

Information Technology and Management Undergraduate Assessment Report Spring 2017

1. Identification of learning goal(s) assessed
 - a. Bachelor of Information Technology and Management Program Learning Objectives.
 - i. 1. Problem solve and create innovative answers to provide technology solutions for the problems of business, industry, government, non-profit organizations, and individuals.
 - ii. 2. Perform requirements analysis, design and administration of computer and network-based systems conforming to policy and best practices, and monitor and support continuing development of relevant policy and best practices as appropriate.
 - b. Bachelor of Information Technology and Management Student Outcomes (<https://appliedtech.iit.edu/information-technology-and-management/programs/undergraduate>)
The Bachelor of Information Technology and Management degree produces graduates who are able to:
 - i. (a) Apply knowledge of computing and mathematics appropriate to the discipline
 - ii. (b) Analyze a problem and identify and define the computing requirements appropriate to its solution
 - iii. (c) Design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
 - iv. (j) Use and apply current technical concepts and practices in the core information technologies of (1)human computer interaction, (2)information management, (3)programming, (4)networking, and (5)web systems and technologies
 - v. (k) Identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems
 - vi. (l) Effectively integrate IT-based solutions into the user environment
 - vii. (m) Describe and apply best practices and standards
 - viii. **Note:** These correspond to the ABET Student Outcomes in Information Technology with the same letters, with our wording adjusted to comply with ITM Department standards for objectives and outcomes. Outcome (j) is further broken down into (j1)-(j5) to allow assessment of an outcome specific to each of the technologies listed in Outcome (j).
 - c. Graduate courses were included in assessment data collection but are reported separately.
2. Description of data collection methodology used
 - a. Data was collected via a survey with questions tailored for each course. Learning goals assessed in the survey were listed in paragraph 1 above. The population surveyed and the goals assessed were as follows:

- ITMD 362 – Program Learning Objective 2
Student outcomes (j), (k), and (l)
 - ITMD 411 – Program Learning Objective 1
Student outcomes (b), (c), and (m)
 - ITMT 430 – Program Learning Objectives 1 & 2
Student outcomes (a), (b), (c), (j), (k), (l), and (m)
- b. 64 surveys were collected in April, 2017.
3. Presentation of Results
- a. Full results of the survey are presented in Appendix A to this report.
- b. Total undergraduate enrollment in courses surveyed was 98. 64 students responded. The total undergraduate student response rate was 64.8%.
4. Discussion of results
- a. The assessment was evaluated by members of the ITM Curriculum Committee in June 2017. Evaluators included:
- Ray Trygstad, ITM Associate Chair and Industry Professor
James Papademas, Industry Professor
Louis McHugh, Adjunct Industry Professor and Director of Information Technology, School of Applied Technology
- b. Summary of Main Findings and Conclusions
- In all courses surveyed, a majority of students agreed or strongly agreed that they had achieved the outcome or objective addressed in each question. Overall 68% of students agreed or strongly agreed that they had achieved the outcome or objective addressed in each question.
 - Significant exceptions to majority agree/strongly agree
 - ITMD 362: There was an average of 66.2% agree or strongly agree.
 - 50% were neutral and 50% agreed or strongly agreed that they had learned how to demonstrate the core concepts, applicability, and cost benefits of user-centered design. This is a course outcome only.
 - 15% disagreed or strongly disagreed and only 42% agreed or strongly agreed that they could perform requirements analysis, design and administration of computer and network-based systems conforming to policy and best practices, and monitor and support continuing development of relevant policy and best practices as appropriate, while 43% were neutral.
 - ITMD 411: There was an average of 74% agree or strongly agree with no outcomes with less than 58% agree or strongly agree.
 - ITMT 430: There was an average of 65% agree or strongly agree.
 - 59% disagreed or strongly disagreed and only 12% agreed or strongly agreed that they had learned how to build world class reliable, agile, and secure cloud native applications. This is a course outcome only.
 - Except for one question in ITMT 430, there are only a scattered number of Disagree/Strongly Disagree responses in each course. Typically they represent two or three of the respondents in each course. This is probably a

reasonable number of students who just “don’t get it” in most courses. In an ideal world there would be no responses at this level, but we judge this to be an acceptable level.

- Assessment of specific objectives and outcomes.
 - ITMD 362 Student Outcome (j1) question: I learned how to use and apply current technical concepts and practices in the core information technology of human computer interaction. – 43% strongly agree, 29% agree, 21% neutral, and 4% disagree. 72% represents a significant percentage of students who agree that they have attained this outcome.
 - ITMD 362 Student Outcome (j5) question: I learned how to use and apply current technical concepts and practices in the core information technology of web systems and technologies – 21% strongly agree, 39% agree, 32% neutral, and 7% strongly disagree. 60% represents an acceptable percentage of students who agree that they have attained this outcome, but the high level of neutral responses is a concern.
 - ITMD 362 Student Outcome (k) question: I can identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems – 39% strongly agree, 36% agree, 18% neutral, and 7% strongly disagree. 75% represents a very significant percentage of students who agree that they have attained this outcome.
 - ITMD 362 Student Outcome (l) question: I can effectively integrate IT-based solutions into the user environment – 43% strongly agree, 25% agree, 29% neutral, and 4% disagree. 68% represents an acceptable percentage of students who agree that they have attained this outcome, but the high level of neutral responses is a concern.
 - ITMD 362 Program Learning Objective 2 question: I can perform requirements analysis, design and administration of computer and network-based systems conforming to policy and best practices, and monitor and support continuing development of relevant policy and best practices as appropriate – 21% strongly agree, 21% agree, 43% neutral, 11% disagree, and 4% strongly disagree. Only 42% in agreement represents a significant shortfall in students who believe that they have attained this outcome, and a level of neutral responses greater than the level of positive responses is a serious concern.
 - ITMD 411 Student outcome (b) question: I can analyze a problem, and identify and define the computing requirements appropriate to its solution – 47% strongly agree, 32% agree, 21% neutral, and none disagree. 79% represents a very significant percentage of students who agree that they have attained this outcome.
 - ITMD 411 Student outcome (c) question: I am able to design, implement, & evaluate a computer-based system, process, component, or program to meet desired needs – 47% strongly agree, 32% agree, 5% neutral, and 16% disagree. 79% represents a very significant percentage of students who agree that they have attained this outcome.
 - ITMD 411 Student outcome (m) questions: *I understand best practices and standards and their applications* – 39% strongly agree, 33% agree, 17%

neutral and 11% disagree. 72% represents a significant percentage of students who agree that they have attained this outcome.

- ITMD 411 Program Learning Objective 1 question: *I can problem solve and create innovative answers to provide technology solutions for the problems of business, industry, government, non-profit organizations, and individuals* – 21% strongly agree, 42% agree, 33% neutral, and 5% disagree. 63% represents an acceptable percentage of students who agree that they have attained this outcome, but the high level of neutral responses is a concern.
- ITMT 430 Student outcomes (a) is assessed by the aggregate of all responses: *Apply knowledge of computing and mathematics appropriate to the discipline* – 23% strongly agree, 42% agree, 19% neutral, 9% disagree, and 6% strongly disagree. 65% represents an acceptable percentage of students who agree that they have attained this outcome.
- ITMT 430 Student outcomes (b) question: *I can analyze a problem, and identify and define the computing requirements appropriate to its solution* – 18% strongly agree, 65% agree, 6% neutral, and 12% disagree. 83% represents a very significant percentage of students who agree that they have attained this outcome.
- ITMT 430 Student outcomes (c) question: *I know how to design, implement, & evaluate a computer-based system, process, component, or program to meet desired needs* – 35% strongly agree, 29% agree, 24% neutral, 6% disagree, and 6% strongly disagree. 64% represents an acceptable percentage of students who agree that they have attained this outcome.
- ITMT 430 Student outcomes (j1) question: *I know how to use and apply current technical concepts and practices in the core information technology of human computer interaction* – 12% strongly agree, 65% agree, 12% neutral, and 12% disagree. 77% represents a significant percentage of students who agree that they have attained this outcome.
- ITMT 430 Student outcomes (j2) question: *I know how to use and apply current technical concepts and practices in the core information technology of information management* – 29% strongly agree, 53% agree, 18% neutral, and none disagree. 82% represents a very significant percentage of students who agree that they have attained this outcome.
- ITMT 430 Student outcomes (j3) question: *I know how to use and apply current technical concepts and practices in the core information technology of programming* – 18% strongly agree, 35% agree, 29% neutral, and 18% disagree. 53% represents an acceptable percentage of students who agree that they have attained this outcome, but the high level of neutral responses is a concern.
- ITMT 430 Student outcomes (j4) question: *I know how to use and apply current technical concepts and practices in the core information technology of networking* – 24% strongly agree, 29% agree, 29% neutral, 12% disagree, and 6% strongly disagree. 53% represents an acceptable percentage of students who agree that they have attained this outcome, but the high level of neutral responses is a concern.
- ITMT 430 Student outcomes (j5) question: *I know how to use and apply current technical concepts and practices in the core information technology*

of web systems and technologies – 24% strongly agree, 47% agree, 24% neutral, and 6% disagree. 71% represents a significant percentage of students who agree that they have attained this outcome.

- ITMT 430 Student outcomes (k) question: *I can identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems* – 29% strongly agree, 47% agree, 12% neutral, and 12% disagree. 76% represents a very significant percentage of students who agree that they have attained this outcome.
- ITMT 430 Student outcomes (l) question: *I can effectively integrate IT-based solutions into the user environment* – 29% strongly agree, 35% agree, 18% neutral, 12% disagree, and 6% strongly disagree. 68% represents an acceptable percentage of students who agree that they have attained this outcome.
- ITMT 430 Student outcomes (m) question: *I understand best practices and standards and their applications.* – 35% strongly agree, 35% agree, 18% neutral, and 12% strongly disagree. 70% represents a significant percentage of students who agree that they have attained this outcome.
- ITMT 430 Program Learning Objective 1 question: *I can problem solve and create innovative answers to provide technology solutions for the problems of business, industry, government, non-profit organizations, and individuals* – 18% strongly agree, 53% agree, 18% neutral, 6% disagree, and 6% strongly disagree. 71% represents a significant percentage of students who agree that they have attained this outcome.
- ITMT 430 Program Learning Objective 2 question: *I can perform requirements analysis, design and administration of computer and network-based systems conforming to policy and best practices, and monitor and support continuing development of relevant policy and best practices as appropriate* – 6% strongly agree, 47% agree, 18% neutral, 12% disagree, and 18% strongly disagree. 53% represents an acceptable percentage of students who agree that they have attained this outcome.

5. Description of improvement plans

- a. Two outcomes were noted as weak across all courses evaluated; Program Learning Objective 2: *Perform requirements analysis, design and administration of computer and network-based systems conforming to policy and best practices, and monitor and support continuing development of relevant policy and best practices as appropriate* and the related Student Outcome (m) *Describe and apply best practices and standards*. Both had a higher level of neutral responses than we gauge to be acceptable, and in the case of ITMD 362 the neutral responses to Program Objective 2 overwhelmed the positive responses. Review of the graduate assessment results and the previous term's assessment results revealed a similar pattern. After some discussion, the committee determined that while we as a department and as faculty members are *teaching* best practices and standards, we are not often enough specifically identifying them as such.
 - i. The committee recommends that the ITM Curriculum Committee draft language to guide faculty in better identifying and highlighting best practices, policy, and standards when taught in their courses. At the same time, the committee recommends that the ITM Curriculum Committee also

includes guidance to ensure all non-ITMS courses address security as it relates to the topics covered in the course.

- b. Issues with the content or delivery of ITMD 362 are minor and the course is properly meeting the appropriate role in the curriculum. Possible solutions to identified minor issues developed by the committee are discussed below.
 - i. The course outcome query “I learned how to demonstrate the core concepts, applicability, and cost benefits of user-centered design” resulted in a 50% neutral response. The committee believes this is because students are unclear on how to *demonstrate* a cost-benefit. A similar question based on a related course outcome, “This course taught me how to describe the core concepts, applicability, and cost benefits of user-centered design” resulted in a 72% positive response and only 18% neutral.
 - a) The committee recommends that the course objective requiring students to “demonstrate the core concepts, applicability, and cost benefits of user-centered design” be eliminated or be combined with the other course objective to read “describe and demonstrate the core concepts, applicability, and cost benefits of user-centered design.”
 - ii. The 29% level of neutral responses to the course outcome query “I can demonstrate how user-centered concerns can be incorporated into system development life cycles” is probably due to students having not yet completed their project management course and lacking familiarity with system development life cycles.
 - a) The committee does not recommend any change to this outcome or how this material is taught in the course, as we believe that this knowledge will fall into place once students have studied project management.
- c. Issues with the content or delivery of ITMD 411 are minor and the course is properly meeting the appropriate role in the curriculum. Possible solutions to identified minor issues developed by the committee are discussed below.
 - i. 32% of students had a neutral response to the course outcome query “I know how to apply Test Driven Development Methodologies.” The committee determined that this was due to no specific assignment addressing this area.
 - a) The committee recommends that the instructor add J Unit Testing to an existing assignment to reinforce material already delivered in the course.
 - ii. 37% of students had a neutral response to the course outcome query “I can describe software development terminology.” The committee determined that this outcome is too ambiguous.
 - a) The committee recommends that this be omitted or combined with another course outcome.
 - iii. 32% of students had a neutral response to Program Learning Objective 1 question “I can problem solve and create innovative answers to provide technology solutions for the problems of business, industry, government, non-profit organizations, and individuals.” The committee believes that this may be due to perceived ambiguity in addressing the government, non-profit, and individual aspects of the objective.

- a) While the committee sees no easy solution to this, we recommend that wherever it might be appropriate, courses in the department can address government requirements by including topics such as NIST standards and practices, FEDRAMP, and tools commonly used in government projects such as the system development life cycle.
- d. Issues with the content or delivery of ITMT 430 are mostly minor and the course is properly meeting the appropriate role in the curriculum. Possible solutions to identified issues developed by the committee are discussed below.
 - i. 59% disagreed or strongly disagreed and only 12% agreed or strongly agreed with the course outcome query “I have learned how to build world class reliable, agile, and secure cloud native applications.” The committee identified that the issues with the outcome hinge on several terms: “world class” which is a great goal but will not be achieved by most college seniors, and they know that; “secure” which possibly did not receive sufficient emphasis in the course; and “cloud native” which may be ambiguous or unclear given that most members of the class have had no previous experience working in a cloud environment. Students were not asked if they were exposed to these concepts but rather if they attained them, which makes it difficult to answer this question in a positive manner.
 - a) We recommend that the instructor rewrite this outcome.
 - ii. Several outcomes had a high level of neutral responses. Since this is the capstone course, all Student Outcomes applicable to the course were assessed, including all of Outcome (j), “Use and apply current technical concepts and practices in the core information technologies of human computer interaction, information management, programming, networking, and web systems and technologies.” Some of these outcomes were not emphasized in the course, and others may not have been on an individual student basis due to the team nature of the course projects.
 - a) The committee recommends that a post-degree-completion assessment be conducted to ensure that students have an opportunity to reflect on their attainment of outcomes and objectives for the entire scope of the degree. This should ease some of the assessment burden imposed on ITMT 430.
- 6. Assessment process recommendations
 - a. Once again we had instances of assessment of outcomes not specified for courses. The committee recommends that the Chair review and edit all assessment instruments prior to administration to ensure that this does not reoccur.
 - b. A recurrence of too many questions in courses heavily loaded with outcomes emphasizes the need to reduce the number of questions; if we create a post-degree-completion assessment as outlined in Para 5.d.ii.a) above this should allow a more reasonable length survey to be administered in final-year courses.
- 7. Assessment Plan for 2017-2018
 - a. Included in the attached **Information Technology and Management Assessment Plan for Undergraduate Degrees, 2016-2018**

Spring 2017 ITM Course Assessment Analysis

The Information Technology & Management (ITM) Assessment Plan for 2016 - 2018 assessed the following undergraduate and graduate courses:

ITMD 362 Human Computer Interaction & Web Design
 ITMD 411 Intermediate Software Development
 ITMO 554 Operating System Virtualization
 ITMS 558 Operating System Security
 ITMT 430 Systems Integration

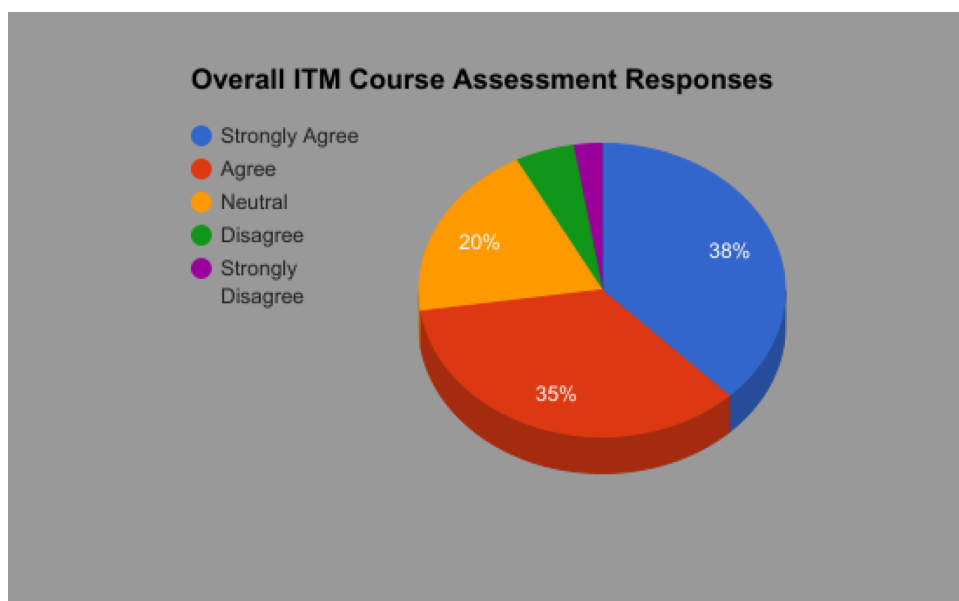
For undergraduate courses, assessment questions were created based on course outcomes on the syllabus, ABET student outcomes and the BITM Program Educational Objectives (both outcomes and objectives found on a separate tab) as defined by the ITM Department for the HLC.

For graduate courses, assessment questions were created based on course outcomes on the syllabus and the MITM Program Educational Objectives (found on a separate tab) as defined by the ITM Department for the HLC.

All assessment questions used the following scale:

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Total ITM Students Assessed	117
Total Assessment Respondents	82
Total Assessment Responses	1102
Assessment Participation Rate	70%



Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
38%	35%	20%	5%	3%

Overall 73% of ITM students strongly agreed or agreed that they achieved the outcomes and/or program objectives covered in the course(s).

ITMD 362 Class Ranking	3.92
ITMD 411 Class Ranking	4.03
ITMO 554 Class Ranking	4.61
ITMS 558 Class Ranking	4.63
ITMT 430 Class Ranking	3.66

Spring 2017 ABET Student Outcomes Assessment Analysis

The Information Technology & Management (ITM) Assessment Plan for 2016 - 2018 assessed the following undergraduate and graduate courses:

ITMD 362 Human Computer Interaction & Web Design

ITMD 411 Intermediate Software Development

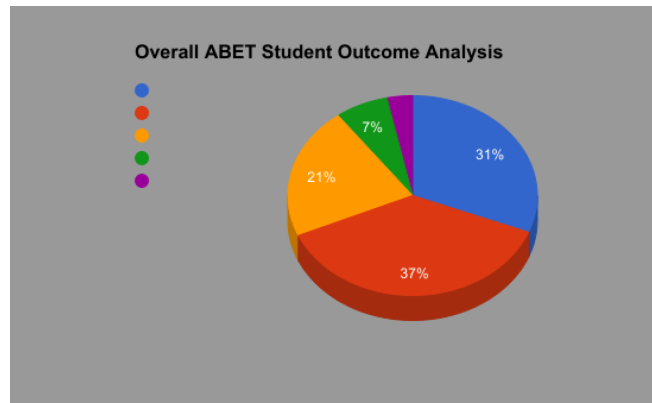
ITMT 430 Systems Integration

For undergraduate courses, assessment questions were created based on the following ABET student outcomes: (a), (b), (c), (j), (k), (l), (m) *

All survey questions used the following scale:

1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree

Total ITM Student Assessed	98
Total Assessment Respondents	64
Total Survey Responses	511
Survey Participation Rate	65%



<u>Strongly Agree</u>	<u>Agree</u>	<u>Neutral</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
31%	37%	21%	7%	3%

Overall 68% of ITM students strongly agreed or agreed that they achieved the ABET student outcomes.

ITMD 362 Class Ranking	3.92
ITMD 411 Class Ranking	4.03
ITMT 430 Class Ranking	3.66

*A list of ABET Student Outcomes and BITM & MITM Program Educational Objectives can be found on a separate tab

STUDENT COURSE ASSESSMENTS: SPRING 2017

ITMD 362: Human Computer Interaction & Web Design

Instructor: Karl Stolley

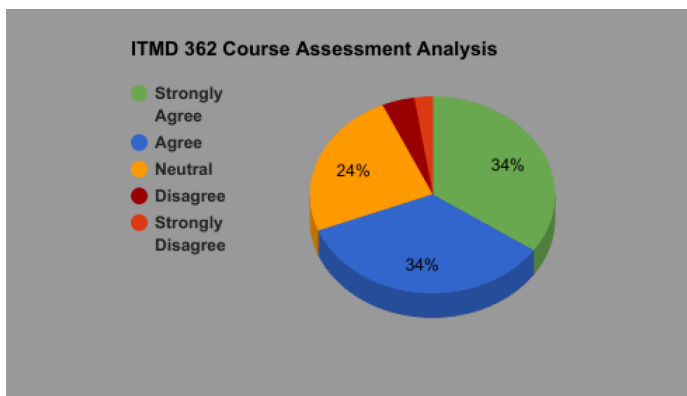
Day/Time: MW, 3:15-4:30 p.m. SB 111

Fall Enrollment: 45

Assessments collected: 28

TALLIES: COURSE LEARNING OBJECTIVES

Scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree



Overall Class Ranking
3.92

Q1 I can describe the diversity of information system users and tasks, and their impact on design.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
32%	39%	11%	11%	4%	4%	3.75

71% of students strongly agreed or agreed that they achieved this outcome.

Q2 I can explain the need to evaluate system usability.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
32%	50%	14%	4%	0%	0%	4.11

82% of students strongly agreed or agreed that they achieved this outcome.

Q3 This course taught me how to describe the core concepts, applicability, and cost benefits of user-centered design.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
36%	36%	18%	4%	4%	4%	3.86

72% of students strongly agreed or agreed that they achieved this outcome.

Q4 I learned how to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs. (ABET Outcome C)

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
36%	39%	14%	11%	0%	0%	4.00

75% of students strongly agreed or agreed that they achieved this outcome.

Q5 I learned how to demonstrate the core concepts, applicability, and cost benefits of user-centered design.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
25%	25%	50%	0%	0%	0%	3.75

50% of students strongly agreed or agreed that they achieved this outcome.

Q6 I can demonstrate how user-centered concerns can be incorporated into system development life cycles.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
32%	36%	29%	4%	0%	0%	3.96

68% of students strongly agreed or agreed that they achieved this outcome.

Q7 I learned how to explain the need to evaluate system usability and describe and apply general principles of design.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
29%	43%	18%	4%	7%	0%	3.82

72% of students strongly agreed or agreed that they achieved this outcome.

Q8 I can identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems. ABET Outcome K

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
39%	36%	18%	0%	7%	0%	4.00

75% of students strongly agreed or agreed that they achieved this outcome.

Q9 I can effectively integrate IT-based solutions into the user environment. ABET Outcome L

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
43%	25%	29%	4%	0%	0%	4.07

68% of students strongly agreed or agreed that they achieved this outcome.

Q10 I can describe and execute touch-friendly, mobile-first responsive web design.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
61%	29%	7%	4%	0%	0%	4.46

90% of students strongly agreed or agreed that they achieved this outcome.

Q11 This course taught me to understand and apply core theories from human-computer interaction to web design and development.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
46%	32%	18%	0%	4%	0%	4.18

78% of students strongly agreed or agreed that they achieved this outcome.

Q12a	I learned how to use and apply current technical concepts and practices in the core information technology of human computer interaction. (ABET Outcome J1)					
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
43%	29%	21%	4%	0%	4%	4.00
72% of students strongly agreed or agreed that they achieved this outcome.						

Q12b	I learned how to use and apply current technical concepts and practices in the core information technology of web systems and technologies. ABET Outcome J5					
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
21%	39%	32%	0%	7%	0%	3.68
60% of students strongly agreed or agreed that they achieved this outcome.						

Q13	I understand best practices and standards and their applications. ABET Outcome M					
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
25%	36%	32%	7%	0%	0%	3.79
61% of students strongly agreed or agreed that they achieved this outcome.						

Q14	I know how to analyze a problem, and identify and define the computing requirements appropriate to its solution. (ABET Outcome B)					
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
29%	39%	32%	4%	4%	0%	3.79
68% of students strongly agreed or agreed that they achieved this outcome.						

Q15	I can perform requirements analysis, design and administration of computer and network-based systems conforming to policy and best practices, and monitor and support continuing development of relevant policy and best practices as appropriate. BITM Program Educational Objective 2					
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
21%	21%	43%	11%	4%	0%	3.46
42% of students strongly agreed or agreed that they achieved this outcome.						

STUDENT COURSE ASSESSMENTS: SPRING 2017**ITMD 411: Intermediate Software Development**

Instructor: James Papademas

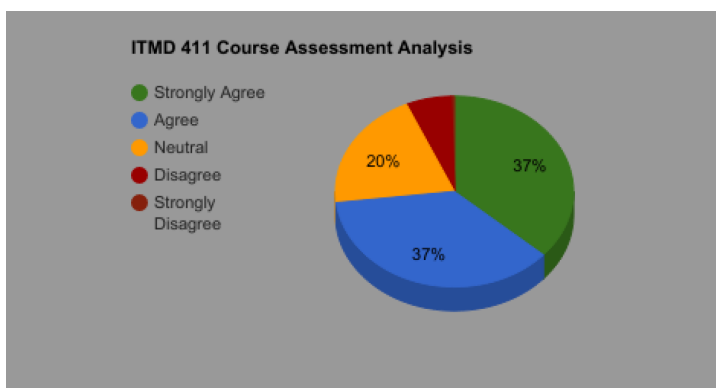
Day/Time: MW, 1:50-3:05 p.m. SB 239

Spring Enrollment: 31

Assessments collected: 19

TALLIES: COURSE LEARNING OBJECTIVES

Scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

**Overall Class Ranking**

4.03

Q1 I can understand basic object oriented programming concepts.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
74%	16%	11%	0%	0%	0%	4.63

90% of students strongly agreed or agreed that they achieved this outcome.

Q2 I know how to apply Test Driven Development Methodologies.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
11%	47%	32%	5%	5%	0%	3.53

58% of students strongly agreed or agreed that they achieved this outcome.

Q3 I understand packaging and deployment Java SE applications.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
37%	42%	11%	11%	0%	0%	4.05

79% of students strongly agreed or agreed that they achieved this outcome.

Q4 I learned how to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs. ABET Outcome C

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
47%	32%	5%	16%	0%	0%	4.11

79% of students strongly agreed or agreed that they achieved this outcome.

Q5 I can analyze a problem, and identify and define the computing requirements appropriate to its solution. ABET Outcome B

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
47%	32%	21%	0%	0%	0%	4.26

79% of students strongly agreed or agreed that they achieved this outcome.

Q6 I know how to use and apply current technical concepts and practices in the core information technology of networking. ABET Outcome J3

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
26%	42%	32%	0%	0%	0%	3.95

68% of students strongly agreed or agreed that they achieved this outcome.

Q7 I can identify and analyze user needs and take them into account in the selection, creation, evaluation, and administration of computer-based systems. ABET Outcome K

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
42%	42%	11%	5%	0%	0%	4.21

84% of students strongly agreed or agreed that they achieved this outcome.

Q8 I know how to effectively integrate IT-based solutions into the user environment.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
37%	42%	21%	0%	0%	0%	4.16

79% of students strongly agreed or agreed that they achieved this outcome.

Q9 I understand best practices and standards and their applications. ABET Outcome M

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
39%	33%	17%	11%	0%	0%	4.00

72% of students strongly agreed or agreed that they achieved this outcome.

Q10 I can describe software development terminology.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
26%	32%	37%	5%	0%	0%	3.79

58% of students strongly agreed or agreed that they achieved this outcome.

STUDENT COURSE ASSESSMENTS: SPRING 2017

ITMD 411: Intermediate Software Development

Q11 I can problem solve and create innovative answers to provide technology solutions for the problems of business, industry, government, non-profit organizations, and individuals. BITM Program Educational Outcome 1

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
21%	42%	32%	5%	0%	0%	3.79

63% of students strongly agreed or agreed that they achieved this outcome.

Q12 I understand how to apply current technical and mathematical concepts and practices in the core information technologies and recognize the need to engage in continuing professional development.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
32%	37%	16%	16%	0%	0%	3.84

69% of students strongly agreed or agreed that they achieved this outcome.

STUDENT COURSE ASSESSMENTS: SPRING 2017**ITMT 430: Systems Integration**

Instructor: Jeremy Hajek

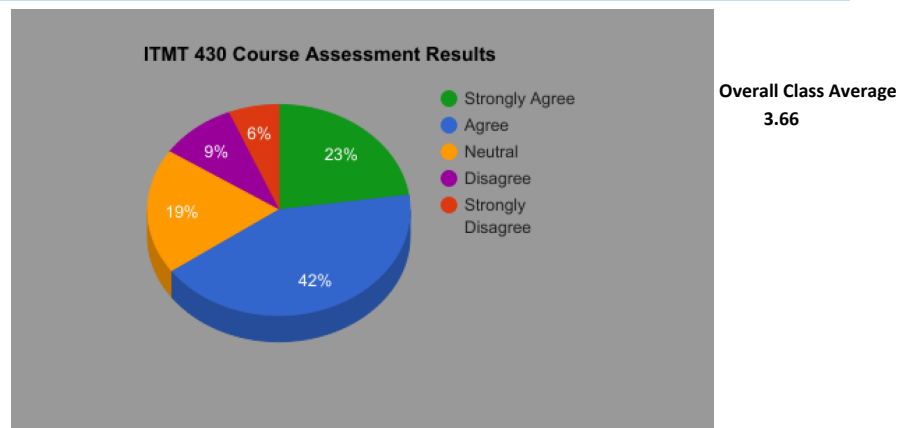
Day/Time: MW, 10 - 11:40 a.m. TS-2030

Spring Enrollment: 22

Assessments collected: 17

TALLIES: COURSE LEARNING OBJECTIVES

Scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

ITMT 430 is evaluated on all ABET Outcomes as well as BITM Program Educational Objectives

Q1 I can integrate hardware and software into a complete information system to meet identified user needs as a solution to a defined business problem.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
12%	41%	29%	12%	6%	0%	3.41

53% of students strongly agreed or agreed that they achieved this outcome.

Q2 I can problem solve and create innovative answers to provide technology solutions for the problems of business, industry, government, non-profit organizations, and individuals.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
18%	53%	18%	6%	6%	0%	3.71

71% of students strongly agreed or agreed that they achieved this outcome.

Q3 I know how to demonstrate ethics, and understand legal, security, and social issues and responsibilities of information systems.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
53%	41%	6%	0%	0%	0%	4.47

94% of students strongly agreed or agreed that they achieved this outcome.

Q4 I learned how to perform requirements analysis, design and administration of computer and network-based systems, conforming to policy and best practices, and can monitor and support continuing development of relevant policy and best practices as appropriate.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
6%	47%	18%	12%	18%	0%	3.12

53% of students strongly agreed or agreed that they achieved this outcome.

Q5 I learned how to build world class reliable, agile, and secure cloud native applications.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
0%	12%	29%	24%	35%	0%	2.18

12% of students strongly agreed or agreed that they achieved this outcome.

Q6 I can analyze a problem and identify and define the computing requirements appropriate to its solution.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
18%	65%	6%	12%	0%	0%	3.88

83% of students strongly agreed or agreed that they achieved this outcome.

Q7 I know how to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
35%	29%	24%	6%	6%	0%	3.82

64% of students strongly agreed or agreed that they achieved this outcome.

Q8a I know how to use and apply current technical concepts and practices in the core information technologies of human computer interaction.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left Blank	AVG
12%	65%	12%	12%	0%	0%	3.76

77% of students strongly agreed or agreed that they achieved this outcome.

STUDENT COURSE ASSESSMENTS: SPRING 2017

ITMT 430: Systems Integration

Q8b I know how to use and apply current technical concepts and practices in the core information technologies of information management.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
29%	53%	18%	0%	0%	0%	4.12

82% of students strongly agreed or agreed that they achieved this outcome.

Q8c I know how to use and apply current technical concepts and practices in the core information technologies of programming.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
18%	35%	29%	18%	0%	0%	3.53

53% of students strongly agreed or agreed that they achieved this outcome.

Q8d I know how to use and apply current technical concepts and practices in the core information technologies of networking.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
24%	29%	29%	12%	6%	0%	3.53

53% of students strongly agreed or agreed that they achieved this outcome.

Q8e I know how to use and apply current technical concepts and practices in the core information technologies of web systems and technologies.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
24%	47%	24%	6%	0%	0%	3.88

71% of students strongly agreed or agreed that they achieved this outcome.

Q9 I learned how to identify and analyze user needs and take them into account in the selection, creation, evaluation, and administration of computer-based systems.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
29%	47%	12%	12%	0%	0%	3.94

76% of students strongly agreed or agreed that they achieved this outcome.

Q10 I can effectively integrate IT-based solutions into the user environment.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
29%	35%	18%	12%	6%	0%	3.71

64% of students strongly agreed or agreed that they achieved this outcome.

Q11 I understand best practices and standards and their applications.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
35%	35%	18%	0%	12%	0%	3.82

70% of students strongly agreed or agreed that they achieved this outcome.

Total ABET
responses: 221

STUDENT COURSE ASSESSMENTS: SPRING 2017**ITMO 554: Operating System Virtualization**

Instructor: Philip Matuszak

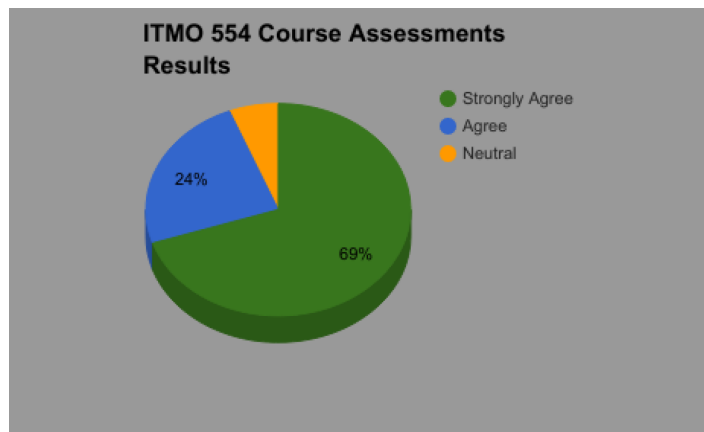
Day/Time: R, 5:30-9:05 p.m. TS-2033

Spring Enrollment: 8

Assessments collected: 7

TALLIES: COURSE LEARNING OBJECTIVES

Scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

MITM Program Education Objective 3 was assessed for the HLC accreditation.**Overall Class Average****4.61**

Q1 I can work with, lead, and manage teams in an enterprise environment to collaboratively arrive at optimal technology solutions. MITM Program Educational Objective

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
57%	29%	14%	0%	0%	0%	4.43

86% of students strongly agreed or agreed that they achieved this outcome.

Q2 This course exposed me to a variety of applications and software packages and I can describe and discuss current trends in Operating System Virtualization.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
71%	29%	0%	0%	0%	0%	4.71

100% of students strongly agreed or agreed that they achieved this outcome.

Q3a I am familiar with various Virtualization platforms and software such as VMware

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
86%	14%	0%	0%	0%	0%	4.86

100% of students strongly agreed or agreed that they achieved this outcome.

Q3b I am familiar with various Virtualization platforms and software such as XenServer

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
71%	29%	0%	0%	0%	0%	4.71

100% of students strongly agreed or agreed that they achieved this outcome.

Q3c I am familiar with various Virtualization platforms and software such as Hyper-V

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
71%	29%	0%	0%	0%	0%	4.71

100% of students strongly agreed or agreed that they achieved this outcome.

Q3d I am familiar with various Virtualization platforms and software such as Virtual Box

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
86%	14%	0%	0%	0%	0%	4.86

100% of students strongly agreed or agreed that they achieved this outcome.

Q3e I am familiar with various Virtualization platforms and software such as VMware Workstation

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
71%	29%	0%	0%	0%	0%	4.71

100% of students strongly agreed or agreed that they achieved this outcome.

Q4 This course taught me to create a proposal and design for migrating an existing physical environment to a virtual environment.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
71%	29%	0%	0%	0%	0%	4.71

100% of students strongly agreed or agreed that they achieved this outcome.

Q5 I can demonstrate technical knowledge and have a limited proficiency in designing and deploying virtualized environments.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	AVG
86%	14%	0%	0%	0%	0%	4.86

100% of students strongly agreed or agreed that they achieved this outcome.

Q6a I can explain what a hypervisor is.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
57%	0%	29%	0%	0%	14%	3.71

57% of students strongly agreed or agreed that they achieved this outcome.

Q6b I can explain what a hypervisor does.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
43%	43%	14%	0%	0%	0%	4.29

86% of students strongly agreed or agreed that they achieved this outcome.

Q6c I can explain various types involved and when to use each.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
71%	29%	0%	0%	0%	0%	4.71

100% of students strongly agreed or agreed that they achieved this outcome.

STUDENT COURSE ASSESSMENTS: SPRING 2017**ITMS 558: Operating System Security**

Instructor: Sean Hughes-Durkin

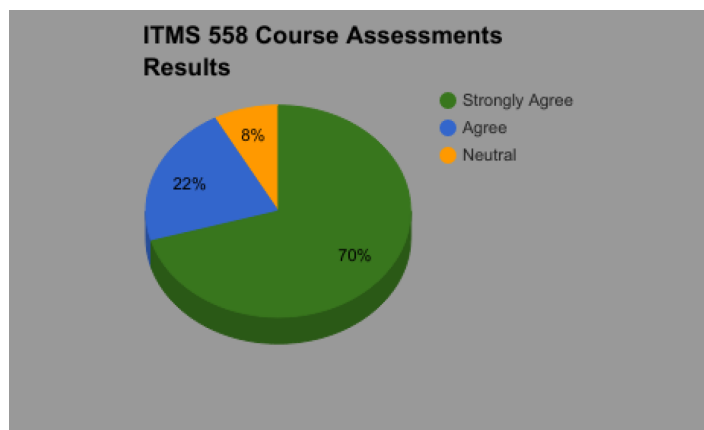
Day/Time: T, 5:30-9:30 p.m. TS-2033

Spring Enrollment: 11

Assessments collected: 11

TALLIES: COURSE LEARNING OBJECTIVES

Scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

**Overall Class Average****4.63**

Q1 I can technically secure enterprise information assets and resources to deter, detect, and prevent the success of attacks and intrusions.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
64%	27%	9%	0%	0%	0%	4.55

91% of students strongly agreed or agreed that they achieved this outcome.

Q2 I can apply tools and techniques for identifying vulnerabilities.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
82%	18%	0%	0%	0%	0%	4.82

100% of students strongly agreed or agreed that they achieved this outcome.

Q3 I learned to how to describe potential system attacks and the actors that might perform them.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
73%	27%	0%	0%	0%	0%	4.73

100% of students strongly agreed or agreed that they achieved this outcome.

Q4 This course taught me to describe, for a given OS, the steps necessary for hardening the OS with respect to various applications.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
64%	18%	18%	0%	0%	0%	4.45

82% of students strongly agreed or agreed that they achieved this outcome.

Q5 I can securely install a given OS, remove or shut down unnecessary components and services, close unnecessary ports, and ensure that all patches and updates are applied.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
64%	18%	18%	0%	0%	0%	4.45

82% of students strongly agreed or agreed that they achieved this outcome.

Q6 I know how to identify the major concepts in modern operating systems and the basic security issues in OS design and implementation (how the first principles of security apply to operating systems).

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
73%	18%	9%	0%	0%	0%	4.64

91% of students strongly agreed or agreed that they achieved this outcome.

Q7 I can describe appropriate measures to be taken should a system compromise occur.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
55%	36%	9%	0%	0%	0%	4.45

91% of students strongly agreed or agreed that they achieved this outcome.

Q8 I can describe characteristics of malware and identify different malware.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Left blank	<u>AVG</u>
91%	9%	0%	0%	0%	0%	4.91

100% of students strongly agreed or agreed that they achieved this outcome.

STUDENT COURSE SURVEYS: SPRING 2017**ITMD 362: Human Computer Interaction & Web Design**

Instructor: Karl Stolley	Day/Time: MW, 3:15-4:30 p.m. SB 111
Spring Enrollment: 45	Surveys collected: 28

Comments:

“Prof. Stolley was great!!”

“Put assignments on BlackBoard! Please!”

“Prof. Stolley is absolutely amazing. Super outgoing and energetic which helped keep the class fun and in my opinion, is one of the most valuable traits as professor. Keep up the good work Karl!”

STUDENT COURSE SURVEYS: SPRING 2017**ITMD 411: Intermediate Software Development**

Instructor: James Papademas	Day/Time: MW, 1:50-3:05 p.m. SB 239
Spring Enrollment: 31	Surveys collected: 19

Comments:

"The course really taught me a lot about java. The instructor, Papademas, is very enthusiastic about teaching and teaches very well. He doesn't only teach the requirements but teaches us what is really out in the real world."

STUDENT COURSE SURVEYS: SPRING 2017**ITMS 558: Operating System Security**

Instructor: Sean Hughes-Durkin	Day/Time: T, 5:30-9:30 p.m. TS-2033
Spring Enrollment: 11	Surveys collected: 11

Comments:

“This class helped me learn how to securely install an operating system & not to rely on default repositories. Could use a lab teaching how to install local update repository such as spacewalk.”

Information Technology and Management Assessment Plan for Undergraduate Degrees, 2016-2018 (Revision 3)

Assessment plans for 2016-2018 will adhere to the rubric as defined by the IIT Assessment Report Evaluation Rubric. One program educational objective and six to seven student outcomes will be assessed each term, and all objectives and outcomes will be assessed twice in each three-year cycle. The full list of objectives and outcomes follows beginning on page 3 below. In addition to the objectives and outcomes listed below, course objectives for each course will be assessed. Separate roll-out strategies will be used for the undergraduate and graduate programs. This document addresses the courses in the Undergraduate Program.

Spring 2016:

Program Educational Objectives Assessed: 1

Student Outcomes Assessed: (b), (c), (d), (g), (h), (i), (m), (n)

Student Artifacts: Survey / April 2016 / Evaluation by ITM Curriculum Committee members
131 artifacts collected / Full information is provided in the Information
Technology and Management Assessment Report Spring 2016

Courses assessed:

Curricular Area

Systems

Software Development

IT Management

Systems

Course

ITM 301 Introduction to Contemporary Hardware and
Operating Systems I

ITM 311 Introduction to Software Development

ITMM 471 Project Management for ITM

ITMT 430 System Integration

Fall 2016:

Program Educational Objectives Assessed: 3

Student Outcomes Assessed: (c), (e), (f), (h), (i), (k)

Student Artifacts: Survey / November 2016 / Evaluation by ITM Curriculum Committee
Assignments / December 2016 / Evaluators: Trygstad, Hajek, Zheng

Courses assessed:

Curricular Area

Data Management

Networking and Communications

System Security

Course

ITMD 421 Data Modeling and Applications

ITMO 440 Introduction to Data Networks and the
Internet

ITMS 448 Cyber Security Technologies

Spring 2017:

Program Educational Objectives Assessed: 1, 2

Student Outcomes Assessed: (a), (b), (c), (j), (k), (l), (m)

Student Artifacts: Survey / April 2017 / Evaluation by ITM Curriculum Committee
Assignments / May 2017 / Evaluators: Trygstad, Papademas, McHugh

Courses assessed:

Curricular Area

Web Design and HCI

Software Development

Systems

Course

ITMD 362 Human Computer Interaction & Web Design

ITMD 411 Intermediate Software Development

ITMT 430 System Integration

Fall 2017:

Program Educational Objectives Assessed: 3

Student Outcomes Assessed: (a), (d), (e), (h), (l), (n)

Student Artifacts: Survey / November 2017 / Evaluation by ITM Curriculum Committee
Assignments / December 2017 / Evaluator(s) TBD

Courses assessed:

<i>Curricular Area</i>	<i>Course</i>
Systems	ITM 301 Hardware and Operating Systems
Software Development	ITM 311 Introduction to Software Development
IT Management	ITMM 471 Project Management for ITM

Spring 2018:

Program Educational Objectives Assessed: 1

Student Outcomes Assessed: (b), (c), (g), (j), (k), (m)

Student Artifacts: Survey / April 2018 / Evaluation by ITM Curriculum Committee
Assignments / May 2018 / Evaluator(s) TBD

Courses assessed:

<i>Curricular Area</i>	<i>Course</i>
Web Design and HCI	ITMD 362 Human Computer Interaction and Web Design
Data Management	ITMD 421 Data Modeling and Applications
Systems	ITMT 430 System Integration

Fall 2018:

Program Educational Objectives Assessed: 2

Student Outcomes Assessed: (c), (f), (i), (k), (m), (n)

Student Artifacts: Survey / November 2018 / Evaluation by ITM Curriculum Committee
Assignments / December 2018 / Evaluator(s) TBD

Courses assessed:

<i>Curricular Area</i>	<i>Course</i>
Software Development	ITMD 411 Intermediate Software Development
Networking and Communications	ITMO 440 Introduction to Data Networks and the Internet
System Security	ITMS 448 Cyber Security Technologies

The following program education objectives will be evaluated for HLC and ABET accreditation purposes:

Program Educational Objective	Required Courses Supporting the Objective
1. Problem solve and create innovative answers to provide technology solutions for the problems of business, industry, government, non-profit organizations, and individuals	ITMD 411 Intermediate Software Development ITMD 421 Data Modeling & Applications ITMT 430 Systems Integration IPRO 3/497 Interprofessional Project (Not assessed by the department)
2. Perform requirements analysis, design and administration of computer and network-based systems conforming to policy and best practices, and monitor and support continuing development of relevant policy and best practices as appropriate	ITM 311 Introduction to Software Development ITMD 362 Human-Computer Interaction and Web Design ITMO 440 Introduction to Data Networking & the Internet ITMO 456 Introduction to Open Source Operating Systems (Not included in assessment cycle as role is very narrow) ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration
3. Apply current technical and mathematical concepts and practices in the core information technologies and recognize the need to engage in continuing professional development	ITMD 411 Intermediate Software Development ITMD 421 Data Modeling & Applications ITMM 471 Project Management for ITM ITMO 440 Introduction to Data Networking & the Internet ITMT 430 Systems Integration

The following student outcomes will be evaluated for ABET accreditation purposes:

Student Outcomes	Required Courses Supporting the Outcome
(a) An ability to apply knowledge of computing and mathematics appropriate to the program's student outcomes and to the discipline	ITM 311 Introduction to Software Development ITM 312 Introduction to Systems Software Programming ITMO 440 Introduction to Data Networking & the Internet ITMT 430 Systems Integration
(b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution	ITM 311 Introduction to Software Development ITM 312 Introduction to Systems Software Programming ITMD 361 Fundamentals of Web Development ITMD 362 Human-Computer Interaction and Web Design ITMD 411 Intermediate Software Development ITMD 421 Data Modeling & Applications ITMO 440 Introduction to Data Networking & the Internet ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration

Student Outcomes	Required Courses Supporting the Outcome
(c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs	ITM 301 Intro to Contemp Operating Systems & Hardware I ITM 311 Introduction to Software Development ITM 312 Introduction to Systems Software Programming ITMD 361 Fundamentals of Web Development ITMD 362 Human-Computer Interaction and Web Design ITMD 411 Intermediate Software Development ITMD 421 Data Modeling & Applications ITMO 440 Introduction to Data Networking & the Internet ITMO 456 Introduction to Open Source Operating Systems ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration
(d) An ability to function effectively on teams to accomplish a common goal	ITMD 362 Human-Computer Interaction and Web Design ITMM 471 Project Management for ITM ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration IPRO 397/497 Interprofessional Project
(e) An understanding of professional, ethical, legal, security and social issues and responsibilities	ITM 301 Intro to Contemp Operating Systems & Hardware I ITMD 362 Human-Computer Interaction and Web Design ITMD 421 Data Modeling & Applications ITMM 471 Project Management for ITM ITMO 456 Introduction to Open Source Operating Systems ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration IPRO 397/497 Interprofessional Project
(f) An ability to communicate effectively with a range of audiences	ITMD 361 Fundamentals of Web Development ITMD 362 Human-Computer Interaction and Web Design ITMM 471 Project Management for ITM ITMS 448 Cyber Security Technologies IPRO 397/497 Interprofessional Project
(g) An ability to analyze the local and global impact of computing on individuals, organizations, and society	ITMT 430 Systems Integration IPRO 397/497 Interprofessional Project
(h) Recognition of the need for and an ability to engage in continuing professional development	ITM 301 Intro to Contemp Operating Systems & Hardware I ITM 311 Introduction to Software Development ITMD 411 Intermediate Software Development ITMD 421 Data Modeling & Applications ITMM 471 Project Management for ITM ITMO 440 Introduction to Data Networking & the Internet ITMT 430 Systems Integration IPRO 397/497 Interprofessional Project

Student Outcomes	Required Courses Supporting the Outcome
(i) An ability to use current techniques, skills, and tools necessary for computing practice.	ITM 301 Intro to Contemp Operating Systems & Hardware I ITM 311 Introduction to Software Development ITM 312 Introduction to Systems Software Programming ITMD 361 Fundamentals of Web Development ITMD 411 Intermediate Software Development ITMD 421 Data Modeling & Applications ITMO 440 Introduction to Data Networking & the Internet ITMO 456 Introduction to Open Source Operating Systems ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration
(j)(1) An ability to use and apply current technical concepts and practices in the core information technology of human computer interaction	ITMD 362 Human-Computer Interaction and Web Design ITMT 430 Systems Integration
(j)(2) An ability to use and apply current technical concepts and practices in the core information technology of information management	ITMD 421 Data Modeling & Applications ITMT 430 Systems Integration
(j)(3) An ability to use and apply current technical concepts and practices in the core information technology of programming	ITM 311 Introduction to Software Development ITM 312 Introduction to Systems Software Programming ITMD 411 Intermediate Software Development ITMT 430 Systems Integration
(j)(4) An ability to use and apply current technical concepts and practices in the core information technology of networking	ITMO 440 Introduction to Data Networking & the Internet ITMO 456 Introduction to Open Source Operating Systems ITMT 430 Systems Integration
(j)(5) An ability to use and apply current technical concepts and practices in the core information technology of web systems and technologies	ITMD 361 Fundamentals of Web Development ITMD 362 Human-Computer Interaction and Web Design ITMT 430 Systems Integration
(k) An ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	ITM 311 Introduction to Software Development ITMD 362 Human-Computer Interaction and Web Design ITMD 411 Intermediate Software Development ITMD 421 Data Modeling & Applications ITMM 471 Project Management for ITM ITMO 440 Introduction to Data Networking & the Internet ITMO 456 Introduction to Open Source Operating Systems ITMT 430 Systems Integration
(l) An ability to effectively integrate IT-based solutions into the user environment	ITM 301 Intro to Contemp Operating Systems & Hardware I ITMD 362 Human-Computer Interaction and Web Design ITMT 430 Systems Integration

Student Outcomes	Required Courses Supporting the Outcome
(m) An understanding of best practices and standards and their application	ITM 301 Intro to Contemp Operating Systems & Hardware I ITM 311 Introduction to Software Development ITM 312 Introduction to Systems Software Programming ITMD 361 Fundamentals of Web Development ITMD 362 Human-Computer Interaction and Web Design ITMD 411 Intermediate Software Development ITMD 421 Data Modeling & Applications ITMM 471 Project Management for ITM ITMO 456 Introduction to Open Source Operating Systems ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration
(n) An ability to assist in the creation of an effective project plan	ITMM 471 Project Management for ITM ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration IPRO 397/497 Interprofessional Project

Survey drafting and data collection staff:

Amber Chatellier, ITM Department Manager

Angela Jarka, ITM Assistant Department Coordinator

Assessment Evaluators:*ITM Curriculum Committee*

The Curriculum Committee evaluates Survey Artifacts and makes recommendations based on evaluations of all assessment artifacts. All full-time faculty members are voting members of the committee should they elect to participate.

Chair: Ray Trygstad, ITM Associate Chair and Industry Professor

Members: Jeremy Hajek, Industry Associate Professor

Louis F. McHugh IV, SAT Computer Systems Manager and Adjunct Industry Associate Professor

Thomas “T.J.” Johnson, Adjunct Industry Professor

Sheik “Sam” Shamsuddin, Adjunct Industry Professor; College of DuPage Professor and Computer Information System Program Coordinator

Faculty: C. Robert Carlson, ITM Chair and Professor

Karl Stolley, Associate Professor (joint appointment)

Adarsh Arora, Coleman Entrepreneur-in-Residence and Industry Professor

William Lidinsky, Interim Director, Center for Cyber Security and Forensics Education and Industry Professor

James Papademas, Industry Professor

Yong Zheng, Senior Lecturer

All full-time faculty members may be appointed as assessment evaluators for Assignment Artifacts. Appointments will be made at the beginning of each term in which assignments will be assessed, and the Assessment Plan will be updated to reflect these appointments.



Date: 6.14.17

From: Associate Chair, Department of Information Technology and Management

To: Louis McHugh

Subj: Appointment to the Spring 2017 Department of Information Technology and Management Assessment Committee

Contingent on your acceptance of such appointment, you are appointed a member of the Spring 2017 Department of Information Technology and Management Assessment Committee. The meeting of the Spring 2017 Department of Information Technology and Management Assessment Committee will take place on Thursday June 15, 2017 at 3:00 pm in the Department of Information Technology and Management Conference Room, suite 223 Pearlstein Hall.

Thank you for the valuable insight and experience you will bring to the oversight of assessment of student outcomes in our department. Please complete and return the enclosed acceptance of this appointment to Amber Chatellier, Department of Information Technology Program Manager, via Campus Mail to Perlstein Hall room 223, or via email to achatell@iit.edu to acknowledge acceptance of the appointment.

A handwritten signature in blue ink, appearing to read "Ray Trygstad".

Ray Trygstad



Date: 6.14.17

From: Associate Chair, Department of Information Technology and Management

To: James Papademas

Subj: Appointment to the Spring 2017 Department of Information Technology and Management Assessment Committee

Contingent on your acceptance of such appointment, you are appointed a member of the Spring 2017 Department of Information Technology and Management Assessment Committee. The meeting of the Spring 2017 Department of Information Technology and Management Assessment Committee will take place on Thursday June 15, 2017 at 3:00 pm in the Department of Information Technology and Management Conference Room, suite 223 Pearlstein Hall.

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A handwritten signature in blue ink, appearing to read "Ray Trygstad".

Ray Trygstad



Date: 6.14.17

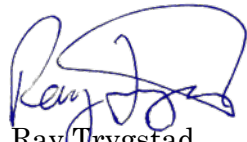
From: Associate Chair, Department of Information Technology and Management

To: Raymond E. Trygstad

Subj: Appointment to the Spring 2017 Department of Information Technology and Management Assessment Committee

Contingent on your acceptance of such appointment, you are appointed a member of the Spring 2017 Department of Information Technology and Management Assessment Committee. The meeting of the Spring 2017 Department of Information Technology and Management Assessment Committee will take place on Thursday June 15, 2017 at 3:00 pm in the Department of Information Technology and Management Conference Room, suite 223 Pearlstein Hall.

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Ray Trygstad