Information Technology – Applications Development Option
Oregon Tech Assessment Report
2013-2014

I.   Program History

History

The Information Technology degree was first offered at OT in 1999. In addition, the Management Department offered degrees in Management Information Systems and Management Information Systems, Management Accounting Option. Because of similarities across these degrees, and in response to student and employer requests, the Department restructured the Information Technology degree in 2006. Today the Information Technology degree allows students to choose from four specialty areas: Accounting, Applications Development, Business/Systems Analysis, and Health Informatics. The Applications Development Option focuses on the acquisition of theory and technical competencies to prepare students for successful careers as applications programmers. This degree option is offered in Klamath Falls and in Portland as well as online. Fall 2013 enrollment in Information Technology – Applications Development was 72 students, including 47 students between the Klamath Falls and Portland campuses, and 25 students online. 21 students petitioned to graduate with an Information Technology – Applications Development degree in June 2013. Employers of our 2013 graduates include Intel, Comcast, San Joaquin General Hospital, Google, City of Portland, Wellpartner. Reported starting salaries ranged from $16,000 to $90,000.

The Information Technology – Applications Development program was awarded accreditation by the International Assembly of Collegiate Business Educators (IACBE) in 2008.

II.   Program Purpose

The Management faculty reviewed the program purpose, objectives, and learning outcomes during the fall faculty meeting in September 2014. Faculty realized that a future plan needs to be developed regarding outcome similarities between Application Development and Systems Analysis options. The faculty reaffirmed the statements below:

Information Technology – Applications Development Option Mission Statement:

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

Educational Objectives:

(1) The Information Technology – Applications Development degree program prepares students to apply critical thinking skills to the ever changing Information Technology industry.
(2) The Information Technology – Applications Development degree program prepares students to succeed in broad industry applications such as mid-level managers or as IT professionals.

Student Learning Outcomes:

The Information Technology – Applications Development option consists of the eight core Management Department student learning outcomes as well as four student learning outcomes specific to this program. Upon completion of this program, Information-Technology-Applications Development graduates will be able to:

1. Explain the major concepts in the functional areas of accounting, marketing, finance, and management
2. Evaluate the legal, social, and economic environments of business
3. Describe the global environment of business
4. Describe and explain the ethical obligations and responsibilities of business.
5. Apply decision-support tools to business decision making
6. Construct and present effective oral and written forms of professional communication
7. Apply knowledge of business concepts and functions in an integrated manner
8. Use specialized knowledge to solve business problems
   a. Demonstrate the ability to analyze, design, implement, and support Relational Database Management Systems (RDMS).
   b. Analyze business needs with the view to design and implement data networks.
   c. Perform the general planning and analysis of business systems that will support the development of modern business information systems (IS).
   d. Develop fundamental programming skills and apply those skills to solving business information system problems.

III.   **Assessment Cycle**

Assessment schedule
IACBE requires all accredited institutions to complete a full assessment cycle for all IACBE core student learning outcomes (SLOs 1-8) on an annual basis.

IV.   **2013-2014 Assessment Activities**

Direct Assessment
ETS Major Field Test (SLO 1,2,3,4 are Assessed)

Compared to Nation	Klamath Falls n = 1	Wilsonville n = 12	Distance Ed n = 3
Total Percentile	23%	69%	77%

Table 1: ITD Option compared to national individuals who took the ETS Major Field Test

Subject Area	Program Specific n = 16 Percent Below
1. Accounting	84%
2. Economics	95%
3. Management	93%
4. Quantitative Business Analysis	53%
5. Finance	88%
6. Marketing	94%
7. Legal and Social Environment	92%
8. Information Systems	99%
9. International Issue	63%

Table 2: Program compared by subject

Strengths
Students demonstrated strengths in most areas in comparison to the ~19,000 individual test takers.

Weaknesses
The Oregon Tech Online and Klamath Falls programs did not have a large sample size. Some students opted out of completing the exam or did not give adequate effort, stopping prior to completion

Action Plans
Improve students understanding of the value with the ETS Major Field Test process. We can improve student understanding by illustrating the connections and value of those that take the exam as a benchmark of knowledge, in which future employers could look back on. Integrate business core concepts into Information systems courses/assignments.

Senior Case Study (SLO 1,2,3,4,6,7,8 are Assessed)

Criteria n=1	Percentage Met or Exceeded Faculty Expectations
Company Background and statement of the Business Problem or Issue	**0%**
Analysis	**50%**
Conclusions	**0%**

Strengths:
Weaknesses: Not enough students to represent a statistically significant sample size.
Action Plans: Phasing out the Application development option which will eliminate redundancies within our program. Also educate students on the benefits of taking assessment activities to get honest results from students in the program.

Senior Project (SLO 5,6,7,8 are Assessed)

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Project Objective - Identification	Final project	1 – 4 Proficiency Scale	80% achieve 3 or 4 rating	69% (n=13)
Organization Environment - Context	Final project	1 – 4 Proficiency Scale	80% achieve 3 or 4 rating	69% (n=13)
Project Management - Process	Final project	1 – 4 Proficiency Scale	80% achieve 3 or 4 rating	23% (n=13)
Project Completion – Product	Final project	1 – 4 Proficiency Scale	80% achieve 3 or 4 rating	69% (n=13)
Culminating Experience	Final project	1 – 4 Proficiency Scale	80% achieve 3 or 4 rating	N/A
Written Communication of Results	Final project	1 – 4 Proficiency Scale	80% achieve 3 or 4 rating	75% (n=12)
Oral Communication of Results	Final project	1 – 3 Proficiency Scale	80% achieve rating of 3 on all 6	75% (n=12)

			performance criteria	

Strengths: Communications represent the best measures, but still below desired levels

Weaknesses: Assessment Rubric was not in place when students began the sr. project.

Action Plans: Enhance project management training by pulling out the PM course as a separate and earlier course. Demonstrate grading rubric for the assessment activity at the beginning of the course.

Indirect Assessment

PSLO

1. Demonstrate the ability to analyze, design, implement, and support Relational Database Management Systems (RDMS).
2. Analyze business needs with the view to design and implement data networks.
3. Perform the general planning and analysis of business systems that will support the development of modern business information systems (IS).
4. Develop fundamental programming skills and apply those skills to solving business information system problems.

Performance Criteria (PC):
1. Employ SDLC to plan and design IS to meet business needs.
2. Design an IS that incorporates industry standards and best practices.
3. Generate system specifications and project plan.

Survey Question	PC	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results (KF) n=0	Results (WLV) n=1	Results (DE)* n=1
10. I can complete PSLO 1	1	Student rating	1-6 Agreement Scale	80% indicate 5 or 6 rating	n/a	100%	0%
11. I can complete PSLO 2	1	Student rating	1-6 Agreement Scale	80% indicate 5 or 6 rating	n/a	100%	0%
12. I can complete PSLO 3	1 2 3	Student rating	1-6 Agreement Scale	80% indicate 5 or 6 rating	n/a	100%	0%
13. I can complete PSLO 4	1 2 3	Student rating	1-6 Agreement Scale	80% indicate 5 or 6 rating	n/a	100%	100%

Table 3: Assessment Results from Senior Survey

*Note: DE students were provided a personalized email with a link to participate in the senior exit survey. 0 students completed the exit survey

Results from Senior Focus Group

Overall students are pleased with their career prospects and understand the program outcomes. The senior project focus group was facilitated in BUS 478, a course that all seniors in the program are required to take.

Strengths: Students found upper division courses designed for their discipline to be the biggest strength of the program. Students also feel that they are job ready.

Weaknesses: Students mentioned that their Data Networking courses were not strong enough to prepare them for the workforce, there was mention that the material did not address real world application. Additionally students mentioned that the program is emphasized too heavily on business courses.

Action Items: Hire a full time faculty member that can take ownership over the networking course content. Install simulation lab to provide online solutions for students on all campuses.

Results from Critical Thinking Assessment

Category	Percentage Met or Exceeded Faculty Expectations
Identification	100%
Clarification	100%
Evaluation	100%

Table 4: Critical Thinking Results n = 1

> **Weaknesses:** The critical thinking exercise had an n=1. There was one student registered to take this course and completed the assessment.
>
> **Action Plans:** Increase sample size by educating students on the importance of the assessment activity. Collaborate with all faculty across campuses to ensure that all students are completing this assessment activity.

V. Summary

The IT program is struggling to obtain quality data from all locations, and with low enrollment continuing to have small sample sizes that drastically affects the quality of our assessment measurements. Re-designing the IT curriculum and outcomes is a current initiative to improve quality and entice enrollment. During the 2013-2014 academic year, program faculty developed a curriculum map based on last year's PSLO recommendation. A proposal for a consolidation of Application development and Systems Analysis has been started. The expected start date is Fall 15.