhanced approaches.
PSLO Outcome:
1. Solve business problems though the use of information systems and technology.
2. Design and implement information systems.

Assessment Outcome Goal/Minimum Acceptable Performance: **80% achieving 3 or 4 rating**

Performance Criteria: Proficiency Scale- 1-4	Minimum Acceptable Performance	Degree n=6
Project Objective - Identification	80% achieve 3 or 4 rating	**50%**
Organization Environment - Context	80% achieve 3 or 4 rating	**17%**
Project Plan	80% achieve 3 or 4 rating	**33%**
Objectives Met	80% achieve 3 or 4 rating	**100%**
Communication of Results	80% achieve 3 or 4 rating	**17%**
Degree Specific Outcomes	80% achieve 3 or 4 rating	**33%**
Culminating Experience	80% achieve 3 or 4 rating	**33%**

Strengths:
The strength of our senior projects comes from providing opportunity for students to combine many of the core skills from their program into a single capstone project. Taking a project from its inception to an acceptable closing point exposes our students to the wide range of project contributions needed in the industry jobs targeted by our programs.

Weaknesses:
The IT and HI programs have found it difficult to settle on a specific set of success metrics and delivery schedules given the wide range of projects currently allowed in the programs. We need to provide a crisp set of policies and procedures that are fair to all senior project students across the HI and IT programs. Some work is needed to clarify the general outcomes required by each of the major milestones that measure progress through the project.

Action Plans:
Program Directors and stakeholder colleagues need to more clearly define an acceptable set of project metrics that can be consistently applied to all forms of projects. We should consider benchmarking other successful capstone offerings to find those structural elements that would allow students and advising faculty to successfully navigate the senior project series of courses.

B. Program Student Learning Outcomes (PSLOs):

(1) Systems Design Project:

Systems design project that requires students to identify critical success factors and develop a solution.

PSLO Outcome:

1.Solve business problems though the use of information systems and technology.
Assessment Outcome Goal/Minimum Acceptable Performance: **80% achieving 3 or 4 rating**

MIS442: Systems Design Project	Degree Results N=9
Critical Success Factors as identified in the Project Proposal. Critical success factors adequately identified a solution to the business problem	55%

Strengths
Students in Klamath Falls and Wilsonville produced excellent projects.

Weaknesses
Online students tend to struggle with programming courses online. The support structure is not the same as compared to what on campus students receive through student support services. There also tends to be a disengagement from online students for this course. The on campus courses have examinations and a final project which the online students do not have. The online students are struggling to get through the initial labs which the other campuses finish by midterms.

Actions
Faculty are rebuilding the online section of MIS 442 for Fall 2016 with material and labs to encourage more engagement from online students.

(2) Senior Project:

Design and implement information systems within senior project.

PSLO Outcome:

2.Design and implement information systems.
Assessment Outcome Goal/Minimum Acceptable Performance: **80% achieving 3 or 4 rating**

MIS498: Senior Project	Degree Results N=5
Critical Success Factors as identified in the Project Proposal. Critical success factors adequately identified a solution to the business problem	80%

Strengths
Students that completed senior projects met the outcome.

Weakness
Due to inconsistencies in approaches, many students did not complete senior project.

Actions
During 2016-17 a more consistent approach is being taken by the two faculty teaching senior project.

Indirect Assessment

(1) Senior Exit Survey:
Seniors were invited to complete an exit survey in BUS478. The survey asked students to rate how well the Management Department prepared them with regards to intended student learning outcomes and corresponding competencies.

SLO Outcomes:
1. *Communicate the major concepts in the functional areas of accounting, marketing, finance, information technology, and management.*
2. *Describe the legal, social, ethical, and economic environments of business in a global context.*
3. *Solve organization problems, individually and/or in teams, using quantitative, qualitative, and technology-enhanced approaches.*
4. *Demonstrate professional communication and behavior.*
5. *Apply knowledge of business concepts and functions in an integrated manner.*

PSLO Outcomes:
1. Solve business problems though the use of information systems and technology.
2. Design and implement information systems.

Assessment Outcome Goal/Minimum Acceptable Performance: **80% graduates indicating a 4, 5, or 6 rating.**

SLOs	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Fundamental area of accounting	Student rating	1-6 Scale	80% of graduates indicate a 4, 5, or 6 rating	87% (n=16)

Fundamental area of marketing	Student rating	1-6 Scale	80% of graduates indicate a 4, 5, or 6 rating	87% (n=16)
Fundamental area of finance	Student rating	1-6 Scale	80% of graduates indicate a 4, 5, or 6 rating	81% (n=16)
Fundamental area of management	Student rating	1-6 Scale	80% of graduates indicate a 4, 5, or 6 rating	100% (n=16)
Legal, social, and economic environments of business	Student rating	1-6 Scale	80% of graduates indicate a 4, 5, or 6 rating	100% (n=16)
Global environment of business	Student rating	1-6 Scale	80% of graduates indicate a 4, 5, or 6 rating	94% (n=16)
Ethical obligations and responsibilities of business	Student rating	1-6 Scale	80% of graduates indicate a 4, 5, or 6 rating	100% (n=16)
Solve organizational problems, using quantitative approaches	Student rating	1-6 Scale	80% of graduates indicate a 4, 5, or 6 rating	100% (n=16)
Demonstrate processional communication and behaviors	Student rating	1-6 Scale	80% of graduates indicate a 4, 5, or 6 rating	100% (n=16)
Apply knowledge of business concepts and functions in an integrated manner	Student rating	1-6 Scale	80% of graduates indicate a 4, 5, or 6 rating	100% (n=16)
PLSOs	**Assessment Method**	**Measurement Scale**	**Minimum Acceptable Performance**	**Results**
Solve business problems though the use of information systems and technology	Student rating	1-6 Scale	80% of graduates indicate a 4, 5, or 6 rating	100% (n=16)
Design and implement information systems.	Student rating	1-6 Scale	80% of graduates indicate a 4, 5, or 6 rating	100% (n=16)

Strengths

Students feel confident in their abilities in most areas. Students mentioned satisfaction with faculty and course material and feel there are ample hands on opportunities. Students expressed the coursework was challenging, rigorous and applicable to their career.

Weaknesses:

However, students are generally more confident in this indirect assessment in comparison to the direct assessments.

Action Items:

The department will be updating the senior exit survey to ask more pointed questions related to student learning rather than current questions that point towards satisfaction with faculty.

Summary

Overall students' performance at exit for 2015-2106 meets target goals in several areas but not in senior project or program outcomes. Since results were not as strong the year from prior years, addressing the new outcomes may be necessary along with the

assessment activities. Students performed better on the PSLO than the departments SLO requirements.

During 2016-2017 the program will put effort into educating students about the value of their ability to cohesively integrate all learning from their degrees and not just the PSLO requirements.

To target the distance education difference for PSLO 2 the course is already under re-design for the 2016-2017 school year, the pedagogy used in that course will take into account learnings from the 2015-2016 results.

PSLO 3 will be evaluated in 2016-2017 in MIS 446. The assessment activity has not been developed to date. During the fall of 2016-2017 MIS 446 will be developed for initial delivery Winter and Spring for first time offering. The program anticipates the scores to be low during the first year of offering.

The SLO for the Business Competency Exam had poor results and there is an assumption that students are not engaged during their spring quarter of sr. year. The method in which the exam is delivered will be assessed.

During 2016-2017 all program faculty will work towards integrating business core concepts within program courses to help students understand the complementary aspects of their education.

Students complained of frequency of course offerings in the indirect assessment. Due to faculty shortages and low enrollment this will likely not change the frequency. However, the program faculty will look for creative ways to either offer courses regularly or to find possible substitutes when courses can't be offered.