Information Technology and Management Assessment Plan for Undergraduate Degrees, 2019-2021 (Version 3)

Assessment plans for 2019-2021 will adhere to the rubric as defined by the IIT Assessment Report Evaluation Rubric. Two or three program educational objectives and three to five 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 plans will be used for the undergraduate and graduate programs.

This document addresses the courses in the Undergraduate Program and was revised in Fall 2019 to reflect removal of the Bachelor of Science in Information Technology which is no longer being proposed, and renumbering of selected courses from the 400 level to the 300 level. It was revised again in Spring 2020 to reflect revised Program Education Objectives, personnel changes, and changed course offerings by semester.

Spring 2019:

Program Educational Objectives Assessed: 2, 5

Student Outcomes Assessed: (a), (e), (f), (h)

Student Artifacts: Survey / April 2019 / Evaluation by ITM Curriculum Committee members
Assignments / May 2019/ Evaluator(s) TBD

Courses assessed:

Curricular Area	*Course*
Software Development	ITM 313 Intro to Open Source Software Development
Web Design and HCI	ITMD 362 Human Computer Interaction & Web Design
System Integration & Architecture	ITMT 430 System Integration
Societal & Human Security	ITMS 483 Digital Evidence (BSACIT only)

Fall 2019:

Program Educational Objectives Assessed: 3, 4

Student Outcomes Assessed: (b), (c), (f), (h)

Student Artifacts: Survey / November 2019 / Evaluation by ITM Curriculum Committee
Assignments / December 2019 / Evaluators: Evaluator(s) TBD

Courses assessed:

Curricular Area	*Course*
Data Management	ITMD 321 Data Modeling and Applications
Networking and Communications	ITMO 340 Introduction to Data Networks & the Internet
Data, Component, Connection, & System Security / Secure Computing	ITMS 448 Cyber Security Technologies

Spring 2020:

Program Educational Objectives Assessed: 1, 2, 5

Student Outcomes Assessed: (a), (c), (g), (h)

Student Artifacts: Survey / April 2020 / Evaluation by ITM Curriculum Committee
Assignments / May 2020 / Evaluator(s) TBD

Courses assessed:

Curricular Area	*Course*
Web Design and HCI	ITMD 362 Human Computer Interaction & Web Design
Software Development	ITMD 411 Intermediate Software Development
System Integration & Architecture	ITMT 430 System Integration
System & Organizational Security	ITMS 438 Digital Forensics (BSACIT only)

Fall 2020:
Program Educational Objectives Assessed: 3, 4
Student Outcomes Assessed: (b), (c), (g), (h)
Student Artifacts: Survey / November 2020 / Evaluation by ITM Curriculum Committee
Assignments / December 2020 / Evaluator(s) TBD
Courses assessed:

Curricular Area	***Course***
System Admin and Maintenance	ITM 301 Operating Systems & Hardware I
Software Development	ITM 311 Introduction to Software Development
IT Management	ITMM 471 Project Management for ITM
Human, Organizational and Societal Security	ITMS 478 Cybersecurity Management (BSACIT only)

Spring 2021:
Program Educational Objectives Assessed: 1, 3, 5
Student Outcomes Assessed: (a), (f), (h)
Student Artifacts: Survey / April 2021 / Evaluation by ITM Curriculum Committee
Assignments / May 2021 / Evaluator(s) TBD
Courses assessed:

Curricular Area	***Course***
Data Management	ITMD 321 Data Modeling and Applications
System Admin and Maintenance	ITMO 356 Intro to Open Source Operating Systems
Software Development	ITMD 411 Intermediate Software Development
System & Organizational Security	ITMS 438 Digital Forensics (BSACIT only)

Fall 2021:
Program Educational Objectives Assessed: 2, 4
Student Outcomes Assessed: (b), (d), (h)
Student Artifacts: Survey / November 2021 / Evaluation by ITM Curriculum Committee
Assignments / December 2021 / Evaluator(s) TBD
Courses assessed:

Curricular Area	***Course***
System Integration, Local and Global Impacts of Computing	ITM 100 Intro to Information Technology as a Profession
Networking and Communications	ITMO 340 Introduction to Data Networks & the Internet
Data, Component, Connection, & and System Security / Secure Computing	ITMS 448 Cyber Security Technologies
Component & System Security	ITMS 458 Operating System Security (BSACIT only)

Degrees Assessed and Program Accreditation Criteria Applied:
Bachelor of Information Technology and Management – BITM
ABET CAC 2019-2020 Information Technology Criteria through Fall 2020
ABET CAC 2020-2021 Information Technology Criteria as of Spring 2021
Bachelor of Science in Applied Cybersecurity and Information Technology – BSACIT
ABET CAC 2019-2020 Cybersecurity Criteria and
ABET CAC 2019-2020 Information Technology Criteria through Fall 2020
ABET CAC 2020-2021 Cybersecurity Criteria and
ABET CAC 2020-2021 Information Technology Criteria as of Spring 2021

The following program education objectives as revised in Fall 2020 will be evaluated for all ITM Department degrees for HLC and ABET accreditation purposes:

Bachelors degrees from the Department of Information Technology and Management produces graduates who are able to:

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.	ITM 301 Intro to Contemporary Operating Systems & Hardware I ITMD 321 Data Modeling & Applications ITMD 411 Intermediate Software Development ITMT 430 Systems Integration IPRO 3/497 Interprofessional Project (Not assessed by ITM)
2. Perform requirements analysis, design, and administration of secure 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 340 Introduction to Data Networking & the Internet ITMO 356 Introduction to Open Source Operating Systems ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration
3. Apply current industry, technical, and mathematical concepts and practices in the core information technologies and recognize the need to engage in continuing professional development.	ITM 100 Introduction to Information Technology as a Profession ITMD 321 Data Modeling & Applications ITMD 361 Fundamentals of Web Development ITMD 411 Intermediate Software Development ITMM 471 Project Management for ITM ITMO 340 Introduction to Data Networking & the Internet ITMT 430 Systems Integration

In addition, the following program education objectives will be evaluated for the Bachelor of Science in Applied Cybersecurity and Information Technology for HLC and ABET accreditation purposes:

In addition to the objectives listed above, the Bachelor of Science in Applied Cybersecurity and Information Technology degree produces graduates who are able to:

Program Educational Objective	Required Courses Supporting the Objective
4. Design and implement an enterprise security program using policy, technology, and awareness to implement appropriate controls and technically secure enterprise information assets and resources to deter, detect, and prevent the success of attacks and intrusions.	ITMS 443 Vulnerability Analysis and Control ITMS 448 Cyber Security Technologies ITMS 478 Cyber Security Management
5. Investigate information security incidents and violation of law using computer resources in a manner such that all evidence is usable for fault analysis and, when applicable, admissible in a court of law.	ITMS 438 Digital Forensics ITMS 478 Cyber Security Management ITMS 483 Digital Evidence

The following student outcomes will be evaluated in all ITM Department degrees for ABET accreditation purposes:

Student Outcomes & [Source]	**Required Courses Supporting the Outcome**
(a) Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions [ABET Computing 3.1]	ITM 311 Introduction to Software Development ITM 313 Introduction to Open Source Software Development ITMD 321 Data Modeling & Applications ITMD 361 Fundamentals of Web Development ITMD 362 Human-Computer Interaction and Web Design ITMD 411 Intermediate Software Development ITMO 340 Introduction to Data Networking & the Internet\ ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration
(b) Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline [ABET Computing 3.2]	ITM 301 Intro to Contemporary Operating Systems & Hardware I ITM 311 Introduction to Open Source Software Development ITM 313 Introduction to Systems Software Programming ITMD 321 Data Modeling & Applications ITMD 361 Fundamentals of Web Development ITMD 362 Human-Computer Interaction and Web Design ITMD 411 Intermediate Software Development ITMO 340 Introduction to Data Networking & the Internet ITMO 356 Introduction to Open Source Operating Systems ITMT 430 Systems Integration
(c) Communicate effectively in a variety of professional contexts [ABET Computing 3.3]	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 (Not assessed by ITM)
(d) Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles [ABET Computing 3.4]	ITM 100 Introduction to Information Technology as a Profession ITM 301 Intro to Contemporary Operating Systems & Hardware I ITMM 471 Project Management for ITM ITMM 485 Legal and Ethical Issues in Information Technology (BSACIT only) ITMS 438 Digital Evidence (BSACIT only)
(e) Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline [ABET Computing 3.5]	ITM 100 Introduction to Information Technology as a Profession ITMM 471 Project Management for ITM ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration
(f) Identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems [ABET IT 3.6]	ITM 311 Introduction to Software Development ITMD 321 Data Modeling & Applications ITMD 362 Human-Computer Interaction and Web Design ITMD 411 Intermediate Software Development ITMM 471 Project Management for ITM ITMO 340 Introduction to Data Networking & the Internet ITMO 356 Introduction to Open Source Operating Systems ITMT 430 Systems Integration
(g) Assist in the creation of an effective project plan [IIT only]	ITMM 471 Project Management for ITM ITMS 448 Cyber Security Technologies ITMT 430 Systems Integration IPRO 397/497 Interprofessional Project (Not assessed by ITM)

The following additional student outcome will be evaluated in degrees in Applied Cybersecurity for ABET accreditation purposes:

Student Outcomes & [Source]	**Required Courses Supporting the Outcome**
(h) Apply security principles and practices to maintain operations in the presence of risks and threats [ABET CY 3.6]	ITMS 418 Coding Security ITMS 443 Vulnerability Analysis and Control ITMS 448 Cyber Security Technologies ITMS 458 Operating System Security ITMS 478 Cyber Security Management ITMT 430 Systems Integration

Survey drafting and data collection staff:

Kayla Botica, ITM Department Manager
Ryan Nelson, ITM Director of Student Services

Assessment Evaluators:

ITM Curriculum Committee

Faculty members of the Curriculum Committee evaluate Survey Artifacts and make 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
Maurice E. Dawson, Director of the Center for Cyber Security and Forensics Education and Assistant Professor
Louis F. McHugh IV, SAT Director of IT and Adjunct Industry Professor
Thomas "T.J." Johnson, Adjunct Industry Professor
Phillip Matuszak, Adjunct Industry Associate Professor
Faculty: C. Robert Carlson, ITM Chair and Professor
Karl Stolley, Associate Professor (joint appointment)
Adarsh Arora, Coleman Entrepreneur-in-Residence and Industry Professor
James Pappademas, Industry Professor
Yong Zheng, Assistant Professor

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 will assigned in the Assessment Plan for that semester.