

## Information Technology and Management Assessment Plan for Undergraduate Degrees, 2016-2018 (Revision 4)

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. Beginning in Spring 2018, four to five outcomes will be assessed each term as the total number of student outcomes to be assessed has been reduced from fourteen to seven. The full list of objectives and outcomes follows beginning on page 3 below. The **new** Student Outcomes effective Spring 2018 begin on page 6 below but the objectives are unchanged. 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:

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

<i>Curricular Area</i>	<i>Course</i>
Data Management	ITMD 421 Data Modeling and Applications
Networking and Communications	ITMO 440 Introduction to Data Networks and the Internet
System Security	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:

<i>Curricular Area</i>	<i>Course</i>
Web Design and HCI	ITMD 362 Human Computer Interaction & Web Design
Software Development	ITMD 411 Intermediate Software Development
Systems	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

New Student Outcomes Assessed: (a), (b), (d), (f)

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 Systems and HCI	ITMD 362 Human Computer Interaction and Web Design
Information Management	ITMD 421 Data Modeling and Applications
Systems Integration/Architecture	ITMT 430 System Integration

**Fall 2018:**

Program Educational Objectives Assessed: 2

New Student Outcomes Assessed: (b), (c), (f), (g)

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
Secure Computing	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 100 Introduction to the I.T. Profession 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 <b>human computer interaction</b>	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 <b>information management</b> .	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 <b>programming</b> .	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 <b>networking</b> .	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 <b>web systems and technologies</b> .	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

The following revised student outcomes effective Spring 2018 based on 2019-2020 ABET outcomes will be evaluated for ABET accreditation purposes (these are referred to as “**New Student Outcomes**” in the assessment plan):

Student Outcomes (New) BITM graduates should be able to:	Required Courses Supporting the Outcome
(a) Analyze a problem and identify and define the computing requirements appropriate to its solution	ITM 100 Introduction to the I.T. Profession 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
(b) Design, implement, and evaluate a computer-based solution to meet a given set of computing requirements	ITM 100 Introduction to the I.T. Profession 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

Student Outcomes (New) BITM graduates should be able to:	Required Courses Supporting the Outcome
(c) Communicate effectively with a range of audiences about technical information	ITM 100 Introduction to the I.T. Profession 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
(d) Make informed judgments in computing practice based on legal and ethical principles	ITM 100 Introduction to the I.T. Profession 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
(e) Function effectively on teams to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables	ITM 100 Introduction to the I.T. Profession ITMM 471 Project Management for ITM ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration IPRO 397/497 Interprofessional Project
(f) Identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	ITM 100 Introduction to the I.T. Profession 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
(g) 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

ITM 100 has become mandatory for all students admitted in the Fall 2017 and later semesters.

**Survey drafting and data collection staff:**

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**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 Pappademas, 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.