ILLINOIS INSTITUTE OF TECHNOLOGY

School of Applied Technology

Department of Information Technology and Management

External Review

September 11-13, 2019

School of Applied Technology

Department of Information Technology and Management

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INFORMATION TECHNOLOGY AND MANAGEMENT EXTERNAL REVIEW 2019

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1. IIT/ITM RECOGNITION

1.1 Illinois Tech By-The-Numbers

#1 IN THE **CHICAGO REGION**
Occupational Earnings Power
– The Brookings Institution

Occupational earnings power looks at the mid-career salaries of alumni in each occupation that they go into, regardless of whether that occupation is a high-paying field. According to Brookings, Illinois Tech alumni out-earn graduates in the same fields from every other Chicago-region university, including University of Chicago, Northwestern University, and University of Notre Dame.

#1 IN ILLINOIS
#35 IN THE NATION
PRIVATE COLLEGE 20-YEAR MID-CAREER EARNINGS / ROI AFTER FINANCIAL AID
– PayScale

#2 IN ILLINOIS
10-YEAR POST-COLLEGE EARNINGS
– Crain's Chicago Business,
The Equality of Opportunity Project, PayScale, and *The New York Times*

#1 IN ILLINOIS
#32 IN THE NATION
– The Equality of Opportunity Project and The New York Times
FOR LIFTING STUDENTS FROM FAMILIES IN THE BOTTOM 20% OF INCOME TO THE TOP 20%

TOP 100
NATIONAL UNIVERSITIES
#30 BEST VALUE NATIONAL UNIVERSITIES
– U.S. News & World Report

"National Universities" includes all institutions ranked by U.S. News & World Reportthat, in addition to bachelor's and master's degrees, offer a range of doctoral degrees and have a commitment to producing groundbreaking research. Illinois Tech is ranked **#96** in this category.

#1 IN ILLINOIS
#62 IN THE NATION
20-YEAR MID-CAREER EARNINGS/ROI AFTER FINANCIAL AID
– PayScale

TOP 25
STEM COLLEGES 2018
– Forbes

#2 IN THE NATION FOR OVERALL UPWARD MOBILITY
AMONG HIGHLY SELECTIVE PRIVATE COLLEGES
– The Equality of Opportunity Project and The New York Times

91 GREAT COLLEGES THAT GIVE EVERY FRESHMAN A SCHOLARSHIP
– Money Magazine

30% of undergraduates are **FEDERAL PELL GRANT RECIPIENTS** with serious financial need

#1 IN THE NATION FOR INTELLECTUAL PROPERTY LAW
Law Street on Chicago-Kent College of Law

2.7% STUDENT LOAN DEFAULT RATE
Compared to the National Default Average of **11.3%**

One of the **FIRST AREA COLLEGES** to participate in the **CHICAGO STAR** SCHOLARSHIP PROGRAM FOR COMMUNITY COLLEGE STUDENTS

#4 IN THE NATION FOR TRIAL ADVOCACY
– U.S. News & World Report on Chicago-Kent College of Law

AN EDUCATIONAL **BEST VALUE**
– The Princeton Review, Forbes, Time, Money Magazine

#5 IN THE NATION FOR FINANCE
– The Financial Times on Stuart School of Business

#15 IN THE NATION
MOST ADMIRED ARCHITECTURE SCHOOLS (UNDERGRADUATE)
– DesignIntellegence and *Architectural Record*

S. R. CROWN HALL designated a **NATIONAL HISTORIC LANDMARK** by the United States Secretary of the Interior

One of the **"200 MOST IMPORTANT WORKS OF ARCHITECTURE** in the United States"
– The American Institute of Architects
on the Illinois Tech Mies Campus

$1,872
AVERAGE ANNUAL OUT-OF-POCKET
tuition after scholarships and grants paid by Illinois Tech undergraduates **from households earning $45,000 or less**

Average First-Year Student ACT Score, 2018:
28.5

Middle 50% Weighted H.S. GPA, 2017:
3.7-4.37

Among the **38 MOST DIVERSE** NATIONAL UNIVERSITIES
– U.S. News & World Report

THE **50 MOST UNDERRATED COLLEGES IN AMERICA**
– Business Insider

1.2 A Brief History of Information Technology and Management

Prior to 2002 Dr. Carl Carlson had been Chair of the Computer Science Department for fifteen years developing its programs and enrollment to the high levels that it enjoys today. In 2002 Dean Carlson was asked by the Provost to launch a new program, called Information Technology and Management, which was to focus on the applied computing educational market while the Computer Science program moved to become more theoretically focused.

We began by offering a transfer student only bachelor degree program as we acquired the faculty needed to expand to both a four year bachelor degree program and a master degree program. Several Computer Science adjunct faculty came to us who were excited to get a fresh academic start in a program that focused on providing hands-on, real world, and project oriented education. Student interest was immediate as many of today's students shared a desire to gain experience in college that they knew would be relevant in the real world and would help them in their careers.

The ITM program began a summer program at Rice campus for high school students, called NxtGen, to form a relationship with high school students with the goal of enhancing undergraduate recruiting on behalf of ITM. Later this program expanded to the Chicago campus and to international students and continues to grow. ITM, and later SAT, took responsibility for STEM Expo, a one day program introducing K=8 students to the STEM fields. For 35 years, this program draws nearly 2000 young children and their parents to explore what STEM could mean for them. We also host the TEAMS competition.

Up until 2010 the program was resident on the Rice campus. Both bachelor and master degree programs were developed and the Forensecure and Real Time Communication Labs were created at the Rice Campus largely with corporate donations.

As the program grew and student enthusiasm for it also grew, we were asked by President John Anderson to "bring our enthusiasm" to the Mies campus to spread student excitement. While the program grew on the Mies campus, our offices and labs remained at the Rice campus. Over the next few years we slowly acquired departmental space for faculty, the ITM department office, the Dean's office, and our teaching/research labs.

We expanded our curricular offerings to include specializations within the ITM degrees that matched the various interests and career prospects of our students. We also developed impactful bachelor and master degree programs in Cyber Security. We aggressively went after and succeeded in getting ABET accreditation, designation as an NSA Center of Academic Excellence, and ACM SIGITE success to raise the visibility of our programs.

In 2018 we were able to add two tenure track faculty who have helped us move a higher level of academic achievement. Externally, the new faculty gave us greater reach outside our Chicago base. Internal respect grew as we were asked by colleagues in several other departments to work with them on interdisciplinary projects. With the addition of more tenure track faculty in the next few years we expect to expand the impact of our programs in several measurable ways.

1.3 ITM and Cybersecurity By-The-Numbers

ABET ACCREDITED
ITM is one of 38
IT programs in the nation accredited by ABET

NSA CENTER OF ACADEMIC EXCELLENCE IN
Cyber Defense Education
(one of 176 schools in the nation)

COLLEGE CHOICES RANKING OF 7 in the nation for
"bachelor degree in information technology"

NICHE'S 2019
ranking of #22 in the nation for
"best colleges for information technology"

CYBERDEGREES.ORG
ranking of #15 in the US and number #1 in Illinois for
"online master degree in information technology"

STUDY.COM TOP4
ranking based on the US News and World Report of 2017 for "masters degree" program

UNIVERSITIES.COM
RANKING OF 2
for "best cyber security colleges in Illinois"

cybersecurity degrees.com
ranking of #1 out of ten for the *"best cyber security degrees in Illinois for 2018"*

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cybersecurityventures.com
ranking as *"one of the best cybersecurity programs in the Midwest Region"*

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bestcolleges.com rankingof #5 in the nation for the "best online master's in Information Systems and Technology for 2018"

ACCREDITEDSCHOOLS ONLINE.ORG
ranking of #11 in the nation for the *"best accredited information technology degrees for 2018"*

Accreditedschoolsonline.org ranking of #2 for "online masters in IT programs"

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1.4 ITM Professional Involvement

ITM faculty have been or are now involved supporting numerous computer-related professional organizations as described in the faculty CVs, most notably the ACM, ABET, AFCEA, AITP, Gamma Nu Eta, HTCIA, IEEE, and the NSA. Initially, we have successfully focused on the ACM SIGITE group, the ABET IT accreditation group, and the NSA CAE group as a way of building visibility for our programs and for IIT. With the addition of much needed tenure track, we plan to expand our involvement in key IT professional organizations.

We are a recognized leader among the universities with successful IT programs:

- We are the Beta chapter for the Gamma Nu Eta IT honor society. Professor Trygstad previously served as national chair of the Gamma Nu Eta honor society. Currently, professor Trygstad serves Vice-Chair of the ACM IT Education SIG, SIGITE. IT Director Louis Hajek is an officer in HTCIA.
- We are one of the most published universities at ACM SIGITE winning three Best Research Paper awards in the last five years. One of the challenges IT programs face is communicating what is distinctive about IT research. By publishing several papers each year at SIGITE our goal is to help define the research identity for IT.
- We have been a key sponsor for the ACM SIGITE conference for several years now. We are the only academic institution consistently at the platinum level.
- ITM faculty serve as program evaluators for ABET and as reviewers and mentors for NSA Centers of Academic Excellence.
- IT programs have grown across the country becoming recognized by students for our applied, hands-on approach to computer learning. Many students transfer each year to ITM looking for a learning environment that is relevant to the demands of the real world.
- ITM Assistant Professor of Information Technology and Management Maurice Dawson was selected as the president-elect of the Midwest chapter of the Association for Information Systems during its 14th annual conference on May 21–22 at the University of Wisconsin-Oshkosh in Oshkosh, Wisconsin
- ITM assistant professor Maurice Dawson was selected as the keynote speaker at the St. Louis Gateway Chapter of the National Society of Black Engineers 2019 Scholars Reception on Sunday, July 21. Dawson, who is also the director of Illinois Tech's Center for Cyber Security and Forensics Education, delivered a speech titled "Cybersecurity: What It Is, What It Isn't, and Why It Is Critical for African Americans to Enter This Field." The annual event, hosted by the St. Louis Gateway Chapter, supports students pursuing degrees in higher education in engineering and other areas of STEM

A key aspect of our mission is to build relationships with industry and faculty at area universities. Our schedule of conferences each year enables us to build these relationships. For seventeen years we have run two conferences, Forensecure and Real Time Communications, that have drawn national speakers and formed long lasting relationships with local industry and other universities. In addition, we hosted the highly successful WiCyS national conference demonstrating our strong support for promoting participation of women in cyber security. We also hosted Labman, a conference that focuses on the ever-changing demands on campus computer networks in lieu of technological innovations that students demand to use.

2. DEGREE PROGRAMS

2.1 Information Technology and Management Undergraduate Degrees

Co-Terminal Options

The Department of Information Technology and Management also offers the following co-terminal degrees, which enables a student to simultaneously complete both an undergraduate and graduate degree in as few as five years:

- Bachelor of Information Technology and Management/Master of Cyber Forensics and Security
- Bachelor of Information Technology and Management/Master of Information Technology and Management
- Bachelor of Science in Applied Cybersecurity and Information Technology/Master of Information Technology and Management
- Bachelor of Science in Applied Cybersecurity and Information Technology/Master of Cyber Forensics and Security
- Bachelor of Science in Applied Cybersecurity and Information Technology/Master of Science in Applied Cybersecurity and Digital Forensics

These co-terminal degrees allow students to gain greater knowledge in specialized areas while, in most cases, completing a smaller number of credit hours with increased scheduling flexibility.

Bachelor of Information Technology and Management Program for First-Year Students

All students must complete a minimum of 36 credit hours of courses with a significant written and oral communication component, identified with a (C) in the bulletin; 12 credit hours of (C)-coded courses must be taken in the major.

ITM students are required to complete a minor and are strongly encouraged to consider minors which complement their primary program of study; these include (but are not limited to) business, industrial technology, professional and technical communications, circuits and systems, computer architecture, and ROTC. Courses taken to fulfill a minor requirement may not also be used as electives in the major. The minor requirement may be waived for students entering as transfer students or who change their major to information technology and management after completion of 30 credit hours of studies at the university.

A maximum of nine credit hours of ITM graduate courses taken as an undergraduate may be applied to the Master of Information Technology and Management degree, and any graduate courses taken to fulfill undergraduate degree requirements may not also be applied to a graduate degree unless the student is enrolled in a co-terminal or accelerated master's degree program.

Required Courses

CODE	TITLE	CREDIT HOURS
ITM Requirements		**(39)**
ITM 100	Intro to IT as a Profession	3
ITM 301	Intro OS and Hardware I	3
ITM 311	Intro to Software Development	3

CODE	TITLE	CREDIT HOURS
ITM 313	Intro to Open Source App Dev	3
or ITM 312	Intro Systems Software Programming	
ITMD 321	Data Modeling and Applications	3
ITMD 361	Fund of Web Development	3
ITMD 362	Human-Computer Interaction	3
ITMD 411	Intermediate Software Development	3
ITMM 471	Project Management for ITM	3
ITMO 340	Intro Data Networks & Internet	3
ITMO 356	Intro Open Source OS	3
ITMS 448	Cyber Security Technologies	3
ITMT 430	System Integration	3
ITM Electives		**(18)**
Select 18 credit hours from ITM, ITMD, ITMM, ITMO, ITMS, ITMT, and TECH		18
Mathematics Requirements		**(6)**
MATH 180	Fundamentals of Discrete Math	3
or MATH 230	Introduction to Discrete Math	
Select one course from the following:		3
BUS 221	Business Statistics	3
PSYC 203	Undergrad Stats Behavioral Science	4
MATH 225	Introductory Statistics	3
MATH 425	Statistical Methods	3
Natural Science and Engineering Requirements		**(10)**
EG 225 is recommended		
See Illinois Tech Core Curriculum, section D		10
Humanities and Social Sciences Requirements		**(21)**
PSYC 301 is recommended		
See Illinois Tech Core Curriculum, sections B and C		21
Interprofessional Projects (IPRO)		**(6)**
See Illinois Tech Core Curriculum, section E		6
Minor Electives		**(15)**
Select 15 credit hours		15
Free Electives		**(12)**
Select 12 credit hours		12
Total Credit Hours		**127**

Bachelor of Information Technology and Management Transfer Program

All students must complete a minimum of 36 credit hours of courses with a significant written and oral communication component, identified with a (C) in the bulletin; 12 credit hours of (C)-coded courses must be taken in the major.

Transfer Admission Requirements

Admitted transfer students are expected to have satisfied the following Illinois Institute of Technology Core Curriculum requirements prior to admission. If not, the student must

complete them while working on the ITM degree. The degree requires a minimum of 127 credit hours including transfer and coursework completed at Illinois Tech. A maximum of 68 applicable credit hours of transfer credit is permitted from a two-year college.

BASIC WRITING PROFICIENCY REQUIREMENT: Students must take the Illinois Tech English Proficiency Examination before beginning classes at the university. Within their first year at the university, students who do not pass the Illinois Tech English Proficiency Examination must demonstrate basic writing proficiency by passing a composition course at Illinois Tech.

COMPUTER SCIENCE: Two credit hours of computer programming; may be satisfied by taking ITM 311.

HUMANITIES AND SOCIAL SCIENCES: Nine credit hours. Humanities include literature, philosophy (except logic), and history. Social or behavioral sciences typically include anthropology, geography, political science, psychology, sociology, and economics. Studies must include a minimum of three credit hours in humanities and three credit hours in the social sciences.

FREE OR TECHNICAL ELECTIVES: 28 credit hours of approved courses. Students should contact the Office of Undergraduate Academic Affairs for additional information.

MATHEMATICS: Five to six credit hours: one course in discrete mathematics, and one course in statistics.

NATURAL SCIENCE OR ENGINEERING: 10-11 credit hours of natural science or engineering courses. Relevant science courses include physics, chemistry, astronomy, biology, or engineering graphics. Two sequential courses must be from the same field and one must be from another field. In some cases, certain technology courses might be applied to this requirement. See Illinois Tech Core Curriculum section.

Program Requirements

Transfer students are expected to take 75 credit hours at Illinois Institute of Technology and transfer 52 credit hours to complete the bachelor's degree for a total of 127 credit hours. This includes 19 information technology courses for a total of 57 credit hours in the major. An additional 18 credit hours outside the major must be taken at Illinois Institute of Technology in order to satisfy the remaining Core Curriculum requirements. These include four 300/400-level humanities and social or behavioral science electives and two IPRO courses. Two social or behavioral science electives must be from the same field and one must be from a different field; lower level social or behavioral science electives count towards this requirement. The computer science general education requirement may be satisfied by completion of ITM 311. Students who wish to complete their undergraduate studies in less than five semesters of full-time study at Illinois Institute of Technology are strongly urged to include at least nine credit hours of courses transferable as required or elective ITM courses among their free or technical electives.

All students must complete a minimum of 36 credit hours of courses with a significant written and oral communication component, identified with a (C) in the bulletin; 12 credit hours of (C)-coded courses must be taken in the major.

ITM students are required to complete a minor and are strongly encouraged to consider minors which complement their primary program of study; these include (but are not limited to) business, industrial technology, professional and technical communications, circuits and systems, computer architecture, and ROTC. Courses taken to fulfill a minor requirement may not also be used as electives in the major. The minor requirement may be waived for students entering as transfer students or who change their major to information technology and management after completion of 30 credit hours of studies at the university.

A maximum of nine credit hours of ITM graduate courses taken as an undergraduate may be applied to the Master of Information Technology and Management degree, and any graduate courses taken to fulfill undergraduate degree requirements may not also be applied to a graduate degree unless the student is enrolled in a co-terminal or accelerated master's degree program.

Required Courses

CODE	TITLE	CREDIT HOURS
Courses Transferred		**(52)**
or taken at Illinois Tech		52
Humanities Electives		**(6)**
300/400 -level courses		6
Social Science Electives		**(6)**
300/400 -level courses		6
PSYC 301 is recommended		
Interprofessional Projects (IPRO)		**(6)**
See Illinois Tech Core Curriculum, section E		6
ITM Requirements		**(39)**
ITM 100	Intro to IT as a Profession	3
ITM 301	Intro OS and Hardware I	3
ITM 311	Intro to Software Development	3
ITM 313	Intro to Open Source App Dev	3
or ITM 312	Intro Systems Software Programming	
ITMD 321	Data Modeling and Applications	3
ITMD 361	Fund of Web Development	3
ITMD 362	Human-Computer Interaction	3
ITMD 411	Intermediate Software Development	3
ITMM 471	Project Management for ITM	3
ITMO 340	Intro Data Networks & Internet	3
ITMO 356	Intro Open Source OS	3
ITMS 448	Cyber Security Technologies	3
ITMT 430	System Integration	3
ITM Electives		**(18)**
Select 18 credit hours from ITM, ITMD, ITMM, ITMO, ITMS, ITMT, and TECH		18
Total Credit Hours		**127**

Specializations in the Bachelor of Information Technology and Management

An undergraduate specialization consists of four elective courses in a particular subject area. The following specializations are available to students in this degree:

- Data Management
- IT Entrepreneurship and Management
- Networking and Communications
- Software Development
- System Administration
- Systems Security
- Web Design and Application Development

Bachelor of Science in Applied Cybersecurity and Information Technology

Required Courses

CODE	TITLE	CREDIT HOURS
Information Technology Core Requirements		**(33)**
ITM 100	Intro to IT as a Profession	3
ITM 301	Intro OS and Hardware I	3
ITM 311	Intro to Software Development	3
ITM 313	Intro to Open Source App Dev	3
or ITM 312	Intro Systems Software Programming	
ITMD 321	Data Modeling and Applications	3
ITMD 361	Fund of Web Development	3
ITMD 362	Human-Computer Interaction	3
ITMD 411	Intermediate Software Development	3
ITMM 471	Project Management for ITM	3
ITMO 340	Intro Data Networks & Internet	3
ITMO 356	Intro Open Source OS	3
Cybersecurity Core Requirements		**(27)**
ITMM 485	Legal and Ethical Issues in IT	3
ITMS 418	Coding Security	3
ITMS 438	Cyber Forensics	3
ITMS 443	Vulnerability Analysis and Control	3
ITMS 448	Cyber Security Technologies	3
ITMS 458	Operating System Security	3
ITMS 478	Cyber Security Management	3
ITMS 483	Digital Evidence	3
ITMT 430	System Integration	3
Cybersecurity and Information Technology Electives		**(6)**
Select 6 credit hours from ITM, ITMD, ITMM, ITMO, ITMS, ITMT, and TECH		6
Mathematics Requirements		**(20)**
MATH 151	Calculus I	5
MATH 152	Calculus II	5
MATH 230	Introduction to Discrete Math	3
MATH 251	Multivariate & Vector Calculus	4
MATH 474	Probability and Statistics	3
Natural Science and Engineering Requirements		**(10)**
EG 225 and PHYS 200 are recommended		
See Illinois Tech Core Curriculum, section D		10
Humanities and Social Sciences Requirements		**(21)**
PSYC 301 is recommended		
See Illinois Tech Core Curriculum, sections B and C		21
Interprofessional Projects (IPRO)		**(6)**
See Illinois Tech Core Curriculum, section E		6
Free Electives		**(6)**
Select 12 credit hours		6
Total Credit Hours		**129**

Minors in Information Technology and Management

A minor consists of at least five courses (minimum of 15 credit hours) not required for a degree program.

- Minor in Cyber Security Foundations (prerequisites for graduate program)
- Minor in Information Security
- Minor in Information System Administration
- Minor in Information System Network Management
- Minor in Information Technology Foundations (prerequisites for graduate program)
- Minor in Information Technology and Management
- Minor in Internet Application Development

2.2 Information Technology and Management Graduate Degrees

- Master of Cyber Forensics and Security (Coursework Only Option)
- Master of Cyber Forensics and Security (Master's Project Option)
- Master of Information Technology and Management
- Master of Science in Applied Cybersecurity and Digital Forensics (Thesis Option)
- Master of Science in Applied Cybersecurity and Digital Forensics (Master's Project Option)
- Master of Science in Information Technology and Management (Thesis Option)
- Master of Science in Information Technology and Management (Master's Project Option)

Master of Cyber Forensics and Security (Coursework Only Option)

Required Courses

CODE	TITLE	CREDIT HOURS
Required Core Courses		**(18)[1]**
ITMS 538	Cyber Forensics	3
ITMS 543	Vulnerability Analysis and Control	3
ITMS 548	Cyber Security Technologies	3
ITMS 578	Cyber Security Management	3
ITMS 583	Digital Evidence	3
ITMM 585	Legal and Ethical Issues In Info Tech	3
Elective Courses		**(12)**
Select a minimum of 12 credit hours from the following:		12
Any 500-level ITMS course not listed in required courses above.[2,3]		
ITMM 586	IT Auditing	3
ITMO 556	Intro to Open Source Software	3
ITMT 597	Special Problems in IT[4]	3
Total Credit Hours		**30**

[1] Core course requirements may be waived upon presentation of evidence of equivalent coursework, certification, or experience. Approval of waivers will be made by the student's adviser or the ITM associate chair.

[2] Students pursuing the coursework only option may not choose ITMS 549 as an elective course.

[3] ITMS 579 may be taken more than once.

[4] A maximum of six credit hours of ITMT 597 may be used toward degree requirements.

Master of Cyber Forensics and Security (Project Option)

Required Courses

CODE	TITLE	CREDIT HOURS
Required Core Courses		**(18)[1]**
ITMS 538	Cyber Forensics	3
ITMS 539	Steganography	3
or ITMS 549	CST: Projects & Adv Methods	
ITMS 543	Vulnerability Analysis and Control	3
ITMS 548	Cyber Security Technologies[2]	3
ITMS 578	Cyber Security Management	3
ITMS 583	Digital Evidence	3
ITMM 585	Legal and Ethical Issues In Info Tech	3
Research Course		**(3)**
ITMT 594	Special Projects in IT	3
or ITMT 597	Special Problem in IT	
Elective Courses		**(12)**
Select a minimum of 12 credit hours from the following:		12
Any 500-level ITMS course not listed in required courses above.[3]		
ITMM 586	IT Auditing	3
ITMO 556	Intro to Open Source Software	3
ITMT 597	Special Problems in IT[4]	3
Total Credit Hours		**30**

[1] Core course requirements may be waived upon presentation of evidence of equivalent coursework, certification, or experience. Approval of waivers will be made by the student's adviser or the ITM associate chair.

[2] Students electing the project option must complete ITMS 548 Cyber Security Technologies in a live section with a project component.

[3] ITMS 579 may be taken more than once.

[4] A maximum of six credit hours of ITMT 597 may be used toward degree requirements.

Master of Information Technology and Management

Required Courses without Specialization

CODE	TITLE	CREDIT HOURS
Programming		**(3)**
Select three credit hours of Programming courses		3
Application Development		**(3)**
Select three credit hours of Application Development courses		3
Information Systems Technologies		**(3)**
Select three credit hours of Information Systems Technologies courses		3

CODE	TITLE	CREDIT HOURS
Information Technology Architectures		**(3)**
Select three credit hours of Information Technology Architectures courses		3
Design		**(3)**
Select three credit hours of Design courses		3
Management		**(3)**
Select three credit hours of Management courses		3
Innovation		**(3)**
Select three credit hours of Innovation courses		3
Elective Courses		**(9)**
Select nine credit hours		9
Total Credit Hours		**30**

Required Courses with Specialization

CODE	TITLE	CREDIT HOURS
Specialization Courses		**(24)**
Select three credit hours of Programming courses		24
Elective Courses		**(6)**
Select six credit hours		6
Total Credit Hours		**30**

Specializations in the Master of Information Technology and Management

The following specializations are available to students in this degree:

- Computer and Information Security
- Data Analytics and Management
- Information Technology Infrastructure
- IT Entrepreneurship and Management
- Management Information Systems
- Smart Technology and Innovation
- Software Development
- Systems Analysis
- Web Design and Application Development

Graduate Core Courses by Subject and Topic

The following courses comprise the graduate core courses. This defines requirements for Masters and Master of Science degrees in Information Technology and Management.

SUBJECT: SOFTWARE DEVELOPMENT

Topic: Programming

CODE	TITLE	CREDIT HOURS
ITMD 510	Object-Oriented App Develop	3
ITMD 512	Structured/Systems Programming	3
ITMD 514	Programming for Data Analytics	3
ITMD 515	Advanced Software Programming	3
ITMS 514	Programming for Cyber Analytics	3

SUBJECT: SYSTEM TECHNOLOGIES

Topic: Application Development

CODE	TITLE	CREDIT HOURS
ITMD 553	Enterprise Intelligent Device	3
ITMD 554	Mass-Market Intelligent Device	3
ITMD 555	Open-Source Intelligent Device	3
ITMD 565	Rich Internet Applications	3
ITMD 566	Service-Oriented Architectures	3
ITMT 593	Embedded Systems	3

SUBJECT: SYSTEM TECHNOLOGIES (continued)

Topic: Information Systems Technologies

CODE	TITLE	CREDIT HOURS
ITMO 533	Enterprise Server Admin	3
ITMO 553	Open Source System Admin	3
ITMO 556	Intro to Open Source Software	3

Topic: Information Technology Architectures

CODE	TITLE	CREDIT HOURS
ITMO 540	Intro to Data Networks & the Internet	3
ITMO 554	Operating Sys Virtualization	3
ITMS 548	Cyber Security Technologies	3
ITMT 535	Data Center Architecture	3

SUBJECT: BUSINESS DEVELOPMENT

Topic: Design

CODE	TITLE	CREDIT HOURS
ITMD 511	Application Dev Methodologies	3
ITMD 532	UML-Based Software Development	3
ITMD 534	Human/Computer Interaction	3
ITMT 531	OO Syst Anlys Mod & Des	3

Topic: Management

CODE	TITLE	CREDIT HOURS
ITMM 537	Vendor Management/Service Level Agreements	3
ITMM 570	Fund of Management for Tech Professionals	3
ITMM 571	Project Management for ITM	3
ITMM 574	Information Technology Management Frameworks	3
ITMM 575	Networking/Telecom Management	3
ITMS 578	Cyber Security Management	3

Topic: Innovation

CODE	TITLE	CREDIT HOURS
ITMM 581	IT Entrepreneurship	3
ITMM 582	Business Innovation	3
ITMD 535	Human-Computer Interaction Design	3

Master of Science in Applied Cybersecurity and Digital Forensics (Thesis Option)

Required Courses

CODE	TITLE	CREDIT HOURS
Required Core Courses		**(15)**[1]
ITMS 538	Cyber Forensics	3
ITMS 543	Vulnerability Analysis and Control	3
ITMS 548	Cyber Security Technologies	3
ITMS 578	Cyber Security Management	3
LAW 273	Evidence	3
Research Courses		**(6-8)**
ITMT 591	Independent Study/Research	6-8
Elective Courses		**(9-11)**
Seven to nine credit hours from the following:		7-9
Any 500-level ITMS course not listed in required courses above.[2]		
ITMM 585	Legal and Ethical Issues In Info Tech	3
ITMM 586	IT Auditing	3
ITMO 556	Intro to Open Source Software	3
ITMT 597	Special Problems in IT[4]	3
Select a minimum of two credit hours from the following:[3]		2
LAW 240	National Security Law	2
LAW 495	Electronic Discovery	2
Total Credit Hours		**30**

[1] Core course requirements may be waived upon presentation of evidence of equivalent coursework, certification, or experience. Approval of waivers will be made by the student's adviser or the ITM associate chair.

[2] ITMS 579 may be taken more than once.

[3] LAW electives not listed above or ITMS electives may be substituted as approved by the student's adviser or the ITM associate chair.

Master of Science in Applied Cybersecurity and Digital Forensics (Project Option)

Required Courses

CODE	TITLE	CREDIT HOURS
Required Core Courses		**(18)**[1]
ITMS 538	Cyber Forensics	3
ITMS 539	Steganography	3
or ITMS 549	CST: Projects & Adv Methods	
ITMS 543	Vulnerability Analysis and Control	3
ITMS 548	Cyber Security Technologies[2]	3
ITMS 578	Cyber Security Management	3
LAW 273	Evidence	3

CODE	TITLE	CREDIT HOURS
Research Course		**(3)**
ITMT 594	Special Projects in IT	3
or ITMT 597	Special Problem in IT	
Elective Courses		**(11)**
Select a minimum of nine credit hours from the following:		9
Any 500-level ITMS course not listed in required courses above.[2]		
ITMM 585	Legal and Ethical Issues In Info Tech	3
ITMM 586	IT Auditing	3
ITMO 556	Intro to Open Source Software	3
ITMT 597	Special Problems in IT[4]	3
Select a minimum of two credit hours from the following:[3]		2
LAW 240	National Security Law	2
LAW 495	Electronic Discovery	2
Total Credit Hours		**30**

[1] Core course requirements may be waived upon presentation of evidence of equivalent coursework, certification, or experience. Approval of waivers will be made by the student's adviser or the ITM associate chair.

[2] ITMS 579 may be taken more than once.

[3] LAW electives not listed above or ITMS electives may be substituted as approved by the student's adviser or the ITM associate chair.

Master of Science in Information Technology and Management (Thesis Option)

The thesis option requires coursework and five to eight credit hours of master's thesis work (ITMT 591). The result is a master's thesis. A student must successfully defend a thesis to apply ITMT 591 credit hours toward a degree. Students who complete both a project and a thesis can apply a maximum combined total of eight credit hours of ITMT 591 and ITMT 594 or ITMT 597 toward the degree.

Required Courses

CODE	TITLE	CREDIT HOURS
Required Core Courses		**(9)**
Select three credit hours of Software Development		3
Select three credit hours of System Technologies		3
Select three credit hours of Business Development		3
Research Courses		**(5-8)**
ITMT 591	Independent Study/Research	5-8
Elective Courses		**(15-18)**
15 to 18 hours of 500-level ITM or TECH courses selected with the student's adviser		15-18
Total Credit Hours		**32**

A limited number of elective courses from other departments may be selected with adviser approval.

Master of Science in Information Technology and Management (Project Option)

The master's project option requires coursework and five to eight credit hours of ITMT 594 or ITMT 597 for a total of 32 credit hours. If a project is elected, a student must complete one of the following:

1. A paper submitted for publication as an article or as a technical report.
2. A software product including an accompanying technical report and user documentation.
3. A hardware device or appliance including an accompanying technical report and user documentation.
4. A complete information system facilitating or enabling a defined business process, including an accompanying technical report and user documentation.

Required Courses

CODE	TITLE	CREDIT HOURS
Required Core Courses		**(9)**
Select three credit hours of Software Development		3
Select three credit hours of System Technologies		3
Select three credit hours of Business Development		3
Research Courses		**(5-8)**
ITMT 594	Special Projects in IT	3
or ITMT 597	Special Problem in IT	
Elective Courses		**(15-18)**
15 to 18 hours of 500-level ITM or TECH courses selected with the student's adviser		15-18
Total Credit Hours		**32**

A limited number of elective courses from other departments may be selected with adviser approval.

3. INFORMATION TECHNOLOGY & MANAGEMENT FACULTY

All ITM faculty are expected to have significant real-world experience to enrich the quality and relevance of the education we provide.

3.1 List of Full Time and Adjunct Faculty

Name	Preferred 1st Name	Academic Rank / Titles / Adjunct Industry Title(s)	IIT Email	Notes
Full Time Faculty				
Adarsh Arora	Adarsh	Industry Professor *Coleman Entrepreneur in Residence*	aarora12@iit.edu	
Maurice E. Dawson	Mo	Assistant Professor *Director, Center for Cyber Security and Forensics Education*	mdawson2@iit.edu	
Carl Robert Carlson	Bob	Professor *Dean, School of Applied Technology* *Chair, Department of Information Technology and Management*	carlson@iit.edu	
Jeremy Robert Hajek	Jeremy	Industry Associate Professor	hajek@iit.edu	
James Papademas	James	Industry Professor	jpapadem@iit.edu	
Karl Stolley	Karl	Associate Professor of Digital Writing & Rhetoric Associate Professor of Information Technology and Management	kstolley@iit.edu *(Joint Appointment with Humanities)*	Sabbatical 19F
Raymond E. Trygstad	Ray	Industry Professor *Associate Chair, Department of Information Technology & Management* *Associate Director, Center for Cyber Security and Forensics Education* *Director of Undergraduate Advising*	trygstad@iit.edu	
Yong Zheng	Yong	Assistant Professor	yzheng66@iit.edu	
Adjunct Faculty				
Brian Thomas Bailey	Brian	Adjunct Industry Assoc Professor *Director, Web Development & Web Services -* *Illinois Institute of Technology*	bbailey4@iit.edu	
Charles Beck	Chuck	Adjunct Industry Professor *Senior Product Owner – Echo Global Logistics*	cbeck3@hawk.iit.edu	
John Carrell	John	Adjunct Industry Assoc Professor *Software Engineer - IBM*	jcarrell@iit.edu	Inactive 19F
Carol R. Davids	Carol	Adjunct Industry Professor *Retired from Industry Professor - Illinois Institute of Technology and* *Systems Engineer – Tellabs and Lead Engineer - Motorola*	davids@iit.edu	
Shawn Davis	Shawn	Adjunct Industry Professor *Director of Digital Forensics – Edelson PC*	sdavis17@iit.edu	
Peter Fales	Peter	Adjunct Industry Professor *Retired from Member of the Technical Staff - Bell Labs*	pfales@iit.edu	
Subhashish Ghosh	Ghosh	Adjunct Industry Professor *Cross Domain Architect - NOKIA*	sghosh3@iit.edu	
Bonnie A Goins	Bonnie	Adjunct Industry Professor *GRC Principal Security Consultant - NTT Security*	bgoins@iit.edu	
Nazneen Hashmi	Nazneen	Adjunct Industry Professor *ISO 9001 Internal Auditor - Robert Bosch Tool Corporation*	nhashmi@iit.edu	
Robert Henkins	Bob	Adjunct Industry Assoc Professor *Sr. Systems Analyst / Dir. of Information Systems Office -* *Northwestern University*	rhenkins@iit.edu	
Peisong Huang	Peisong	Adjunct Industry Assoc Professor *ONStar Wireless Engineering Group Manager - General Motors*	phuang9@iit.edu	Inactive 19F
Sean M. Hughes-Durkin	Sean	Adjunct Industry Assoc Professor *Information Security Engineer - McDonald's*	durksea@iit.edu	
Thomas A. Johnson Jr.	T.J.	Adjunct Industry Professor *Chief Information Security Officer -ServerCentral Turing Group (SCTG)*	tjohns15@iit.edu	Inactive 19F

Name	Preferred 1st Name	Academic Rank / Titles / Adjunct Industry Title(s)	IIT Email	Notes
Adjunct Faculty (continued)				
Dan Kahn	Dan	Adjunct Industry Professor *Retired*	dkahn5@iit.edu	Inactive 19F
Seth Kinnett	Seth	Adjunct Industry Assoc Professor *Salesforce Business Analyst - CCC Information Services*	skinnett@iit.edu	Inactive 19F
Daniel Krieglstein	Daniel	Adjunct Assistant Professor *Founder/CEO - The JournalWiki*	kriedan@iit.edu	
Raj Krishnan	Raj	Adjunct Industry Professor *Cloud Solution Architect - Microsoft / CTO - The High Five Movement*	rkrish20@iit.edu	
Jason Lambert	Jason	Adjunct Industry Professor *Staff Engineer - The Climate Corporation*	jlamber4@iit.edu	Inactive 19F
Daniel Lee	Daniel	Adjunct Industry Assoc Professor *Data Engineer - Northwestern University Kellogg School of Management*	dlee52@iit.edu	
Hee Gyu Lee	Hosea	Adjunct Industry Professor *Senior IT Consultant - Northwestern University*	hlee110@iit.edu	
William P. Lidinsky	Bill	Adjunct Industry Professor *Retired from Industry Professor - Illinois Institute of Technology and Head, High Energy Physics Network Resource Center - Fermi National Accelerator Laboratory*	lidinsky@iit.edu	
Steven Lisitza	Steve	Adjunct Industry Assoc Professor *Senior Storage Administrator - AT&T*	slisitza@hawk.iit.edu	Inactive 19F
Phillip Matuszak	Phil	Adjunct Industry Assoc Professor *Technology Services Director - Kinship Trust Company, LLC*	matuphi@iit.edu	
Sean Patrick McBride	Sean	Adjunct Industry Assoc Professor *Lead Full-Stack Web Developer - Decipher Technology Studios*	smcbride@iit.edu	Inactive 19F
Louis F. McHugh IV	Louis	Adjunct Industry Professor *Director of Information Technology – IIT School of Applied Technology*	lmchughi@iit.edu	
Bruce Mueller	Bruce	Adjunct Industry Professor *Founder at Winning Best Solutions, LLC*	muellerb@iit.edu	Inactive 19F
Donald Nelson	Don	Adjunct Industry Professor *Retired from Senior Validation Manager: Application Enablement - Alcatel-Lucent*	dnelson@iit.edu	
Luke Papademas	Luke	Adjunct Industry Professor *Retired*	lpapadem@iit.edu	
Katherine Papademas	Katherine	Adjunct Instructor *Retired*	kpapadem@iit.edu	
Vasilios Pappademetriou	Billy	Adjunct Industry AssoC Professor *Independent Consultant and Adjunct Faculty - College of DuPage, Glen Ellyn, Illinois*	vpappade@iit.edu	
Rahul Patel	Rahul	Adjunct Assistant Professor *Senior Manager, Information Security Program Office - Discover Financial Services*	rpatel37@iit.edu	
Ramesh Rao	Ramesh	Adjunct Industry Professor *Retired as Director, IT Strategic Sourcing & Vendor Management - Consumers Energy*	rrao12@iit.edu	
Martin Schray	Martin	Adjunct Industry Professor *Senior Software Engineering - Microsoft*	mschray@iit.edu	
Sheikh Shamsuddin	Sam	Adjunct Assistant Professor *Professor and Department Coordinator, Computing and Information Systems, College of Dupage, Glen Ellyn, IL; retired from Unix/Linux System Administrator, HP & Alcatel-Lucent*	shamsuddin@iit.edu	
Suemee Shin	Suemee	Adjunct Industry Professor *Global Head, Wholesale Lending Data Management – JP Morgan Chase*	sshin17@iit.edu	Inactive 19F
William Shipley	Bill	Adjunct Industry Professor *Founder & CEO - Chain2Pay Advisors*	wshipley1@iit.edu	Inactive 19F

Name	Preferred 1st Name	Academic Rank / Titles / Adjunct Industry Title(s)	IIT Email	Notes
Adjunct Faculty (continued)				
Scott Spyrison	Scott	Adjunct Industry Assoc Professor *Associate Director of Apps & Infrastructure - Northwestern University*	spyrison@iit.edu	
David Stacey	David	Adjunct Industry Assoc Professor *Enterprise Systems Architect - The Allant Group*	dstacey@hawk.iit.edu	Inactive 19F
Daniel Tomal	Dan	Adjunct Professor of INTM *Owner, Tomal Consulting and Author: DanTomal.com*	tomal@iit.edu	
Kevin Vaccaro	Kevin	Adjunct Industry Professor *Assistant Professor - Moraine Valley Community College, Palos Hills, IL; retired from Asst Director of Desktop Support - University of Chicago*	vacckev@iit.edu	
Brian Vanderjack	Brian	Adjunct Industry Assoc Professor *Senior Scrum Master - AT&T*	bvanderjack@iit.edu	
Benjamin Zumhagen	Ben	Adjunct Industry Assoc Professor *Lead Software Engineer – Relativity*	bzumhagen@iit.edu	Inactive 19F

3.2 Full Time Faculty CVs

Carl R. Carlson

Dean, School of Applied Technology
Illinois Institute of Technology
35th and State Street, Suite 14F3-1
Chicago, IL 60616
carlson@iit.edu

EDUCATION
PhD, Computer Science, University of Iowa 1972
MS, Computer Science, University of Iowa 1968
BA Mathematics and Accounting, Augustana College 1966

EXPERIENCE
Illinois Institute of Technology 1984 to present
Chair and Professor of Computer Science and Computer Science and Applied Math
Associate Dean and Director Graduate College, IIT's Rice Campus, and Office of Professional Development
Chair and Professor Information Technology and Management (ITM)
Dean and Founder of the School of Applied Technology (SAT)

Amoco -- Standard Oil of Indiana 1981 to 1984
Senior Strategic Planner -- IT

Bell Laboratories 1979 to 1981
Member of Technical Staff – Database Systems

Northwestern University 1972 to 1979
Assistant Professor Computer Science

University of Iowa 1966 to 1972
Themis Research Fellow, Instructor, and Graduate Student

EDUCATIONAL CONTRIBUTIONS

1. **Established the first PC classroom/labs** at the Illinois Institute of Technology in 1984. PI on funded grants, totaling more than **$2,000,000**, over a thirteen-year period from the AT&T Foundation to support expansion to 120 PCs in four computer science classrooms to handle the growth in computer science enrollment. An audit report on AT&T Foundation grants gave high accolades to IIT-CS for our effective use of AT&T Foundation funds.
2. **Co-PI with Darsh Wasan for a $5,000,000 grant from DOD** to improve the computing infrastructure at IIT and add pc labs in key departments not supported by the AT&T grant.
3. **Led the development of several accredited computing curriculum at IIT**, including
   - ABET accredited Computer Science curriculum
   - ABET accredited Information Technology and Management curriculum
   - ABET accredited Computer Engineering curriculum, a joint program between Computer Science and Electrical and Computer Engineering
   - NSA designated the ITM department's Cybersecurity programs as a National Center for Academic Excellence in Cyber Defense Education
4. **ACM/CSAB Computer Science program reviewer and curriculum consultant** to numerous computer science programs to prepare them for seeking accreditation, including ten universities from the State of Louisiana.
5. **Co-established teaching/research labs** with NSF, NSA, and corporate funding (valued at roughly $3M) in the following areas:
   - Cybersecurity and Forensic Lab (with William Lidinsky)
   - Real Time Communication Lab (with Carol Davids)
   - IT Smart Lab (with Jeremy Hajek and Dan Tomal)
   - Computer and Advanced Manufacturing Lab (with Will Maurer and Louis McHugh)
   - Parallel Computing Lab (with Thomas Christopher)
6. **Co-PI with Ilene Burnstein for NSF funded ($300K) undergraduate computer science research program** for women and minorities (1988 – 1992). The NSF invited us to Washington, D.C. to describe our program to their staff as a result of their recognition of the program's success.
7. **Co-developed (with Catherine Bareiss) an "Integrated Computer Science Curriculum Model"** together with the "Curriculum Assessment Maturity Model" used in the development and assessment of computer science curriculum at IIT, Nazarene University, and Aurora University. Article published in the ACM sponsored SIGCSE Technical Symposium on Computer Science Education, 1986.
8. **Co-authored database curriculum development publications**:
   - D. K. Hsiao, C. R. Carlson, A. R. Hevner, D. S. Kerr, S.Y.W. Su, "Model Database Systems Curriculum – A Comprehensive Course Offering and Structure", IEEE Computer Society Curriculum Development Committee Report, 1981.
   - P. Scheuermann and C. R. Carlson, "Self-Assessment Procedures V – Data Base Management Systems", ACM COMMUNICATIONS, Vol. 21, No. 8, pp. 687-693, 1975
9. **Developed the following textbooks for the following courses taught at IIT**:
   - CS 525, Advanced Database Organization, co-authored by J.W. Gudenas and R. R. Hurlbut, 1998.
   - ITMT 531, Object Oriented Information Systems, C & A Enterprises, 2005.
   - ITMT 532, Software Design Practices, C & A Enterprises, 2007.
   - ITM 581, Entrepreneurship, 2011.
10. **Co-organized the first IEEE COMPSAC conference in 1977**, with Steve Yau President of the IEEE Computer Society, and assisted in various capacities running it for a few years thereafter.

11. **Co-established (with James Roberge) a nationally recognized lab based curricular approach using pre-lab, in-class, and post-lab methods to achieve an integrated curricular approach for teaching programming to undergraduates.** Co-PI on AT&T and Honeywell Bull funding ($100K) for this project. Several articles describing our distinctive teaching methodology were published at the ACM's SIGCSE conferences. Co-authored article in the ACM sponsored SIGCSE Bulletin, Broadening the Computer Science Curriculum, 1997.
12. **Co-founded TruAccolades** which provides students with a soft skills endorsement tool to solicit faculty endorsements based on their project accomplishments.
13. **Established a distance learning program in Bangalore India in 1997 with Darsh Wasan**, initially offering Computer Science and Electrical Engineering master degree programs and later expanding it to include Information Technology and Management master degree programs. Over six hundred India resident students have received their online degrees from IIT. Twice I have given the graduation address to these students in Bangalore, India.
14. **Co-established recruiting offices with Darsh Wasan in Bangalore India and Seoul South Korea** and established relations with several universities and global companies in the process.
15. **Established Accredited Continuing Education program in the Office of Professional Development f**or working adults seeking career changes by enabling them to take non-credit offerings of Cybersecurity and ITM courses. We earned IACET accreditation for the not-for-credit programs being offered at IIT.
16. **Proposed and directed the NxtGen Summer IT Training Camp for high school students** in Chicago and its suburbs for over ten years.
17. **As Executive Director of the IIT Entrepreneurship Academy**, proposed and co-directed with Donna Rockin the Chicago Innovation Challenge, an innovation competition open to three categories of students -- IIT students, Chicagoland college/university students, and Chicagoland high school students. Prize money has been awarded in each category through the generosity of funding from the Fogelman Family Foundation. IIT students are provided technical support and mentoring for this competition in the IT Innovation and Entrepreneurship program specialization courses in the ITM department.
18. **Established eighteen years ago a Visiting Student program** in which foreign students come to IIT for one semester and take ITM and English proficiency courses. Since then short visiting programs have been established with universities in Brazil and Columbia.
19. **Co-established English Language Services program** with Tracey McGee taking students, who are qualified for admission to IIT but who show deficiencies in their TOEFL assessed English proficiency and providing them with English language training to get them ready for admission to our programs. We recently received five year accreditation for this program from CEA.
20. **Co-produced (with Barb and Marty Kozi) the annual STEM Expo Weekend** for over twenty-five years to make K-8 children aware of possible careers in various STEM fields. This Expo attracts nearly 2000 children and their parents for this one day event.
21. **Received the following faculty educational excellence awards**:
    - ITM Teaching Award
    - SAT Educational Excellence Award
22. **Co-originated the beta chapter of Gamma Nu Eta (IT student honor society)** with Ray Trygstad. Elected honorary faculty member of Gamma Nu Eta and the Sigma Nu Tau (Entrepreneurship honor society).
23. **Raised over $150,000 (2002-2005) from the State of Illinois to launch WESTE**C: West Suburban Technology Enterprise Center
24. **Raised funds ($40K) to build out the SAT Deans Office.**
25. **Raised funds ($70K) from the Menger Foundation to establish a Lecture Series in Applied Mathematics** while acting as chair of the Computer Science and Applied Mathematics Department.
26. **Raised over $11M** as outlined in the above projects.

RESEARCH AND ENTREPRENEURSHIP CONTRIBUTIONS

My NSF, DOD, State of Illinois and corporate funded computing research/entrepreneurship initiatives have focused on three areas – (1) pioneering research in database theory and management and its impact at Bell Laboratories, Argonne National Lab, DOD Joint Chiefs of Staff, and other corporate partners, (2) global industry impact of TMM and our pattern classification schema in software engineering, and (3) IT innovation and entrepreneurship initiatives at IIT. This is a summary of the key articles and the impact that they have had in the real world.

DATABASE MANAGEMENT

The earliest pioneering research focused on the development of a Dependency Theory for databases with application to numerous real-world problems. For this research I received an NSF Young Investigator Grant. At the request of several corporations this research led to the development of several industry tested techniques for relational view integration, use case interaction diagram design, cluster analysis, and pattern-based which have been employed the DOD Air Force War College, Bell Laboratories, Argonne National Lab, Gould Super Computing, Boeing , etc.

1. Ullman, in his textbook, referred to the ACM SIGMOD paper as the historic first work on the subject of Automatic Database Navigation techniques. In his classic database textbook, Date referred to this article as "the first paper to discuss the possibility of a universal relation interface".

   C. R. Carlson and R.S. Kaplan, "A Generalized Access Path Model and its Application to a Relational Data Base System", ACM-SIGMOD 1976.

2. Ullman and Maier, in their textbooks, described the following articles as pioneering works in the development of a Notion of Adequacy of Decomposition for Normalization Theory.

   A.K. Arora and C. R. Carlson, "The Information Preserving Properties of Relational Database Transformation", Proc. 4th Very Large Data Base Conference, 1978.

   A.K. Arora and C. R. Carlson, "A Formal Characterization of Information Preserving Properties of Relational Database Transformations", Technical Memorandum, Bell Laboratories, 1979.

   A.K. Arora and C. R. Carlson, "Normalization Could be Useful", Computing Journal, Vol. 27, No.1, 1984.

3. The existing functional dependency axiomatic systems did not address the Connection Trap Problem. The Carlson/Arora axioms described in the following research as well as our 1976 ACM-SIGMOD paper enables database designers and query language systems to avoid this problem.

   A.K. Arora, C. R. Carlson, and M. M. Carlson, "The Application of Data Dependency Theory to the Study of Databases, COMPSAC 1980.

   C.R. Carlson, A. K. Arora, and M. M. Carlson, "The Application of Functional Dependency Theory to Relational Database, Computing Journal, Vol. 25, No. 1, 1982.

4. This led to the study of the class of transformations employed in the support of the relational view concept. What resulted was a formulation of the concepts of consistent and updatable views as measures of the adequacy of their supporting relations, which became the pioneering work for a View Supportability Theory. The impact of this research was that Bell Laboratories asked us to develop a relational view-based design methodology for them and to develop the software necessary to support this approach for their large scale (over 500 views) database design projects as part of their development of large scale digital switching systems. Proprietary arrangements were made with other major companies to apply these concepts to their database design problems.

   C. R. Carlson and A. K. Arora, "The Updatability of Relational Views Based on Functional Dependencies", COMPSAC 79, We were invited to republish this work in Tutorial: Data Base Management in the 1980s, J.A. Larson and H.A. Freeman (Eds.) IEEE Computer Society, 1981.

A.K. Arora and C. R. Carlson, "On Interactions in Multiple View Environments", COMPSAC 82.

Rich Bagley, C. R. Carlson and A. K. Arora, DARTS: A Design Aide for Relational Database Schema – User Manual, Bell Laboratories, IH-55422-810901.02EN, 1981.

C.R. Carlson and A.K. Arora, "Toward the Next Generation of Data Modeling Tools", COMPSAC 1983. This article was given a "Best Paper Award" by the IEEE Computer Society and republished in the IEEE Transactions on Software Engineering, Vol. 11, No. 9, 1985.

5. The ER Model emerged as a popular database design tool because of its graphic depiction of database schema. However, even moderate size databases require (two dimensional) ER diagrams that are difficult to comprehend and visualize designs. Based on the following research we were asked by Argonne National Lab scientists to address this problem. The resulting three-dimensional NER diagram approach and the tools supporting it were used to successfully described large scale designs (over 500 relations) used to support the database design staff of the DOD Joint Chiefs of Staff.

   C.R. Carlson, W. Ji, and A. K. Arora, "The Nested Entity-Relationship Model – A Pragmatic Approach to ER Comprehension and Design Layout", the International ER Conference on Entity-Relationship Approach, Toronto, Canada, 1990.

   Wenguang Ji, C. R. Carlson and David Dreyer, "An Algorithm Converting Relational Schema to Nested Entity Relationship Schemas", 10th International Conference on Entity-Relationship Approach, San Mateo, CA, 1991.

SOFTWARE ENGINEERING

1. TMM(sm) is a service mark of the Illinois Institute of Technology. First proposed by C. R. Carlson, professor Ilene Burnstein and C. R. Carlson published the following articles on the testing maturity model. The global impact of this research is outlined by the following:
   - DELOITTE, LLP noted "TMM was developed by the Illinois Institute of Technology and is now enjoying a rapid uptake across the globe as the leading method for assessing testing capability".
   - The TMMi is an international group of software testing experts that was formed to expand the application of TMM and advance software testing globally.
   - ISTQB the International Software Testing Qualifications Board uses the testing maturity model as part of its mission to train software test engineers, provide software testing standards for certification processes, and advance the profession of software and system testing.

   Ilene Burnstein, T. Suwannasart and C. R. Carlson, "The Development of a Testing Maturity Model", Ninth ACM/IEEE International Software Quality Week: Quality Process Convergence, San Francisco, CA, May 1996.

   Ilene Burnstein, T. Suwanassart and C. R. Carlson, "Developing a Testing Maturity Model for Software Test Process Evaluation, International Test Conference, 1996.

   Ilene Burnstein, T. Suwanassart, C. R. Carlson, Developing a Testing Maturity Model: Part I, CrossTalk Journal of Defense Software Engineering, Vol. 9, No. 8, August 1996.

   Ilene Burnstein, T. Suwanassart, C. R. Carlson, Developing a Testing Maturity Model: Part II, CrossTalk Journal of Defense Software Engineering, Vol. 9, No. 9, September 1996.

2. The following research on software pattern classification serves to provide an organizational structure for creating and classifying design patterns:

Sargon Hasso and C. R. Carlson, "Software Composition Using Behavioral Model of Design Patterns", Journal of Software Engineering and Applications, Vol. 7, No. 2, 2014.

Sargon Hasso and C. R. Carlson, "Design Patterns as First Class Connectors", ACM SIGITE/RIIT Conference, Best Research Paper Award, 2013.

Sargon Hasso and C. R. Carlson, "Software Patterns Catalog Based on a New Classification Scheme", Software Practice and Experience, Vol. 43, No. 7, 2013.

Sargon Hasso and C. R. Carlson, "Introducing Design Pattern-Based Abstraction Modeling Construct as a Software Architecture Compositional Technique, Ninth Annual SATURN Conference, 2013.

IT INNOVATION AND ENTREPRENEURSHIP

Not all of our research focuses on producing publishable articles. In the School of Applied Technology many faculty direct student research projects whose purpose is develop business plans for new ventures. The following items reflect my efforts to promote these initiatives with IIT faculty and students and corporate collaborators:

- Research on this topic has produced the following publications:

  C.R. Carlson and Praveen Gupta, "Business Innovation Maturity Model (BIMM)", Chapter 47, Global Innovation Science Handbook, McGraw, 2014.

  C.R. Carlson, "Strategy, Structure, and Processes to Foster Student Entrepreneurship at IIT", 11th European Conference on Innovation and Entrepreneurship, ECIE, 2016.

  Helena Santos Rodriguez, C. Robert Carlson, and Praveen Gupta, "Exploring Intellectual Capital for Economic Renewal", International Journal of Innovation Science, Vol. 7, No. 1, 1915.

- Helped launch the International Journal of Innovation Science in 2009 and have served on its Editorial Board since 2009.
- Led the development of the Innovation and Entrepreneurship program specialization in the Information Technology and Management program. Developed both the Innovation and the Entrepreneurship courses and later hired a Coleman Foundation funded Resident in Entrepreneurship Fellow Adarsh Arora to assist in leading this effort.
- Appointed by IIT President Alan Cramb as the Executive Director of the IIT Entrepreneurship Academy. As Executive Director, proposed and co-directed with Donna Rockin the Chicago Innovation Challenge, an innovation competition open to three categories of students -- IIT students, Chicagoland college/university students, and Chicagoland high school students. For three years now, prize money has been awarded in each category through the generosity of funding from the Fogelman Family Foundation. IIT students are provided technical support and mentoring for this competition in the ITM Innovation and Entrepreneurship program specialization courses.
- Raised over $150,000 (2002-2005) from the State of Illinois to launch WESTEC: West Suburban Technology Enterprise Center. The purpose was to identify faculty, students, and corporate collaborators who showed interest in the development of innovative ideas and to mentor them in the development of business plans and strategies for developing new ventures based on these ideas.

Raymond E. Trygstad

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Illinois Institute of Technology
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Chicago, IL 60616
trygstad@iit.edu
630-447-9009

Education

Bachelor of Science, European Studies, United States Naval Academy (USNA)
Naval Aviator, Undergraduate Pilot Training - Rotary Wing, United States Navy
Master of Science in Systems Management, University of Denver
Diploma in Aviation Safety, Naval Postgraduate School
Ph.D. studies in Computer Science & Technical Communication, Illinois Institute of Technology (IIT)

Academic experience

Illinois Institute of Technology

Ranks

Industry Professor of Information Technology and Management, 2011-Present, Full time
Adjunct Professor of Public Administration, 2007-Present, Part time
Lecturer in Information Technology and Management, 2002-2011, Part-time
Lecturer in Computer Science, 2001-2002, Part time
Lecturer in Business (E-Commerce), 2000-2002, Part Time
Adjunct Assistant Professor of Computer Science 1995-2001, Part time
Assistant Professor of Naval Science, 1992-1994, Full time

Titles

Associate Chair, Department of Information Technology and Management, 2012-Present, Full time
Director of Undergraduate Advising, Department of Information Technology and Management, 2012-Present, Full time
Associate Director, Center for Cyber Security and Forensics Education (C²SAFE), 2018-Present, Full time
Interim Associate Director, Center for Cyber Security and Forensics Education, 2014-2018, Full time
Associate Director of Information Technology & Management Programs and Undergraduate Adviser, 2007-2012, Full time
Curriculum Coordinator for Information Technology & Management Programs and Undergraduate Adviser, 2002-2007, Full time
Curriculum Coordinator for Internet Education, Department of Computer Science and Applied Mathematics, 1995-1999, Part time
Program Manager, graduate-level Certificate Program in Educational Technology, Department of Computer Science and Applied Mathematics, 1996-1998, Part Time
Curriculum Coordinator and Sophomore Adviser, Department of Naval Science, 1992-1994, Full time

Non-academic experience

Illinois Institute of Technology

Director of Information Technology, IIT School of Applied Technology and IIT Center for Professional Development; responsible for managing staff and assets including all computer laboratories, faculty and staff computer assets, UNIX/Linux/Windows/Vmware/ XenServer servers, networks, and multiple Web sites. 2002-2016, Full-time

Manager of Client Services, Computing and Network Services (university central computing organization); managed staff and assets including university Web site, all computer laboratories, Novell networks, and Helpdesk services. 1997-1999, Full time
Manager, Instructional Multimedia Center; conducted faculty training seminars, provided support for university faculty use of multimedia presentation tools and World Wide Web in an instructional environment. 1995-1997, Full time

United States Navy

Operations Officer for a 10 aircraft Anti-Submarine Warfare helicopter squadron. Managed over $130 million worth of aircraft assets with 99.5% utilization of available resources. Acted as Commanding Officer in his absence. 1991-1992, Full time
Safety Officer for two Anti-Submarine Warfare helicopter squadrons. Both units experienced zero aviation or ground mishaps during my tenure in this role. Implemented NAVOSH (Navy version of OSHA) from the ground up in both squadrons. 1987-1988 & 1990-1991, Full Time
Information System Security Officer, Security Manager, and Information Systems Manager; responsible for acquisition, management and security of computer assets, and direction of physical and document security programs for Helicopter Antisubmarine Squadron (Light) 31. 1988-1990, Full time
Aviation Detachment Officer-in-Charge of a single aircraft unit operating entirely detached from the parent unit including two periods supporting hydrographic survey operations in Indonesia, and a circumnavigation of South America conducting anti-submarine warfare and anti-surface warfare joint operations with local navies. 1986-1991, Full time
Student Control Officer (equivalent role to Dean of Students/Academic Dean) for Navy Advanced Undergraduate Helicopter Pilot Training; instructed advanced helicopter students both in the cockpit and in the classroom. Coordinated all postgraduate assignments; arranged and conducted all graduations; managed student grading standards. 1983-1985, Full time

Certifications

CompTIA iNet+ (CompTIA Subject Matter Expert)

Current membership in professional organizations

Association for Computing Machinery + SIGITE, SIGUCCS, and SIGSAC
Association of Information Technology Professionals
Information Systems Audit and Control Association
The Internet Society
Internet Corporation for Assigned Names and Numbers
Professional Member, Gamma Nu Eta - the Information Technology Honor Society
Naval Helicopter Association

Honors and awards

Dean's Educational Excellence Award, IIT School of Applied Technology, 2018
Principal Investigator, subgrant of Women in Cybersecurity Conference grant, National Science Foundation, 2017-2018
Principal Investigator, Cybersecurity National Action Plan (CNAP) Investment in Expansion of CAE-C Education Programs Grant,
National Security Agency, 2017-2018
Excellence in Teaching Award, IIT School of Applied Technology, 2012
Professional Member, Gamma Nu Eta - the National Information Technology Honor Society 2011
Navy Commendation Medal, 1992
Navy Achievement Medal, 1990 and 1991

Service activities

Illinois Institute of Technology

Member, HLC Accreditation Advisory Committee, 2011-Present
Co-Chair, Quality Improvement Initiative Subcommittee, 2012-Present
University Faculty Council 2016-2018
Undergraduate Studies Committee representative, 2016-2018
Advising Committee, 2018-present
Co-Terminal Degree Committee, 2016-present
ABET Accreditation Coordinator, Department of Information Technology and Management, 2014-Present
National Center of Academic Excellence in Cyber Defense Education Coordinator, Department of Information Technology and Management, 2014-Present
Faculty Adviser, Beta Chapter, Gamma Nu Eta - the National Information Technology Honor Society, 2011-2015, 2019-Present
Member, Undergraduate Studies Committee, 1992-1994, 2010-Present
Chair, 2016-2018
Vice Chair, 2014-2016
Introduction to the Professions Subcommittee, 2013-2016
Co-Terminal Degree Subcommittee, 2011-2012
Chair, Honors IT Advisory Board, Daley College, 2004-2006
Faculty Adviser, IIT ACM Chapter, 1996-1999
Faculty Adviser, IIT Officers Christian Fellowship Chapter 1993-1999
Co-Chair, World Wide Web Policy Committee, 1996-1998
Co-Chair, World Wide Web Working Group, 1995-1996

Associations/Industry/Community

Co-Chair, Women in Cyber Security Conference (WiCyS; NSF-funded National Conference) 2018
Association for Computing Machinery Special Interest Group in Information Technology Education (ACM SIGITE) 2012-Present
Vice Chair, 2018-Present
Executive Committee member, 2015-2018
ABET Program Evaluator for Cybersecurity Programs, 2018-present
ABET Program Evaluator for Information Technology Programs, 2014-present
Reviewer, Applications for designation as National Center of Academic Excellence in Cyber Defense Education, 2017-present
Mentor, Applications for designation as National Center of Academic Excellence in Cyber Defense Education, 2019-present
Contributor, Proposal for the Cybersecurity Merit Badge, Boy Scouts of America, 2016-present
Computer Networking and Systems Advisory Board, Oakton Community College, 2018-Present
Computer Information Systems Advisory Board, Triton College, 2015-Present
Dean's Panel Moderator, Illinois Technology Foundation Educator Series, 2015
National Chair, Gamma Nu Eta, the Information Management Honor Society 2012-2013
Advisory Committee, Chicago Premier CIO Forum, 2010, 2015
Computer Information Systems Advisory Board, College of DuPage, 2008-Present
Computer and Internetworking Technologies Advisory Board, College of DuPage, 2008-Present
Panelist and Speakers Bureau member, Technology Executives Club, 2008-2015
Founding Member, Council of the World Wide Web Virtual Library, 1999-2005 (The WWWVL was founded by Sir Tim Berners-Lee)

Association of Internet Professionals Certification Accreditation Council, 1999-2003
Subject Matter Expert, CompTIA iNet+ Certification, 1998-2000
United Way/Crusade of Mercy of Chicago Information Technology Committee, Chicago, Illinois 1996-1999
Naperville Area Chamber of Commerce, Naperville, Illinois 1995-1998
Member, Technology Leadership Committee and 1996 Technology Expo Planning Committee
Naval Academy Information Affiliate, United States Naval Academy, 1994-1996
Webmaster, United States Naval Academy, 1994-1996 (First webmaster for USNA)

Publications and presentations

Presentation: "Emerging Challenges in Enterprise Information Technology Security Policy", NetSecure 2010, IIT Rice Campus Wheaton, Illinois, March 4, 2010

Presentation: "Security and Trust in the Cloud", NetSecure 2011, IIT Rice Campus Wheaton, Illinois, March 25, 2011

Presentation: "Virtualization and Cloud as Disaster Recovery Solutions", ForenSecure 2012, IIT Rice Campus Wheaton, Illinois, April 19, 2012

Presentation: "Enterprise Policies for Mobile Device Security", ForenSecure 2013, IIT Rice Campus Wheaton, Illinois, April 18, 2013

Presentation: "Law Enforcement Override of Unmanned Autonomous Logistics Vehicles (Pulling over a Robotruck)", ForenSecure 2015, IIT Rice Campus Wheaton, Illinois, April 17, 2015

Presentation: "Cyber-Geography: NSA National Center of Academic Excellence in Cyber Defense Course Mapping for 2-\year programs" ForenSecure 2016, IIT Rice Campus Wheaton, Illinois, April 15, 2016

Presentation: "Comprehending the Crushing Cost of Complexity", CDM Media CIO Midmarket Summit, Chicago Illinois, October 25, 2016

Presentation: "Breaking Out the Cyber Security Workforce Framework", ForenSecure 2017, IIT Rice Campus Wheaton, Illinois, April 28, 2017

Poster Presentation: Michael H. Dunn, Robert J. Caruso, Laurence D. Merkle, and Ray Trygstad. 2018. "Proposed Cybersecurity Merit Badge for the Boy Scouts of America:" (Abstract Only). In Proceedings of the 49th ACM Technical Symposium on Computer Science Education (SIGCSE '18). ACM, New York, NY, USA, 1085-1085. DOI: https://doi.org/10.1145/3159450.3162280

Poster Presentation: Dunn, Michael & J. Caruso, Robert & T. Craven, Patrick & Frost, Lorraine & Trygstad, Ray. (2018). "Proposed Cybersecurity Merit Badge for the Boy Scouts of America." 22nd Annual Colloquium for Information Systems Security Education (CISSE). New Orleans, LA, June 2018.

Adarsh Arora

EDUCATION

Adarsh received a Ph.D. in Computer Science from Northwestern University and his work in relational database systems is quoted in standard textbooks.

ENTREPRENEURSHIP EXPERIENCE

Founder and CEO at TruAccolades Lisle, Illinois. Adarsh is a founder and CEO of TruAccolades, Reputada and Lisle Technology Partners. He was a founder and CEO of Athena Security which was acquired by Solarwinds (NYSE:SWI) in August 2012. Prior to Athena, Adarsh has created, managed and nurtured multiple successful start-ups (Peritus Software Services and Vista Technologies) to maturity, including an IPO that created a $500 million market capitalization.

Adarsh is on the Farley Center for Entrepreneurship and Innovation at the McCormick School of Engineering and Applied Science of Northwestern University. Adarsh is a founding Charter Member, Board Member and current President of TiE Midwest.

He has invested in many technology start-ups including XML Solution and AccelChip Corporation which were acquired by Vitria and Xilinx, respectively. Adarsh is a frequent speaker for entrepreneurial events offered by the Kellogg School of Management and the University of Chicago's Booth School of Business. Adarsh is a CEO Mentor at the Junto Institute for Entrepreneurial Leadership. As a member of the Chicago Mayor's Council of Technology Advisors, Adarsh was often invited to speak on the issues involved in offshore outsourcing. He is also the recipient of the 2004 Chicago Software Association's Annual City Lights Award.

WORK EXPERIENCE

TruAccolades Founder and CEO 2016 – present

"Go To" platform for students to get feedback and earn accolades on their key strengths from their teachers, mentors, professors and internship supervisors. The platform allows for the verified accolades to be showcased in their college applications, resumes, LinkedIn and other social media platforms. High school students can differentiate themselves for college admissions, and TruAccolades provides the immediate answer to the two most asked interview questions of college students: what are your core strengths and what would your professors say about you?

Reputada Inc. Founder and CEO August 2014 - Present

SaaS platform for b2b customer feedback and engagement. School of Applied Technology,

Illinois Institute of Technology Industry Professor and Coleman Entrepreneur-in-Residence August 2016 - Present

Teaching graduate level courses in Business Innovation and Information Technology Entrepreneurship. Mentoring teams launching various start-ups, simMachines, Inc. Board Director and Investor May 2015 - Present Machine Learning SaaS providing "Predictions with The Why"

Lisle Technology Partners Founder, President and CEO September 1999 - Present

LisleTech builds technologies for start-ups and takes equity in some of them. LisleTech is funded by various well-known Valley and Los Angeles based entrepreneurs.

TiE Midwest President January 2014 - June 2016

TiE fosters entrepreneurship globally through mentoring, networking, and education. Dedicated to the virtuous cycle of wealth creation and giving back to the community, TiE's focus is on generating and nurturing our next generation of entrepreneurs. With 13,000 members, including over 2,500 charter members in 57 chapters across 14 countries, TiE hosts a wide range of programs and events, including TiEcon, the largest professional and networking conference for entrepreneurs.

Athena Security Founder and CEO October 2007 - August 2012

Athena was a company in the Network Security Space and was acquired by Solarwinds (NYSE:SWI) in 2012. Athena was funded by Lisle Technology Partners.

Peritus Software Services Founder and CTO May 1996 - August 1999

Funded by Greylock and Matrix, Peritus was a leading company in the Y2K space and its IPO in 1997 was the most oversubscribed stock on NASDAQ that year. Peritus was sold to Rocket Software in 2002.

Vista Technology Founder and President February 1987 - April 1995

Vista built software to help chip design. Its VHDL and Verilog products were sold through OEM arrangements with leading design automation companies. Vista obtained multi million dollar funding from the Department of Defense including multiple SBIR awards.

PUBLICATIONS

See pages 23-24 above.

Maurice E. Dawson Jr.

Ph.D., Sc.D., SMIEEE, CSSLP, CGEIT, CCISO
Distinguished Member and Director of the Center for Cyber Security and Forensics Education (C²SAFE), Assistant Professor of Information Technology and Management within the School of Applied Technology at Illinois Institute of Technology, Senior IEEE Member, & Fulbright Scholar (3x)

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Personal Email: maurice.e.dawson@gmail.com
IEEE Email: maurice.dawson@ieee.org

Education

London Metropolitan University — London, England (UK)
Doctor of Philosophy — November 2017

Colorado Technical University — Colorado Springs, CO (USA)
Master of Business Administration — December 2010

Colorado Technical University — Colorado Springs, CO (USA)
Doctor of Computer Science; Ent. Info. Systems — September 2009

Colorado Technical University — Colorado Springs, CO (USA)
Master of Science; Major: Management, Concentration: Information Systems Security — June 2006

Athens State University — Athens, AL (USA)
Bachelor of Science; Major: Applied Technology, Concentration: Information Systems — May 2004

Academic & Research Experience

Illinois Institute of Technology — Chicago, IL
Assistant Professor (Tenure Track) & Director — *Aug 2018 - Present*
Serving as as faculty in the Information Technology & Management (ITM) department under the School of Applied Technology. I joined as an assistant professor in the ITM department primarily focused on cybersecurity and forensics education. Additionally, I also serve as the Director and Distinguished Member of the Illinois Tech Center for Cyber Security and Forensics Education (C²SAFE) which a National Center of Academic Excellence in Cyber Defense Education. ForenSecure'19: Cyber Forensics and Security Conference and Expo is an activity of the C²SAFE.

Technical University of Munich — Munich, Germany
Visiting Assistant Professor — *Mar 2019 – Present*
Serve as a visiting professor in the Department of Informatics over two trips this year—one in March and the other in August—at the invitation of TUM Professor Helmut Krcmar, the chair for information systems. Also will work with researchers outside of information systems and explore the impact of international affairs on research collaboration and faculty- and student-exchange agreements. TUM was rated among the top 80 global universities in 2019 by *Times Higher Education's* World University Rankings and *U.S. News & World Report's* Best Global Universities.

University of Missouri-St. Louis St. Louis, MO
Assistant Professor (Tenure Track) *Aug 2014 – Aug 2018*
Served as an Assistant Professor of Information Systems – Cyber Security with the role of developing a Center of Excellence for Cyber Security. Additional role includes obtaining degree accreditation with Committee on National Security Standards (CNSS), and preparation to become a National Security Agency (NSA) & Department of Homeland Security (DHS) Center of Academic Excellence (CAE). Acted as the POC directly to the NSA. Developing innovative coursework such as software assurance and advanced cyber security principles. Received a research fellowship through the American Policy & Leadership Foundation (ALPF) as a Senior Research Fellow, received 2 International Studies & Program (ISP) Fellowship awards, and awarded 3 Fulbright Scholar Scholar Specialist grants. Currently an International Business (IB) Research Associate in the UMSL International Business Institute (IBI). View additional details found at the Cybersecurity and Information Technology Innovation Lab (CITIL). Setup up agreement with Winrock International for students to participate in the Farmers to Farmers (F2F) Program with United States Agency for International Development (USAID). Total awards are over $25,000.00 USD for four students to participate in various IS projects in Senegal, and Guinea. The projects range from computer training to database development for the Ministry of Agriculture.

Polytechnic University of Puerto Rico San Juan, Puerto Rico
Visiting Scholar *Jan 2016 - Present*
Serving as a Visiting Scholar for computer science and cyber security. Affiliation will be in the Department of Electrical & Computer Engineering and Computer Science (ECECS) with the Center of Information Assurance for Research and Education (CIARE) in Puerto Rico.

Pontificia Universidad Católica Madre y Maestra
Santo Domingo, Dominican Republic
Visiting Scholar *Jun 2017 - Present*
Serving as a Visiting Scholar for cyber security. Affiliation is in the Ingeniería de Sistemas y Computación in the Faculty of Engineering.

University of Nairobi Nairobi, Kenya
Visiting Scholar *Mar 2016 - Apr 2016*
Served as a Visiting Scholar for computer science and cyber security. Conducted research on the impact of cyber security in the East African Federation (EAF).

University of Rajshahi Rajshahi, Bangladesh
Fulbright Scholar *Feb 2016 - Mar 2016*
Served as a visiting faculty member in the Faculty of Engineering at the University of Rajshahi to conduct seminar on cyber security. Work was completed under Project #6296. (Postponed due to security concerns identified by the security advisor to the U.S. Embassy).

South State Ural University Chelyabinsk, Russian Federation
Fulbright Scholar *Sep 2015 - Sep 2015*
Served as a visiting faculty member in the Faculty of Computational Mathematics and Informatics at South Ural State University. The focus of my visit was on Business Intelligence (BI) and data analytics. This seminar was given to graduate students in computer science. Work was completed under Project #5824.

The University of the Gambia Serekunda, The Gambia
Visiting Scholar *Mar 2014 - Mar 2015*
Served as a Visiting Scholar for computer science and cyber security. Lead with the development of computing programs for university. Hosted two major conferences for the university that received national attention on media.

Alabama A&M University Normal, AL
Assistant Professor (Tenure Track) *Aug 2011 - May 2014*
Served as an Assistant Professor of Management Information Systems (MIS) . Serving on committees for academic research, Faculty Senate, and Open Source Software (OSS) implementation with the university. Creator of the bachelor's degree in Information Systems to include degree accreditation by the Canadian Information Processing Society (CIPS), CNSS, and preparation to become a NSA & DHS CAE. Serving on the academic research committee for the Department of Marketing & Management for the College of Business & Public Affairs. Also teaching in the MBA program as a graduate faculty member of the College of Graduate Studies.

University of Tennessee Knoxville, TN
Visiting Assistant Professor (Honorary) *2014 – 2014*
Served as a Visiting Assistant Professor of Industrial and Systems Engineering at the University of Tennessee Space Institute (UTSI).

Intellectbase International Consortium Nashville, TN
Research Associate (Voluntary) *2010 – 2015*
Serving as the editor for the Journal of Information Systems Technology & Planning (JISTP) ISSN 1945-5259. Other responsibilities include serving on the Executive Editorial Board (EEB) and journal reviewer for multiple referred journals. In my role as a research associate I chair and co-chair international conferences with a significant representation of international scholars from around the world. We conduct round tables, lead seminars, and workshops on research to ensure that the participating academics get a full understanding of research needs in their respective institution. The organization hosts conferences in several states, Puerto Rico, South Africa, Malaysia, Thailand, and Australia.

Colorado Technical University Colorado Springs, CO
Dissertation Chair: Computer Science *2010 - Present*
Serving as a doctoral dissertation mentor/reader for students within the Doctor of Computer Science (DCS) degree program within the College of Engineering and Computer Science. Duties include ensuring doctoral student is on the correct path for technical research, assisting student by providing technical expertise, and mentoring of topics relating to Cyber Security, Reverse Engineering, Certification & Accreditation (C&A), Cloud Computing, Serving Oriented Architecture (SOA), Simulation, Intelligence, and Forensics.

Morgan State University Baltimore, MD
Research Associate & Adjunct Faculty *2010 - 2011*
Primary role within the university was as a Senior Researcher and Adjunct Professor in the School of Engineering. Tasked with the content development, course management, and course delivery. Also taught in the School of Business's department of Information Sciences and Systems in the Master of Science in Project Management program which is AACSB accredited. I was tasked with increasing the publication count among faculty, administrators, and students. This was done through

consultation and seminars given on the topic of systems engineering. The IEGR 501: Introduction to Advanced Systems Engineering course was revamped to meet the guidelines for the International Council of Systems Engineers (INCOSE) and maintain college accreditations such as ABET.

Industry Work Experience

Reynolds Research Technology Corporation Huntsville, AL
Chief Information Officer *2011 - 2014*
Serving as the Chief Information Offer (CIO) with responsibility for engineering processes, providing executive leadership and strategic guidance. Additional responsibilities include expanding the DoD sector business, and international efforts. Position is unpaid and tied to Alabama A&M University.

Textron Systems – AAI UAS Division Hunt Valley, MD
Engineering Manager *2010 - 2011*
Served as AAI's Information Assurance (IA) and Network Product Line Manager responsible for overseeing the efforts of a Network and IA staff to design, develop, engineer, and implement solutions to network and security requirements across a 2000+ engineering oriented organization. Analyze user needs to determine functional and cross-functional requirements. Performed functional allocations and identify resources required for each task. Provided support for facilitating and identifying current security infrastructure and define future programs, design, and implementation of security related to network driven systems. Assessed and mitigated system security threats/risks throughout the program life cycle; validated system security design in hardware, software, data, and procedures; verified security requirements; performed system certification and accreditation planning and testing and liaison activities, and supports secure systems operations and maintenance. Other responsibilities included risk assessments and IA trade studies. Managed organization supported the Unmanned Air Systems (UAS), Intelligence Surveillance & Reconnaissance (ISR), Small Unmanned Air Systems (SUAS), Simulation & Training, and Services divisions.

Future Research Corporation Huntsville, AL
Executive Information Assurance Lead/Director *2008 - 2009*
Served as the Information Assurance (IA) Subject Matter Expert (SME) for the entire company with full responsibility of profit and loss for organization working across multiple DoD programs. Executive Level Manager/Engineer that contributes to the development and analysis of new principles, concepts, and system architectures specifically in the areas of Information Assurance / Systems Security Engineering and Intelligence. Fully responsible for executing the IA discipline as practiced by the U.S. Department of Defense per DoDI 8500.1/2. Additional duties include business development and capture for the company. Through this task a Small Business Innovative Research (SBIR) contract was secured from the Air Force Research Laboratory (AFRL) to perform work of visualization of cyber security defense.

Rockwell Collins Huntsville, AL; Cedar Rapids, IA
Senior Program Manager *2006 - 2008*
Lead Program Manager for Silent Knight Radar (SKR) for which is approximately a $7 million contract with estimate of thirty matrix resources. Also lead Program Manager of a group of 3 engineers at an offsite facility to include a total group of an estimated ten matrix resources. Responsible for directing all internal and external tasks associated with program execution for the Aviation Systems Integration

Facility (ASIF) program with budget of at least $2 million dollars. Managed Special Operational Aircraft (SOA) Common Avionics Architecture Systems (CAAS) hardware portfolio for $15 Million in addition to the SKR contract. In this position I also worked with business development to obtain funding for special projects that could assist the SOA portfolio securing future business. Served on the corporate diversity board which consisted of 14 representatives for the entire company. In this additional role I was responsible for creating and implementing a plan to recruit, retain, and empower diverse candidates for the Government Systems (GS) division.

Rockwell Collins Cedar Rapids, IA
Senior Systems Engineer *2005 - 2006*
Senior System Engineer that worked in the Government Systems Advanced Technology Information Security group to perform systems engineering tasks in the areas of information assurance and information security. Ensure that system security requirements are understood and that the system requirements are flowed down to hardware, software and ASIC engineering groups. Additionally, I helped to ensure that the system requirements are correctly implemented into the overall system architecture. I was also involved with briefing and interfacing directly with other Rockwell Collins business areas, external customers as well as the National Security Agency (NSA) and Defense Intelligence Agency (DIA) on a variety of design and security related issues. Served as the Current Force IA Systems Lead for Future Combat Systems for Rockwell Collins to include having a lead role on Future Force IA Network Components.

United States Navy Reserves Minneapolis, MN
Cryptographic Technician *2005 - 2008*
Used a combination of technical knowledge and analysis skills to fuse together information from various sources to provide the Operational Commanders with the situational awareness needed to plan and execute Information Operation Courses of actions/counter-actions. Performed Network Target Development; Software Analysis and Development; Network Access/Attack Operations; Red and Blue Team Operations; Indications & Warning; Attack Sensing & Warning; Vulnerability Assessments; and Network Attack Diagnostics. Intelligence work was done with other Intelligence Community (IC) members such as Coast Guard Intelligence, Air Force Intelligence, Army-Military Intelligence, Marine Corps Intelligence, and Defense Intelligence Agency (DIA).

United States Army Reserves/Guard Ft. Hood; Redstone Arsenal; Cedar Rapids, IA
Senior Systems Analyst *2000 - 2005*
Isolate malfunctions; assist in design and testing of computer programs; drafts technical documentation. Configure equipment to meet operational needs; performs senior operator and systems administrator duties; compiles productions statistics; conducts training; writes, tests, and modifies computer programs; drafts operating manuals; troubleshoots software. MOSs held are the following; 1. 25B10: Information Technology Specialist, 2. 25C10: Radio Operator-Maintainer.

British Aerospace Engineering (BAE) Systems Huntsville, AL
Information Assurance Engineer *2004 - 2004*
Responsibilities were developing and implementing certification and accreditation support for several Department of Defense programs. Reviewed and developed security documents to support the C&A process. Worked the program Sea Based X-

band Radar Systems (SBX) for Missile Defense Agency (MDA) and Ground Mid-Course Defense (GMD) as the Certification Lead and sole requirements capturer in the Systems Security Authorization Agreement (SSAA).

PUBLICATIONS

Research Books

1. Dawson, M., Eltayeb, M., & Omar, M. (2016). Security Solutions for Hyperconnectivity and the Internet of Things (pp. 1-347). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0741-3
2. Dawson, M., Kisku, D. R., Gupta, P., Sing, J. K., & Li, W. (2016). Developing Next-Generation Countermeasures for Homeland Security Threat Prevention (pp. 1-428). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0703-1
3. Dawson, M., & Omar, M. (2015). New Threats and Countermeasures in Digital Crime and Cyber Terrorism (pp. 1-368). Hershey, PA: IGI Global. doi:10.4018/978-1-4666-8345-7

Book Chapters

1. Omar, M., Mohammed, D., Nguyen, V., Dawson, M., & Banisakher, M. (2019). Android Application Security. In *Applying Methods of Scientific Inquiry Into Intelligence, Security, and Counterterrorism* (pp. 46-67). IGI Global.
2. Dawson, M., Omar, M., Abramson, J., & Bessette, D. (2019). The Future of National and International Security on the Internet. In I. Management Association (Ed.), *Cyber Law, Privacy, and Security: Concepts, Methodologies, Tools, and Applications* (pp. 1666-1696). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-8897-9.ch081
3. Wang, P., Dawson, M., & Williams, K. L. (2019). Improving Cyber Defense Education Through National Standard Alignment: Case Studies. In I. Management Association (Ed.), *National Security: Breakthroughs in Research and Practice* (pp. 78-91). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-7912-0.ch005
4. Dawson M., Wang P., Williams K. (2018) The Role of CAE-CDE in Cybersecurity Education for Workforce Development. In: Latifi S. (eds) Information Technology - New Generations. Advances in Intelligent Systems and Computing, vol 738. Springer, Cham
5. Dawson, M., Omar, M., Abramson, J., Leonard, B., & Bessette, D. (2018). Battlefield Cyberspace: Exploitation of Hyperconnectivity and Internet of Things. In I. Management Association (Ed.), *Virtual and Augmented Reality: Concepts, Methodologies, Tools, and Applications* (pp. 1553-1584). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-5469-1.ch073
6. Dawson, M. (2018). A Brief Review of New Threats and Countermeasures in Digital Crime and Cyber Terrorism. In I. Management Association (Ed.), *Cyber Security and Threats: Concepts, Methodologies, Tools, and Applications* (pp. 173-180). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-5634-3.ch010
7. Leonard, B., & Dawson, M. (2018). Legal Issues: Security and Privacy with Mobile Devices. In I. Management Association (Ed.), *Cyber Security and Threats: Concepts, Methodologies, Tools, and Applications* (pp. 1352-1361). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-5634-3.ch067

8. Dawson, M. (2017). Cyber Security Policies for Hyperconnectivity and Internet of Things: A Process for Managing Connectivity. In *Information Technology-New Generations* (pp. 911-914). Springer, Cham.
9. Dawson, M., Lieble, M., & Adeboje, A. (2017). Open Source Intelligence: Performing Data Mining and Link Analysis to Track Terrorist Activities. In *Information Technology-New Generations* (pp. 159-163). Springer, Cham.
10. Dawson, M., Burton, S. L., Bessette, D., & Wright, J. (2017). Massive Open Online Courses and Integrating Open Source Technology and Open Access Literature Into Technology-Based Degrees. In M. Khosrow-Pour, D.B.A. (Ed.), Encyclopedia of Information Science and Technology, Fourth Edition (pp. 7898-7911). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-2255-3.ch687
11. Dawson, M. (2016). Exploring Secure Computing for the Internet of Things, Internet of Everything, Web of Things, and Hyperconnectivity. In M. Dawson, M. Eltayeb, & M. Omar (Eds.) Security Solutions for Hyperconnectivity and the Internet of Things (pp. 1-12). Hershey, PA: Information Science Reference. doi:10.4018/978-1-5225-0741-3.ch001
12. Cardenas-Haro, J. A., & Dawson, M. (2016). Tails Linux Operating System: The Amnesiac Incognito System in Times of High Surveillance, Its Security Flaws, Limitations, and Strengths in the Fight for Democracy. In M. Dawson, M. Eltayeb, & M. Omar (Eds.) Security Solutions for Hyperconnectivity and the Internet of Things (pp. 260-271). Hershey, PA: Information Science Reference. doi:10.4018/978-1-5225-0741-3.ch010
13. Dawson, M., & Adeboje, W. (2016). Islamic Extremists in Africa: Security Spotlight on Kenya and Nigeria. In M. Dawson, D. Kisku, P. Gupta, J. Sing, & W. Li (Eds.) Developing Next-Generation Countermeasures for Homeland Security Threat Prevention (pp. 93-103). Hershey, PA: Information Science Reference. doi:10.4018/978-1-5225-0703-1.ch005
14. Dawson, M., Omar, M., Abramson, J., Leonard, B., & Bessette, D. (2016). Battlefield Cyberspace: Exploitation of Hyperconnectivity and Internet of Things. In M. Dawson, D. Kisku, P. Gupta, J. Sing, & W. Li (Eds.) Developing Next-Generation Countermeasures for Homeland Security Threat Prevention (pp. 204-235). Hershey, PA: Information Science Reference. doi:10.4018/978-1-5225-0703-1.ch010
15. Davis, L., Dawson, M., & Omar, M. (2016). Systems Engineering Concepts with Aid of Virtual Worlds and Open Source Software: Using Technology to Develop Learning Objects and Simulation Environments. In F. Neto, R. de Souza, & A. Gomes (Eds.)Handbook of Research on 3-D Virtual Environments and Hypermedia for Ubiquitous Learning (pp. 483-509). Hershey, PA: Information Science Reference. doi:10.4018/978-1-5225-0125-1.ch020
16. Dawson, M., Wright, J., & Omar, M. (2016). Mobile Devices: The Case for Cyber Security Hardened Systems. In Mobile Computing and Wireless Networks: Concepts, Methodologies, Tools, and Applications (pp. 1103- 1123). Hershey, PA: Information Science Reference. doi:10.4018/978-1-4666-8751-6.ch047

Eltayeb, M., & Dawson, M. (2016). Understanding User's Acceptance of Personal Cloud Computing: Using the Technology Acceptance Model. In *Information Technology: New Generations* (pp. 3-12). Springer International Publishing.

17. Studdard, N., Dawson, M., Burton, S. L., Jackson, N., Leonard, B., Quisenberry, W., & Rahim, E. (2016). Nurturing Social Entrepreneurship and Building Social Entrepreneurial Self-Efficacy: Focusing on Primary and Secondary Schooling to Develop Future Social Entrepreneurs. In Z. Fields (Ed.), Incorporating Business Models and Strategies into Social Entrepreneurship (pp. 154-175). Hershey, PA: Business Science Reference. doi:10.4018/978-1-4666-8748-6.ch010
18. Dawson, M. (2015). A Brief Review of New Threats and Countermeasures in Digital Crime and Cyber Terrorism. In M. Dawson, & M. Omar (Eds.) New Threats and Countermeasures in Digital Crime and Cyber Terrorism (pp. 1-7). Hershey, PA: Information Science Reference. doi:10.4018/978-1-4666-8345-7.ch001
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1. October 2011. Maurice Dawson, Darrell Burrell, & Daniel Sampson. Using Virtual Worlds to Teach Event Planning. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA [a]

2. October 2011. Darrell Burrell, Emad Rahim, Khuram Hussain, Maurice Dawson, & Aikyna Finch. The Future of Doctoral Education for Educational Administrators in Leadership and Critical Thinking. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
3. October 2011. Augustine Dike, & Maurice Dawson. Emerging Need for Cyber Security in Sub-Saharan Africa. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA [a]
4. October 2011. Daniel Sampson, & Maurice Dawson. Leveraging Virtual Worlds for Event Planning. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA [a]
5. October 2011. Maurice Dawson. Virtual Worlds for Limited Prototyping, Testing, and Training of Health Information Technology Systems. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA [a]
6. October 2011. Maurice Dawson, James Truesdale, & Joshua Robinson. Importance of the Strategic & Operation Plans Under the State Cooperative Agreement. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA [a]
7. October 2011. Jeffrey Stevens, Festus Onyegbula, & Maurice Dawson. Competency Cluster Validation: An Empirical Study. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
8. August 2011. Darrell Burrell, Maurice Dawson, Andrea Todd. Developing the Next Generation of Women and Minority Scientists for the Nuclear Energy Industry. The Science in Society Conference 2011, Washington D.C.
9. August 2011. Aikyna Finch, Maurice Dawson, Darrell Burrell, & Emad Rahim. Assessment Learning Considerations for Online Programs in Environmental Science and Sustainability. The Science in Society Conference 2011, Washington D.C.
10. July 2011. Darell Burrell, Aikyna Finch, Blanche Lune, Emad Rahim, & Maurice Dawson. A Theoretical Evaluation of Charter Schools in the Development of Student Change Agents that are Knowledgeable about Sustainability, Environmental Education, and Environmental Public Health that can be Effective in Green STEM Opportunities. Intellectbase International Consortium (IIC). Academic Conference, San Juan, PR
11. July 2011. Maurice Dawson, & Larry McDaniel. Increasing Involvement in the Systems Development Group. Allied Academies 2011 Summer International Internet Conference.
12. July 2011. Maurice Dawson, Emad Rahim, Larry McDaniel, & Darrell Burrell. Increasing Numbers Amongst Faculty in the Business School. Allied Academies 2011 Summer International Internet Conference. [a]
13. July 2011. Maurice Dawson, & Aikyna Finch. Social Networking as a Tool to Recruit Employees. Allied Academies 2011 Summer International Internet Conference. [a]
14. May 2011. Maurice Dawson, Laura Richeerzhagen, Larry McDaniel, and Barcus Jackson. Open Source Software to Assist Lower Scio Economic K-12 Schools. Academic Business World International Conference and International Conference on Learning and Administration in Higher Education – ABWIC & ICLAHE, Nashville, TN [a] – Excellence in Presentation Award out of 171 Presentations

15. May 2011. Maurice Dawson, Barcus Jackson, and Darrell Burrell. Creating the Management Information System Degree of the Future. Academic Business World International Conference and International Conference on Learning and Administration in Higher Education – ABWIC & ICLAHE, Nashville, TN [a] – Excellence in Presentation Award out of 171 Presentations
16. May 2011. Darrell Burrell, and Maurice Dawson. Emerging Entrepreneurial Options Doctoral Degree Graduates: An Applied Research Exploration of Six Figure Incomes Made From Teaching Online. Academic Business World International Conference and International Conference on Learning and Administration in Higher Education – ABWIC & ICLAHE, Nashville, TN [a] – Excellence in Presentation Award out of 171 Presentations
17. May 2011. Darrell Burrell, and Maurice Dawson. An Exploration of Creative Teaching Approaches Required to Energize Working Adult Undergraduate and All Graduate Students. Academic Business World International Conference and International Conference on Learning and Administration in Higher Education – ABWIC & ICLAHE, Nashville, TN [a]
18. May 2011. Darrell Burrell, and Maurice Dawson. An Applied Assessment of the Critical Value of Developing Publishing Strategies. Academic Business World International Conference and International Conference on Learning and Administration in Higher Education – ABWIC & ICLAHE, Nashville, TN [a]
19. May 2011. Darell Burrell, http://repository.londonmet.ac.uk/1282/Aikyna Finch, Maurice Dawson, & Joann Fisher. The Use of Case Studies, Videos, New Teaching Approaches, and Storytelling in Classroom Teaching to Improve the Learning Experiences for Millennial Graduate Students. Intellectbase International Consortium (IIC). Academic Conference, Nashville, TN [a]
20. May 2011. Brittny Thompson, Maurice Dawson, & Darrell Burrell. Addressing the Lack of Minority Women in Senior Leadership Position in the Federal Government. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Nashville, TN [a]
21. May 2011. Joshua Robinson, & Maurice Dawson. Utilization of Open Source Software (OSS) Tools to Alleviate a Project's Cost. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Nashville, TN [a]
22. May 2011. Festus Onyegbula, Maurice Dawson, & Jeffrey Stevens. Factors Affecting Cloud Computing Acceptance in Organizations: From Management to the End-Users' Perspectives. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Nashville, TN [a]
23. May 2011. William Emanuel, Corey Dickens, & Maurice Dawson. Applying Object Orientated Analysis Design to the Greater Philadelphia Innovation Cluster (GPIC) for Energy Efficient Buildings. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Nashville, TN [a]
24. May 2011. Maurice Dawson, Miguel Crespo, & Darrell Burrell. Developing the Next Generation of Cyber Warriors and Intelligence Analysts. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Nashville, TN [a]

25. March-April 2011. Maurice Dawson, Darrell Burrell, & William Emanuel. Utilization of e-Learning Tools, Virtual Machines, & Open Source Software to Enhance Graduate Systems Engineering Programs. Global Learn: Asia Pacific 2011: Global Conference on Learning and Technology, Melbourne, Australia
26. March-2011. Maurice Dawson, Miguel Crespo, Shana Worley, & Darrell Burrell. Understanding the DoD 8570 Mandate And Its Impact on Employees & Curriculum Development. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, San Antonio, TX [a]
27. March-2011. Raul Valdez, & Maurice Dawson. Teaching & Learning Systems Engineering Concepts through Second Life (SL). International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, San Antonio, TX [a]
28. March-2011. Joshuwa Robinson, & Maurice Dawson. Using the Graduate Project Management Program to Develop & Deploy Intelligence, Surveillance, Reconnaissance, (ISR) for the Reserve Officer Training Corps (ROTC). International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, San Antonio, TX [a]
29. March-2011. Marwan Omar, Maurice Dawson, & Jeffrey Stevens. Securing the Mobile Device: Defending Android Based Smart Phones Against Emerging Malware Attacks. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, San Antonio, TX
30. March-2011. Festus Onyegbula, Maurice Dawson, & Jeffrey Stevens. Dissecting the Cloud Computing Environment: A Case Study for Deploying Cloud Computing Solutions for the National Institute of Food and Agriculture, an Agency of the United States Department of Agricultures. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, San Antonio, TX
31. February 2011. Maurice Dawson. Applicability of Web 2.0 for Tactical Military Applications. Global Conference on Technology, Innovation, Media, & Education – Global TIME, Academic Conference, Virtual
32. October 2010. Maurice Dawson, Darrell Burrell, Emad Rahim, and Stephen Brewster. Secure Software Development Lifecycle. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
33. October 2010. Maurice Dawson, Darrell Burrell, and Emad Rahim. The Relationship between Organizational Theory & Behavioral Theory. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
34. October 2010. Maurice Dawson, Darrell Burrell, Emad Rahim, and Stephen Brewster. Emerging Need of a Chief Information Security Officer (CISO). International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
35. October 2010. Stephen Brewster and Maurice Dawson. The Role of the Program Manager within Software Assurance. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA

36. October 2010. Emad Rahim, Darrell Burrell, and Maurice Dawson. Nonprofit Employee Professional Development Strategy: An Application for Action Research. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
37. October 2010. Emad Rahim, Darrell Burrell, and Maurice Dawson. Emerging Trends in Organizational Behavioral Perspectives: A Programmatic Framework for Further Exploration. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
38. October 2010. Darrell Burrell, Emad Rahim, Maurice Dawson, and Brian Grizzell. An Applied Research Analysis of the Value of Servant Leadership in Modern Government. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
39. October 2010. Darrell Burrell, Maurice Dawson, and Emad Rahim. Addressing the Growing Shortage of Business School Faculty and Instructor Diversity through Non-Traditional University and Non-Traditional Doctoral Programs. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
40. October 2010. Aikyna Finch, Darrell Burrell, Walker, Emad Rahim, and Maurice Dawson. The Contextual Impact of How the Worldwide Economic Crisis Creates a Need for Organizational Learning and Innovative Cultures at Colleges and Universities in the U.S.. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
41. October 2010. Darrell Burrell, Brian Grizzell, Maurice Dawson, and Emad Rahim. An Evolved Context of What MBA Program Curriculum Should Include to Develop Relevant Managerial Competencies in the Generation Y Manager. International Handbook of Academic Research and Teaching. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
42. May 2010. Maurice Dawson, Darrell Burrell, and Emad Rahim. Deeper Look into Poor Alignment Between IT and Business Alignment. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
43. May 2010. Maurice Dawson, Darrell Burrell, and Emad Rahim. Deep Dive into Understanding the Theory of Military Organization, Military Leadership, Skill Transfer, Aspects of Program Management, and Decision Support Systems. Intellectbase International Consortium (IIC). Academic Conference, Atlanta, GA
44. May 2010. Maurice Dawson, Darrell Burrell, and Emad Rahim. Framework for Effective Transitional Leadership in Defense & Aerospace. Intellectbase International Consortium (IIC). Academic Conference, Nashville, TN
45. May 2010. Darrell Burrell, Maurice Dawson, and Emahd Rahim. Using Telework Programs to Assist with Generation Y Employee Retention. Academic Business World International Conference and International Conference on Learning and Administration in Higher Education – ABWIC & ICLAHE, Nashville, TN [a]
46. May 2010. Darrell Burrell, Brian Grizzell, Emad Rahim, and Maurice Dawson. An Applied Analysis of the MBA of the Future in the Post Enron and AIG World. Academic Business World International Conference and International Conference on Learning and Administration in Higher Education – ABWIC & ICLAHE, Nashville, TN [a]

47. May 2010. Darrell Burrell, Maurice Dawson, and Emad Rahim. An Organizational Practice Oriented Case Study of the Ethical Managerial Communications and Organizational Change Issues of Technology Integration in a US Government Agency. Academic Business World International Conference and International Conference on Learning and Administration in Higher Education – ABWIC & ICLAHE, Nashville, TN [a]
48. March 2010. Emad Rahim and Maurice Dawson. IT Project Management Best Practices in an Expending Market. Intellectbase International Consortium (IIC). Academic Conference, Houston, TX

White Papers & Non-referred Articles

1. Dawson, M. (2017) Creating Intelligence Analysis Profiles from IoT Data, Applied Wireless Technology, 1 (4), 51-53
2. Dawson, M., Al Saeed, I., & Leonard, B. K. (2015) Open Source Software for Learning Technologies in Higher Education
3. Rahim, E., & Dawson, M. (2013) Information Technology and Project management: How To Avoid Failure and Achieve Project Success

Conference Co-Chairs & Sessions Chairs

1. May 2013, Academic Business World International Conference (ABWIC). Session Char. Nashville, TN
2. December 2012. Intellectbase International Consortium (IIC). Conference Co-Chair. Academic Conference, Las Vegas, NV
3. April 2012. Intellectbase International Consortium (IIC). Executive Session Chair. Academic Conference, San Antonio, TX
4. April 2012.Allied Academic. Session Chair. Academic Conference, New Orleans, NO
5. October 2011. Intellectbase International Consortium (IIC). Conference Co-Chair. Academic Conference, Atlanta, GA
6. March 2011. Intellectbase International Consortium (IIC). Conference Co-Chair. Academic Conference, San Antonio, TX
7. .October 2010. Intellectbase International Consortium (IIC). Session Chair. Academic Conference, Atlanta, GA
8. May 2010. Intellectbase International Consortium (IIC). Session Chair. Academic Conference, Nashville, TN

Talks & Keynotes

1. November 2018. Maurice Dawson,
   STLCYBERCON2018. University of Missouri-St. Louis.
   CTRL, Search, Exploit, and Destroy, St. Louis, MO
2. November 2017. Maurice Dawson,
   STLCYBERCON2017. University of Missouri-St. Louis.
   Hacking, Privacy and Security in a Hyperconnected
   Society, St. Louis, MO

3. September 2017. Maurice Dawson, Cyber Security Architectural Needs in the Era of Internet of Things and Hyperconnected Systems, 10th Annual International Academy of Strategic Management Conference, Tokyo, Japan
4. March 2017. Maurice Dawson, Midwest Digital Marketing Conference. Hacking, Privacy and Security in a Hyperconnected Society, St. Louis, MO
5. December 2016. Maurice Dawson, St. Louis Unix Users Group, Security Solutions for Hyperconnectivity and the Internet of Things, St. Louis, MO
6. November 2016. Maurice Dawson, STLCYBERCON2016. University of Missouri-St. Louis. Speaker. Technological Advancements for Intelligence Collection, Analysis, and Dissemination, St. Louis, MO
7. October 2016. Maurice Dawson, Secure World 2016, Security Solutions for Hyperconnectivity and the Internet of Things, St. Louis, MO
8. September 2016. Maurice Dawson Saint Louis Association of IT Professionals. St. Louis, MO
9. September 2016. Maurice Dawson. Panelist at IS Mentoring Club Meeting. St. Louis, MO
10. May2016. Maurice Dawson, Polytechnic University of Puerto Rico, Security Solutions for Hyperconnectivity and the Internet of Things, San Juan, Puerto Rico
11. March 2016. Maurice Dawson, Africa Hackon, Security Solutions for Hyperconnectivity and the Internet of Things, PwC Building, Nairobi, Kenya
12. November 2015. Maurice Dawson, STLCYBERCON2015. University of Missouri-St. Louis. New Threats and Countermeasures in Digital Crime and Cyber Terrorism, St. Louis, MO
13. April 2015. Maurice Dawson, Information Systems Career Conference. University of Missouri-St Louis. Panel Speaker, St. Louis, MO
14. April 2015 Maurice Dawson. Privacy in the Digital Age: April 2016, 2015. The World Affairs Council of St. Louis – Great Decisions Inspiring Learning About The World, St. Louis, MO
15. October 2012. Maurice Dawson. Utilization of Open Source Software. Colorado Technical University, Keynote Speaker for Computer Science Doctoral Symposium, Colorado Springs, CO
16. July 2012. Maurice Dawson. Utilization of Open Source Software. Colorado Technical University, Keynote Speaker for Computer Science Doctoral Symposium, Colorado Springs, CO
17. February 2011. Maurice Dawson. Systems of Systems Engineering. Morgan State University, Baltimore, MD
18. September 2010. Maurice Dawson and Miguel Crespo. Software Assurance. Program Management Office (PMO) Unmanned Air Systems (UAS) Information Assurance (IA) Summit, Huntsville, AL
19. June 2010. Maurice Dawson. Cyber Security. Executive Leadership Forum-Technology Transfer Project (ELF-TTP), Ft. Lauder, FL
20. June 2010. Maurice Dawson and Ian Redzic. Information Assurance (IA). University of Maryland University College (UMUC), Adelphi, MD

International Symposiums & Conferences Chaired

1. March 2015. West Africa Symposium on Technology, Science, Sustainability, and Computing. Banjul, Gambia. Media at http://allafrica.com/stories/201504030905.html , http://standard.gm/site/news/6530-Kah-sayssoftware-more-valuable-than-oil-discovery.html and http://observer.gm/ict-continues-to-attract-young-mindssays-utg-vc/
2. March 2014. Positive Use of Technology and Science (PUTS). Banjul, Gambia

Advisory Boards

1. April 2012-Present. Master of Business Administration (MBA) Advisory Board Member at Colorado Technical University (CTU), Colorado Springs, CO.
2. February 2011-January 2012. Doctor of Business Administration (DBA) Advisory Board Member at Virginia International University (VIU), Fairfax, VA.

Editorial Review Board & International Advisory Board

1. June 2015-Present. International Journal of Productivity Management and Assessment Technologies
2. July 2015-Present. International Journal of ICT Research in Africa and the Middle East
3. March 2010-April 2014. Intellectbase International Consortium

Editor-in-Chief

1. 2019 - Present, International Journal of ICT Research in Africa and the Middle East - guest editor
2. 2016 - Present. International Journal of Hyperconnectivity and Internet of Things - editor-in-chief
3. 2014 - 2016. Journal of Information Systems Technology & Planning –associate editor
4. 2013 - 2014. The International Journal of Technology, Knowledge & Society, Volume 9 – associate editor
5. 2013 - 2014. The International Journal of Science in Society, Volume 5– associate editor
6. January 2013 - Present. International Journal of Science in Society ISSN: – associate editor
7. January 2011 - December 2013. Journal of Information Systems Technology & Planning -editor

Academic Journal Reviewer

1. April 2012 – Present. International Journal of Systems of Systems Engineering
2. April 2012 – Present. International Journal of Critical Infrastructure
3. April 2012 – Present. International Journal of Cyberspace Sciences and Emergency Management
4. December 2012-Present. The International Journal of Science in Society
5. December 2012-Present. The International Journal of an Emerging Transdiscipline

6. December 2011-Present. Journal of Technology Management & Innovation
7. December 2011-Present. KCA Journal of Business Management
8. December 2011-July 2012. Journal of International Students
9. July 2011-Present. Indian Journal of Commerce and Management Studies

Community Service

1. July 2010. Maurice Dawson. National Urban League, Washington D.C. Centinental: 100@100 Event

Professional Workshops

1. September 2013. Using Open Source Software (OSS) to Enhance your Small Business through the Program for Investment in Microentrepreneurs (PRIME) – presenter
2. July 2013. Increasing Productivity for Engineers Using Open Source Software Workshop through the Program for Investment in Microentrepreneurs (PRIME) - presenter
3. April 2012. AACSB Workshop at Allied Academies-participant

Scholarships/Grants/Fellowships

1. December 2017 - January 2018. $5,000.00, Title: Mobile Banking System, Assignment Number: ET103, Location: Addis Ababa, Ethiopia: Volunteer Assignment with Catholic Relief Services/USAID – awarded **[Catholic Relief Services/USAID]**
2. March - April 2018 & December 2017. $19,980.00, Fulbright Scholar Specialist Project ID: FSP-P000654, Host: Prince Sultan University, Riyadh, Saudi Arabia, Grant Length: 28 days, Principle Investigator – awarded **[U.S. Department of State's Bureau of Educational and Cultural Affairs]**
3. January 2017. $5,000.00, Title: Training-of-Trainers in Management Accounting Tools for the Horticulture Initiation Center of Saint Louis (CIH SL), Assignment Number: SEN187, Location: Saint-Louis, Senegal: Volunteer Assignment with Winrock Int./USAID – awarded **[Winrock Int./USAID]**
4. August 2016. $2,000.00, International Studies & Programs (ISP) Fellowship, Pontificia Universidad Católica Madre y Maestra (PUCMM), Santo Domingo, Dominican Republic – awarded **[University of Missouri - Saint Louis]**
5. July 2016. $5,000.00, Title: Assistance to the Office of Vocational Agriculture Education for the Establishment of a Functional Website for the Ministre de l'Agriculture et de l'Equipement Rural, Assignment Number: SEN121, Location: Dakar, Senegal: Volunteer Assignment with Winrock Int./USAID – awarded **[Winrock Int./USAID]**
6. February-March 2016. $3,500.00, Fulbright Scholar Specialist Project #6296, Host: University of Rajshashi, Dhaka, Bangladesh, Grant Length: 16 days, Principle Investigator *(Canceled due to security reasons identified by security adviser to the State Department)* **[U.S. Department of State's Bureau of Educational and Cultural Affairs]**

7. September 2014. $7,280.60, Fulbright Scholar Specialist Project #5824, Host: South Ural State University, Chelyabinsk, Russia, Grant Length: 14 days, Principle Investigator **[U.S. Department of State's Bureau of Educational and Cultural Affairs]**
8. September 2014. $2,000.00, International Studies & Programs (ISP) Fellowship, University of The Gambia, Serrekunda, Gambia **[University of Missouri - Saint Louis]**
9. May 2013 . $750.00, Presentation RDS Grant **[Walden University]**
10. January 2013. $20,000.00, DHS Summer Research Grant – not awarded
11. April 2012. $750.00, Presentation RDS Grant **[Walden University]**
12. September 2011. $900.00, USASBE Scholarship awarded for The Experiential Classroom XII at Oklahoma State University **[Oklahoma State University]**

Supervised Student ICT Assignments

1. May - June 2018, $5,000.00, Title: TOT on Website & Database Development and Management, Kaffrine Region, Assignment Number: SEN240, Location: Birkilane and Kaffrine, Senegal: Volunteer Assignment with Winrock Int./USAID. Undergraduate Student: Damon Walker
2. July - August 2017, $5,000.00, Title: Agriculture Technical High School Emile Badiane of Bignona (LTAEB), Assignment Number: SEN207, Location: Bignona, Senegal: Volunteer Assignment with Winrock Int./USAID. Undergraduate Student: Ashley Moss
3. June 2017, $5,000.00, Title: Training of Trainers in Computer Information Systems for Extension Agents, Assignment Number: GUI164, Location: Conakry, Guinea: Volunteer Assignment with Winrock Int./USAID. Graduate Student: Damon Walker
4. June 2017, $5,000.00, Title: Training of Trainers in Computer Information Systems & Information Technology in Agriculture Schools, Assignment Number: GUI165, Location: Dabola, Guinea: Volunteer Assignment with Winrock Int./USAID. Undergraduate Student: Omar Salif
5. November - December 2016, $5,000.00, Title: Agriculture Programs Software Training for the Institut Supérieur Agronomic et Vétérinaire de Faranah (ISAV/F) and Students, Assignment Number: AEMIP063-AET, Location: Faranah, Guinea: Volunteer Assignment with Winrock Int./USAID. Graduate Student: Dan Redden

Professional Memberships

Federation of American Scientists (FAS)
Sigma Xi
Association of Computing in Machinery (ACM)
International Association of Engineers (IAENG)
Institute for Electrical and Electronics Engineer (IEEE), Senior Member
Association of the Middle East and Africa
Association of the Advancement of Computer in Education (AACE)
International Information Systems Security Certification Consortium (ISC)2
Information Systems Audit & Control Association (ISACA)
Athens State University Alumni Association

Colorado Technical University Alumni Association
United States Army Signal Corps Association
Intellectbase International Consortium (IIC)
Executive Leadership Forum-Technology Transfer Project
International Council of Systems Engineers (INCOSE)
Director of Membership and Publicity, Midwest Association of Information Systems, 2016 - Present
Missouri Academy of Science, Vice Chair for Math and Computer Science, 2016 - Present
Alabama Academy of Science, Section Chair for Engineering and Computer Science, 2014-2015
Alabama Academy of Science, Member, 2013-2015
Tennessee Academy of Science, Member, 2013-2013
Florida Academy of Science, Member, 2013-2014
IAENG Society of Computer Science
IAENG Society of Data Mining
IAENG Society of Information System Engineering
IAENG Society of Wireless Networks

Awards

1. Fulbright Scholar Specialist Project ID: FSP-P000654/Saudi Arabia, 2017-2018
2. UMSL International Studies & Program Fellow , 2016-2017
3. Fulbright Specialist Project #6286/Bangladesh (canceled) 2016
4. UMSL International Studies & Program Fellow , 2014-2015
5. Fulbright Specialist Project #5824/Russia, 2014
6. Fulbright Specialist List, 2013-2018 , 2013
7. Excellence in Presentation at ABWIC (1 Awards Received), 2013
8. Excellence in Presentation at ABWIC (3 Awards Received), 2011
9. United States Army Reserve Components Achievement Medal, 2005
10. United States Army Service Ribbon, 2005
11. Iowa National Guard Service Ribbon, 2005

Professional Certifications

Certified Chief Information Security Officer from EC-Council 2014
Info. Technology Certified Professional from CIPS: Cert#4296, 2009 (Inactive)
Certified Secure Software Lifecycle Professional from (ISC)2: Cert#330764
Information Systems Professional from CIPS: Cert#4296 (Inactive)
Certified in the Governance of Enterprise IT from ISACA #801297

Jeremy Hajek

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EDUCATION

Concordia University Chicago
PhD in Higher Education Leadership Expected Spring of 2021

Illinois Institute of Technology
Master of Information Technology and Management 2007

Illinois Institute of Technology
Bachelor of Information Technology and Management 2004

AWARDS

Sub-Award from Florida Atlantic University for joint research - $10,000 grant
January 2018 – December 2018
Coleman Foundation Entrepreneur Fellow - $3000 technology grant
January 2017 – December 2017
Coleman Foundation Entrepreneur Fellow - $3000 technology grant
January 2018 – December 2018

TEACHING EXPERIENCE

IIT School of Applied Technology – Information Technology and Management
Industry Associate Professor 2012-current
Responsible for full time teaching load (3 courses) per semester in addition to summer camp and summer program teaching in the Information Technology and Management program. Teaching has naturally led to research being conducted in various teaching areas. Teaching and researching in the areas of Smart Technology, Cloud native application and orchestration development and Big Data paradigms.

IIT School of Applied Technology – Information Technology and Management
Adjunct Industry Associate Professor 2009-2012
As an adjunct professor taught introductory courses in the ITM department. Intro to computers, programming, and opensource operating systems.

RELATED EXPERIENCE

IIT School of Applied Technology
Director of the Smart Tech Lab Fall 2016 - current
In fall of 2016 the School of Applied Technology helped to open a brand-new SAT laboratory in the Tech South building. This room was completely renovated in an abandoned space, with over $100,000 dollars in time, labor, and equipment donated to renovate the room into a state of the art teaching and research hybrid lab/classroom. The funding was raised in conjunction with the hard work of Dr. Dan Tomal from the INTM department to build this SAT lab. Named the director of the Smart Tech Lab 2016.

Illinois Institute of Technology
Undergraduate Transfer Advisor **2012-current**
In this position I coordinate with Professor Ray Trygstad doing full time department advising for undergraduate transfer students coming into the program from an outside institution. My role involves helping acclimate the new students to IIT and the advising software (Degree Works) available and giving advice and discussing classes and other issues students may have in order to help them to succeed.

Illinois Institute of Technology
Graduate Advisor **2012-2015**
Assisted the department as one of three graduate advisors, helping acclimate new students to the program and advising them on course content and helping them to meet their program goals and graduate.

Illinois Institute of technology
Undergraduate Studies Committee **2018**
Served one term on the this committee as the ITM Department representative while the regular Department representative served a term as committee chair.

Illinois Institute of Technology
Computer Systems Manager - ITM department **2005-2012**
Responsibilities were to maintain computer infrastructure for classroom teaching at the Wheaton Campus supporting the ITM and the Professional Learning programs. Responsible for Server infrastructure and deployment, as well as Research and Development of new technologies in conjunction with department professors while the program was located primarily at the Wheaton IIT Rice Campus and managed two campuses, and two administrators to handle both campuses during this time. Responsible for training a student staff to internally handle trouble tickets and work independently to maintain our service level and coordinating with faculty and staff to satisfy IT requirements.

Duties included upgrading and maintaining computer labs. Installing and managing VMware Virtualization Infrastructure. Creating network-based storage and researching the deployment of private Cloud software for use in departmental research and teaching.

PUBLICATIONS AND PAPERS

"The Extension and Implementation of the Autonomous Movement Framework." Proceedings of the 6th Annual Conference on Research in Information and Technology. Rochester: ACM. 2017

"The Importance of Hadoop Clusters in Educational Institutions." Proceedings of the 19th Annual SIG Conference on Information Technology Education. Ft. Lauderdale: ACM 2018

"Mobile Application for Automated Insulin Delivery with Integrated Physical Activity Sensors"
2019 IEEE EMBS International Conference on Biomedical & Health Informatics (BHI) 2019

Author(s): Ms. Caterina Lazaro, Dr. Mudassir Rashid, Mr. Mert Sevil, Mr. Iman Hajizadeh, Prof. Jeremy Hajek, Mr. Erdal Oruklu and Prof. Ali Cinar

James Papademas

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EDUCATION

MISM, Keller Graduate School of Management, Chicago, IL (Programming Track)
MBA, Roosevelt University, Chicago, IL (Financial Systems)
MSMC, Roosevelt University, Chicago, IL (Integrated Marketing Communications)
BSA, Roosevelt University, Chicago, IL (Accounting)
BSBA, Roosevelt University, Chicago, IL (Business Administration)

TEACHING EXPERIENCE

2013 - Present **Illinois Institute of Technology** Chicago, Illinois

***Industry Professor** for various courses/course engagements in **ITM/ITMD** for graduate and undergraduate students

- ITM 100 Intro to Information Technology
- ITM 311 Intro to Software Development with Java
- ITM 312 Intro to Software Development with C++
- ITMD 411 Intermediate Software Development w./ Java
- ITMD 413/513 Open Source Programming
- ITMD 415/515 Advanced Software Development
- ITMD 455/555 Intelligent Mobile Devices (AndroidX)
- ITMD 465/565 RIA
- ITMD 597 Independent Study

*All courses involve preparing and providing instruction methodologies, laboratory hands-on projects, examinations, lecture material (including audio-visual aids), demos and team projects and presentations.

Program Affiliations

- Boeing Scholarship Program (Summer 2014)
- nxtGen Summer Tech Camp (Summer 2014-2016,2018,2019)
- Paris/Spain Master Thesis Advisor (Summer 2014, 2016-2019)
- TEDx IIT Seminar attendee (Spring 2014)
- TADHack Videographer (Fall 2015-2019)

Other

- Grad advisor
- EAD Handler
- FA Liason

Projects

- Past

Indoor Location app. Mentored grad/undergrad students to work WebRTC Web page HTML map based on coordinated generated from various BT Beacons throughout Stuart bldg. Technologies: java/html5/css/javascript/mysql

iCert - OPD Grading system Mentored select ITMD students during Fall 18 – Spring 19 terms to help automate reports/email delivery system. Technologies: jsp/mysql

- Current

Fitbit. Ongoing advisor to select ITMD grad students to create Fantasy Role play app with Dr. Arlen of the Psych. Technologies: php/mysql

iCert - OPD Grading system. Mentored students to complete revamp of Cert documentation distribution system for Certification students. Technologies: java jsp/mysql/html/css/OAuth

Oakton Community College Des Plaines, Illinois

Adjunct Instructor for various courses in **mathematics**, **computer science, and computer information systems**

Computer Science courses:

- Computer Science with Numerical Methods (C++, FORTRAN, Java)
- Data Structs / Objects and Algorithms (C++)
- Python
- Topics in CS (AI)

Computer Information Systems courses:

- Web Development (from Intro to advanced – ASP.net, PHP, AJAX, Java Script)
- Mobile Applications (iOS 5-7)
- Introduction to SQL (Oracle, MS Access, MySQL, MS SQLServer)

Mathematics courses:

- Math for Health, Technical Math, Business Math, Discrete Math, Algebra

Assisted in AITP competition for over 4 years (Configured Joomla, Word Press, Apache/PHP/MySQL, Drupal, etc., for students in a Windows Server 2008 system). Helped projects along from initiation to completion by assisting in the coding and processing of various web pages involving UI design and back end connectivity.

DeVry Institute of Technology *Chicago, IL*

Professor

- *Computer Information Systems Courses (CIS 120-Intro to Programming Logic, CIS 211-Small Systems, CIS 247-OOP C#, CIS 275 – OOP Java, CIS 316 – C Language, CIS-339 – OO Systems Analysis, CIS 362- OOP C++, CIS 365 – Web Interface Design, CIS 375 – Web Architecture, CIS 380 – VB.NET, CIS 430-Business System Programming). Also, COMP 100 (Microsoft Windows and Office) and CIS 211 –Unix and PC Architecture for College Excel Program*
- *Computer Engineering Technology Course COMP 122, CET 431 (Distributed Systems for Computer Engineers)*
- *Information Technology Courses (IT 360, IT 410, IT 475)*
- *Accounting 451, 301, 312*
- *Business 155*
- *Management 303, 340*
- *Web Graphics Design (WGD 201-Photoshop, WGD- 250 Flash animation/scripting)*
- *General Education Courses (MATH 220, MATH 168, MATH 148)*
- *Senior Advisor to DeVry's ABG honor society.*

WORK EXPERIENCE

2001 – present *Independent Contractor*
Web Development Specialist
Design and implement web sites for ecommerce.

1998–1999 *ADP* *Elk Grove Village, Illinois*
Systems Implementation Specialist

- *Worked with Kedit / 4GL editing software for data management off Mainframe*
- *Worked with ADP's IPP and Horizon's HRIS software via Mainframe and Client-Server systems*
- *IBM O/S 2 Warp –dual boot administration*
- *Implemented various systems for ADP clients*
- *Worked up client SQL reports on Report Smith*
- *PC installs for clients*

1996–1997 *Tetra Pak* *Chicago, Illinois*
Systems Administrator for Tetra Laval payroll system

- *Worked Payroll for Tetra Laval employees (Salaried / Hourly)*
- *Created and ran numerous Ad Hoc reports on ADP's IPP system*
- *Standardized company codes across multiple subsidiary SBU's.*
- *Helped ADP test code bed for calculating TL's Benefit salaries*
- *Tested and Implemented Motorola's v.92 modem for payroll system*

1995-1996 *American Library Association* *Chicago, Illinois*
Payroll Manager

- Supervised and helped implement payroll conversion to D&B's THR HRIS Payroll System after 6 mo's. of parallel testing
- Performed Database Report Writing (Clipper DB- for THR platform, Ashton Tate DB for DOS, Concentric's Report Writer for DOS)
- Performed General Accounting Duties including manual and computerized Journal entries
- Help code paycheck and direct deposit mods in system
- Trained staff including Accounting Manager on Payroll system intracacies.
- Modified Time Sheets for ease of data entry into Payroll system
- Set up BBS for downloads and system shadowing by Vendor in case of needed file tweaks.
- Improved efficiency of department by automating paycheck signatures via Font Pack installation into HP 4SI machine.
- Also initiated Laser printing of checks/direct deposit forms and W2's.
- Set up and programmed modem for ETF's with bank & IRS via PROCom C based software
- Set up and installed Caravan tape drive to store nightly back ups of payrolls thru Cron jobs set up to tigger via .bat scripted file

1991-1994 *Follett Corporation* *River Grove, Illinois*
Payroll Clerk

- Performed weekly payrolls.
- Performed critical weekly PR adjustments on CICS mainframe based OS
- Kronos server administrator for time tracking various in house employees.
- Worked qeekly/montly/quarterly/annual tax returns

CERTIFICATIONS

- Oracle Database Training Certificate of Achievement
- UNIX Operating System Training Certificate of Achievement

PROFESSIONAL MEMBERSHIPS

- Member IEEE
- Member MSDN

HONORS AND AWARDS

- Alpha Beta Chi (for Honors with Keller)
- Service Activities (Institutional & External)

Karl Stolley

EDUCATION

PURDUE UNIVERSITY WEST LAFAYETTE, INDIANA Doctor of Philosophy, 2007. Master of Arts, 2002.

MILLIKIN UNIVERSITY DECATUR, ILLINOIS Bachelor of Arts, 2000.

PROFESSIONAL HISTORY

ILLINOIS INSTITUTE OF TECHNOLOGY CHICAGO, ILLINOIS

Associate Professor of Digital Writing & Rhetoric (tenured), 2012–present.

Associate Professor of Information Technology & Management, 2016–present.

Assistant Professor of Technical Communication, 2007–2012.

PUBLICATIONS

BOOKS

How to Design and Write Web Pages Today, 2nd ed. (ABC-CLIO/Greenwood, 2017)

How to Design and Write Web Pages Today. Greenwood Writing Today Series. (Greenwood Press, 2011)

REFEREED ARTICLES

"The Lo-Fi Manifesto, v. 2.0." Kairos: A Journal of Rhetoric, Technolog, and Pedagog 20(2). Available http://kairos.technorhetoric.net/20.2/ (January 2016).

"Source Literacy: A Vision of Craft," Enculturation: A Journal of Rhetoric, Writing, and Culture 14. Available http://enculturation.net/node/5271 (October 2012).

"Using Microformats: Gateway to the Semantic Web." IEEE Transactions on Professional Communication 52(3), 291-302. (September 2009).

"Integrating Social Media into Existing Work Environments: The Case of Delicious." Journal of Business and Technical Communication 23(3), 350-371. (July 2009).

"The Lo-Fi Manifesto." Kairos: A Journal of Rhetoric, Technolog, and Pedagog 12(3). Available http://kairos.technorhetoric.net/12.3/ (May 2008).

"Rhetorical Arts of Invention in Visual Communication." In R. E. Grifn, B. D. Cowden, & M. Avgerinou (Eds.). Imagery and Artistry: Animating the Mind's Eye. Loretto, PA: International Visual Literacy Association, 2006. 213-217.

BOOK CHAPTERS

"MVC, Materiality, and the Magus: The Rhetoric of Source-Level Production." In Ridolfo, J. and W. Hart-Davidson, eds., Rhetoric and the Digital Humanities. University of Chicago Press. (Refereed. Fall 2014); book received the 2016 Computers & Composition Distinguished Book Award.

"Developing a Course Wiki for Accessibility and Sustainability." In P Pullman, G. & Gu, B., eds., Designing Web-Based Applications for 21st Century Classrooms. Baywood. (Invited; refereed, 2013).

"Designing for the Web." In Riley, K. & Mackiewicz, J., Visual Composing. Prentice Hall. (Nonrefereed; Prentice Hall, 2011).

INDUSTRY PUBLICATIONS

"Reading Ruby for Professional Development," SitePoint Ruby. Available http://www.sitepoint.com/reading-ruby-professional-development/ (Non-refereed; April 2014).

DIGITAL WORK MOZILLA DEVELOPER NETWORK

Peer-reviewed contributions to source code, documentation, and browser-compatibility data. MDN is the industry-standard documentation for the web's languages, standards, protocols, and APIs. https://developer.mozilla.org/ ED: A JEKYLL THEME FOR MINIMAL EDITIONS

Peer-reviewed contributions to source code and responses to user issues. Ed is a minimal computing platform developed for researchers to produce robust accessible open-access publications in the digital humanities. https://github.com/minicomp/ed

NEWBERRY LIBRARY DIGITAL COLLECTIONS FOR CLASSROOM USE

Design and development of a Ruby on Rails application to deliver a Web-accessible collection of digitized artifacts and supporting materials for secondary schoolteachers' classroom use. Emphasizing interactivity on tablet devices. (September 2011-May 2013.) http://dcc.newberry.org/ GEWGAWS LAB

Design, development, execution, and ongoing improvement and maintenance of a computer lab that runs Linux and pursues open-source technologies in support of instruction and research in the information architecture and digital humanities programs in the Department of Humanities. The lab is run in collaboration with librarians and library IT staf at IIT's Paul V. Galvin Library. (2009–present.)

HONORS AND AWARDS CCCC TECHNOLOGY INNOVATOR AWARD

"Presented, as occasion demands, to a person who has served or serves as an exemplar for teachers working with computer technologies in their classes and who represents the highest ideals of scholarship, teaching, and service to the entire profession." May 2016.

DEAN'S AWARD FOR EXCELLENCE IN TEACHING Award presented for superlative teaching evaluations and letters of support from current and former students. December 2010. COMPUTERS & COMPOSITION MICHELLE KENDRICK OUTSTANDING DIGITAL PRODUCTION/SCHOLARSHIP AWARD Received June 2009.

TALKS & PRESENTATIONS

"Accessible Transformations of Early Web-based Archives." With Katie Ediger. Library Publishing Forum, Minneapolis, MN, May 2018.

"Rescuing and Future-Proofng Aging Digital Archives." (Invited talk). With Katie Ediger. National Digital Stewardship Alliance Symposium at Wayne State University, April 2018.

"Writing Teachers Writing Software." (Invited public dialog). Conference on College Composition and Communication, Tampa, FL, March 2015.

"Dynamic Rhetorics: Incorporating Programming into the Technical Communication Curriculum." With J.D. Applen and Sonia Stephens. IEEE International Professional Communication Conference, Pittsburgh, PA, October 2014.

"Learn to Program with Everyday Household Items: JavaScript." (Day-long workshop). Computers and Writing, Washington State University, June 2014.

"Developing Web Applications." (Invited workshop). Society for Technical Communication Summit, Phoenix, AZ, May 2014.

"Teaching a Course Dedicated to APIs." Association of Teachers of Technical Writing Conference, Indianapolis, IN, March 2014.

"In Search of Troublesome Digital Writing: A Meditation on Difculty." (Keynote). Computers and Writing, Frostburg State University, June 2013.

"Yes, We Are Digital Humanists." (Featured session with Matthew K. Gold, et al.) Computers and Writing, North Carolina State University, May 2012.

"End-to-End Agile Web Application Development from Basically Nothing." (Day-long workshop). Computers and Writing, North Carolina State University, June 2012.

"Teaching Sustainable Web Design and Development." IEEE International Professional Communication Conference, University of Cincinnati, October 2011.

"Distributed Version Control with Git." (Workshop). The Humanities and Technology Camp (THATCamp) Chicago, Northwestern University, November 2010.

MEDIA APPEARANCES

"Episode 7." Curiosity Unplugged (Podcast), November 8, 2018.

"Episode 9." KairosCast (Podcast), November 21, 2016.

"Graph Search Announced for Facebook." ABC7 Chicago (5pm, 6pm, and 10pm television newscasts and Web), January 15, 2013.

"Virtual Sustainability." IIT Magazine, Winter 2010.

"The Truth Behind ChicagoansForRio.com." FOX Chicago 32 (9pm television newscast and Web), September 28, 2009.

"Using Microformats: Gateway to the Semantic Web." IEEE Professional Communication Society (Podcast), September 8, 2009

Yong Zheng

Illinois Institute of Technology
Department of Information Technology and Management
10 W 33rd Street Perlstein Hall, Room 221 Chicago, Illinois, 60616, USA
Tel (Office): +1 (312) 567-3575
Email: yzheng66@iit.edu, yong.zheng@iit.edu

Education

2010 – 2016, Ph.D., Computer and Information Sciences, DePaul University, USA

2007 – 2010, M.S., Computer & Its Application, Nanjing University of Posts & Telecommunications, China

2003 – 2007, B.E., Computer Science and Technology, Jiangnan University, China

Research Interests

Data Science for Web and Business Intelligence, and Educational Learning: • HCI and Personalization: Recommender Systems, User Modeling, Human Factors • Data Science: Data Mining and Machine Learning, Learning and Behavior Analytics, Decision Science • Novel research directions: ethics and fairness, multi-stakeholders, misinformation

Experience

08/2018 – Present, Assistant Professor, Illinois Institute of Technology, Chicago, USA

08/2016 – 08/2018, Senior Lecturer, Illinois Institute of Technology, Chicago, USA

09/2016 – 06/2017, Adjunct Lecturer, DePaul University, Chicago, USA

06/2015 – 11/2015, Data Scientist, Pandora Media, Inc., Oakland, USA

Teaching Experience

Teaching at Illinois Institute of Technology, Chicago, USA • ITMD 527, Data Analytics (2017 Spring to Present) • ITMD 525, Topics in Data Science: Data Mining (2016 Fall to Present) • ITMD 525r, Topics in Data Science: Recommender Systems (2018 Spring) • ITMD 523, Advanced Topics in Data Management (2016 Fall to 2017 Fall) • ITMD 510, Object-Oriented Application Development (2016 Fall)

Teaching at DePaul University, Chicago, USA • IPD 346, Data Science for Business Program (2016 Spring to 2017 Spring)

Honors & Awards

- 2018, NSF Grant (#1830908) for US Students to Attend UMAP 2018 Conference
- 2017, Distinguished Student Supervisor Nominees, Illinois Institute of Technology, USA
- 2016, NSF Travel Award: ACM UMAP, ACM SAC
- 2015, NSF Travel Award: IEEE ICDM, ACM IUI, ACM SAC, ACM UMAP
- 2015, Best paper award at SOCRS, Chicago, USA
- 2014, Finalist at Student Research Competition@ACM SAC
- 2014, NSF Travel Award: ACM RecSys, ACM SAC
- 2013, NSF Travel Award: ACM KDD, ACM UMAP Scholar

University Service

- Illinois Institute of Technology Graduate Studies Committee, 2019-2020
- Illinois Institute of Technology Graduate Studies Committee, 2018-2019

Academic Services Conference Organizations

- Student Support Co-Chair, ACM UMAP, June, 2019
- Publicity Co-Chair, ACM IUI, March, 2019
- Student Support Co-Chair, ACM UMAP, July, 2018
- Publicity Co-Chair, ACM RecSys, Oct, 2018
- Publicity Co-Chair, ACM IUI, March, 2018

Other Organizations (Workshops/Special Tracks)

- Track Co-Chair, Track on Recommender Systems at ACM SAC 2020, 2019, 2018, 2017
- Track Co-Chair, Track on Recommender Systems at AAAI FLAIRS 2018, 2017
- Workshop Co-Chair, The Workshop on Intelligent Recommender Systems by Knowledge Transfer & Learning at ACM RecSys 2018, 2017
- Workshop Co-Chair, The Workshop on Web Personalization & Social Media at IEEE/WIC/ACM WI 2017
- Workshop Co-Chair, The Workshop on Educational Recommender Systems at IEEE/WIC/ACM WI 2016 1 of 5 Program Committee Member (Selected)
- ACM Conference on Information Retrieval (SIGIR): 2019, 2018
- International World Wide Web Conference (WWW): 2020, 2019, 2018, 2017
- ACM Conference on Recommender Systems (RecSys): 2019, 2018, 2017
- ACM Conference on User Modeling, Adaptation & Personalization (UMAP): 2018, 2017, 2016, 2015
- ACM Conference on Intelligent User Interfaces (IUI): 2019, 2018, 2017, 2016
- European Conference on Information Retrieval (ECIR): 2018
- ACM Conference on Human Information Interaction & Retrieval (CHIIR): 2017
- International Conference on Weblogs and Social Media (ICWSM): 2018, 2017, 2014
- ACM Symposium on Applied Computing (SAC): 2014
- Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD): 2018, 2017
- ACM Global Computing Education Conference (CompEd): 2019
- ACM Conference on Information Technology Education (SIGITE): 2018
- International Conference on Electronic Commerce and Web Technologies (EC-WEB): 2013 Grant Reviewer
- 2019, Netherlands Organisation for Scientific Research (NWO) • 2016 US National Science Foundation (NSF) Journal Reviewer
- TOIS, ACM Transactions on Information Systems
- TOIT, ACM Transactions on Internet Technology
- TWeb, ACM Transactions on the Web
- TIST, ACM Transactions on Intelligent Systems and Technology
- TiiS, ACM Transactions on Interactive Intelligent Systems (distinguished reviewer)
- TKDE, IEEE Transactions on Knowledge and Data Engineering
- TLT, IEEE Transactions on Learning Technologies
- UMUAI, User Modeling and User-Adapted Interaction
- IEEE-IS, IEEE Intelligent Systems
- Elsevier-IS, Information Science Journal by Elsevier
- WWWJ, World Wide Web: Internet and Web Information Systems
- ECRA, Electronic Commerce Research and Applications
- JASIST, Journal of the Association for Information Science and Technology
- IPM, Information Processing and Management
- IJITDM, International Journal of Information Technology & Decision Making

- PMC, Pervasive and Mobile Computing
- NC, Neurocomputing, Elsevier
- WIAS, Web Intelligence: An International Journal
- JIIS, Journal of Intelligent Information Systems
- JITT, Journal of Information Technology & Tourism
- IxD&A, Interaction Design and Architecture (s)

Statistics of Citations on Google Scholar - Citations: 854, H-Index: 16, i10-Index: 22 (by July, 2019) University Services

Journal Tutorials

[1] Yong Zheng. "Multi-Stakeholder Recommendations: Case Studies, Methods and Challenges", Proceedings of the 13th ACM Conference on Recommender Systems, Copenhagen, Denmark, September 19th, 2019

[2] Yong Zheng. "Context-awareness In Information Retrieval and Recommender Systems", Proceedings of the 16th IEEE/WIC/ACM International Conference on Web Intelligence, Omaha, USA, Oct 2016

[3] Yong Zheng. "Context In Recommender Systems", Proceedings of the 31st ACM SIGAPP Symposium on Applied Computing, Pisa, Italy, April 2016

Book Chapters

[1] Yong Zheng, Bamshad Mobasher. "Context-Aware Recommendations". In Book: Collaborative Recommendations: Algorithms, Practical Challenges and Applications (ISBN: 9789813275348), World Scientific Publishing Co. Pte. Ltd., 2018

[2] Yong Zheng, Bamshad Mobasher, Robin Burke. "Emotions in Context-aware Recommender Systems". In Book: Emotions and Personality in Personalized Services (ISBN: 3319314114), pp. 311-326, Springer Berlin Heidelberg, 2016

Edited Proceedings

[1] Markus Zanker, Li Chen, Panagiotis Symeonidis,Yong Zheng. Track Editorial: "Track on Recommender Systems: Theory, User Interactions and Applications", at ACM SIGAPP Symposium on Applied Computing (SAC'2019), Cyprus, April, 2019

[2] Shaghayegh (Sherry) Sahebi, Yong Zheng, Weike Pan, Ignacio Fernandez. Workshop Editorial: "The 2nd Workshop on Intelligent Recommender Systems by Knowledge Transfer & Learning (RecSysKTL)", Proceedings of the 12th ACM Conference on Recommender Systems, Vancouver, Canada, Oct, 2018 2 of 5

[3] Nadia Najjar, Yong Zheng, Carlos E. Seminario. Track Editorial: "Special Track on Recommender Systems", at the 31st International Florida Artificial Intelligence Research Society Conference (FLAIRS 2018), Melbourne, Florida, USA, 2018

[4] Yong Zheng, Li Chen, Markus Zanker. Track Editorial: "Track on Recommender Systems: Theory, User Interactions and Applications", at ACM SIGAPP Symposium on Applied Computing (SAC'2018), April 9-13, 2018, Pau, France

[5] Yong Zheng, Weike Pan, Shaghayegh (Sherry) Sahebi, Ignacio Fernandez. Workshop Editorial: "The 1st Workshop on Intelligent Recommender Systems by Knowledge Transfer & Learning (RecSysKTL)", Proceedings of the 11th ACM Conference on Recommender Systems, Como, Italy, Aug 27-31, 2017

[6] Yong Zheng, Li Chen, Markus Zanker. Track Editorial: "Track on Recommender Systems: Theory and Applications", at ACM SIGAPP Symposium on Applied Computing (SAC'2017), April 3-7, 2017, Marrakech, Morocco

Selected Publications

[1] Yong Zheng. "Multi-Criteria Recommendations By Using Criteria Preferences as Contexts", Towards Integrated Web, Mobile, and IoT Technology, LNBIP Vol. 347, Springer, 2019

[2] Yong Zheng. "A Comparison of Tools for Teaching and Learning Data Analytics", Proceedings of the 20th ACM Conference on Information Technology Education (ACM SIGITE), Tacoma, WA, USA, October, 2019

[3] Yong Zheng. "A Course on Applied AI and Data Science: Recommender Systems", Proceedings of the 20th ACM Conference on Information Technology Education (ACM SIGITE), Tacoma, WA, USA, October, 2019

[4] Yong Zheng. "Multi-Stakeholder Personalized Learning with Preference Corrections", Proceeding of the 19th IEEE International Conference on Advanced Learning Technologies (IEEE ICALT), Maceio, Brazil, July 15-18, 2019

[5] Yong Zheng, Shephalika Shekhar, Alisha Anna Jose and Sunil Kumar Rai. "Integrating Context-Awareness and Multi-Criteria Decision Making in Educational Learning", Proceedings of the 34th ACM SIGAPP Symposium on Applied Computing (ACM SAC), Limassol, Cyprus, April, 2019

[6] Yong Zheng, Alisha Anna Jose. "Context-Aware Recommendations via Sequential Predictions", Proceedings of the 34th ACM SIGAPP Symposium on Applied Computing (ACM SAC), Limassol, Cyprus, April, 2019

[7] Yong Zheng. "Utility-Based Multi-Criteria Recommender Systems", Proceedings of the 34th ACM SIGAPP Symposium on Applied Computing (ACM SAC), Limassol, Cyprus, April, 2019

[8] Yong Zheng, Archana Subramaniyan. "Personality-Aware Collaborative Learning: Models and Explanations", The 33rd IEEE International Conference on Advanced Information Networking and Applications, Japan, March, 2019

[9] Yong Zheng, Sridhar Srinivasan. "Mobile App and Malware Classifications By Mobile Usage with Time Dynamics", The 33rd IEEE International Conference on Advanced Information Networking and Applications, Japan, March, 2019

[10] Diego S´anchez-Moreno, Yong Zheng, and Mar´ıa N. Moreno-Garc´ıa. "Incorporating Time Dynamics and Implicit Feedbacks into Music Recommender Systems", Proceedings of the 17th IEEE/WIC/ACM International Conference on Web Intelligence (WI'18), Santiago, Chile, December, 2018

[11] Yong Zheng, Aviana Pu. "Utility-Based Multi-Stakeholder Recommendations By Multi-Objective Optimization", Proceedings of the 17th IEEE/WIC/ACM International Conference on Web Intelligence (WI'18), Santiago, Chile, December, 2018

[12] Yong Zheng, Mengran Liu. "Predicting Political Trends By Social Tagging", Proceedings of the 19th ACM Conference on Information Technology Education (ACM SIGITE), Fort Lauderdale, FL, USA, October, 2018

[13] Yong Zheng, Sridhar Srinivasan, Kim Taehun. "Exploratory Malware Analysis of Mobile Usages", Proceedings of the 19th ACM Conference on Information Technology Education (ACM SIGITE), Fort Lauderdale, FL, USA, October, 2018

[14] Yong Zheng. "Exploring User Roles In Group Recommendations: A Learning Approach". Proceedings of the HAAPIE workshop at ACM Conference on User Modeling, Adaptation and Personalization (ACM UMAP), Singapore, July, 2018

[15] Yong Zheng. "Personality-Aware Decision Making In Educational Learning". Proceedings of the 23rd ACM Conference on Intelligent User Interfaces (ACM IUI), Tokyo, Japan, March 7-11, 2018 3 of 5

[16] Yong Zheng. "Context-Aware Mobile Recommendation By A Novel Post-Filtering Approach". Proceedings of the 31st International Florida Artificial Intelligence Research Society Conference (FLAIRS 2018), Melbourne, Florida, USA, 2018

[17] Yong Zheng, Mayur Agnani, Mili Singh. "Identification of Grey Sheep Users By Histogram Intersection In Recommender Systems". Proceedings of The 13th International Conference on Advanced Data Mining and Applications (ADMA), Singapore, November, 2017

[18] Yong Zheng, Mayur Agnani, Mili Singh. "Identifying Grey Sheep Users By The Distribution of User Similarities In Collaborative Filtering". Proceedings of The 6th ACM Conference on Research in Information Technology (RIIT), Rochester, NY, USA, October, 2017

[19] Mandar Kadam, Nisha Kanoo, Yong Zheng. "Climate Change: Relationships to CO2 Emission and Locations". Proceedings of The 6th ACM Conference on Research in Information Technology (RIIT), Rochester, NY, USA, October, 2017

[20] Yong Zheng. "Multi-Stakeholder Recommendation: Applications and Challenges". The 1st Workshop on The Value-Aware and Multi-Stakeholder Recommendation held in conjunction with the 11th ACM Conference on Recommender Systems, Como, Italy, August 2017

[21] Yong Zheng. "Affective Prediction By Collaborative Chains In Movie Recommendation". Proceedings of the 16th IEEE/WIC/ACM International Conference on Web Intelligence (WI'17), Leipzig, Germany, August 2017

[22] Yong Zheng. "Context Suggestion: Empirical Evaluations vs User Studies". Proceedings of the 16th IEEE/WIC/ACM International Conference on Web Intelligence (WI'17), Leipzig, Germany, August 2017

[23] Yong Zheng. "Indirect Context Suggestion". Proceedings of the 25th ACM Conference on User Modeling, Adaptation and Personalization (ACM UMAP), Bratislava, Slovakia, July 2017

[24] Yong Zheng. "Criteria Chains: A Novel Multi-Criteria Recommendation Approach". The 22nd ACM Conference on Intelligent User Interfaces (ACM IUI), Limassol, Cyprus, March 13-16, 2017

[25] Yong Zheng. "Situation-Aware Multi-Criteria Recommender System: Using Criteria Preferences as Contexts". The 32nd ACM SIGAPP Symposium on Applied Computing (ACM SAC), Marrakech, Morocco, April 3-7, 2017

[26] Yong Zheng. "Adapt to Emotional Reactions In Context-aware Personalization", Proceedings of the 4th Workshop on Emotions and Personality in Personalized Systems held in conjunction with the 10th ACM Conference on Recommender Systems (ACM RecSys), Boston, USA, September 16, 2016

[27] Yong Zheng, Bamshad Mobasher, Robin Burke. "User-Oriented Context Suggestion", Proceedings of the 24th ACM Conference on User Modeling, Adaptation and Personalization (ACM UMAP), pp. , Halifax, Canada, July 2016

[28] Yong Zheng. "Context-Driven Mobile Apps Management and Recommendation", Proceedings of the 31st ACM SIGAPP Symposium on Applied Computing (ACM SAC), Pisa, Italy, April 2016

[29] Yong Zheng. "Context Suggestion: Solutions and Challenges", Proceedings of the 15th IEEE International Conference on Data Mining (IEEE ICDM) Workshops, pp. 1602-1603, Atlantic City, NJ, USA, Nov 2015

[30] Yong Zheng, Bamshad Mobasher, Robin Burke. "CARSKit: A Java-Based Context-aware Recommendation Engine", Proceedings of the 15th IEEE International Conference on Data Mining (IEEE ICDM) Workshops, pp. 1668-1671, Atlantic City, NJ, USA, Nov 2015

[31] Yong Zheng, Bamshad Mobasher, Robin Burke. "Similarity-Based Context-aware Recommendation", Proceedings of the 16th International Conference on Web Information System Engineering (WISE), pp. 431-447, Miami, FL, USA, Nov 2015

[32] Yong Zheng, Bamshad Mobasher, Robin Burke. "Correlation-Based Context-aware Matrix Factorization", Proceedings of School of Computing Research Symposium (SOCRS), DePaul University, Chicago, USA, May 2015 (Best Paper Award)

[33] Yong Zheng, Bamshad Mobasher, Robin Burke. "Integrating Context Similarity with Sparse Linear Recommendation Model", Proceedings of the 23rd Conference on User Modeling, Adaptation and Personalization (UMAP), pp. 370-376, Dublin, Ireland, June 2015

[34] Yong Zheng. "A Revisit to The Identification of Contexts in Recommender Systems", Proceedings of the 20th ACM Conference on Intelligent User Interfaces (ACM IUI) Companion, pp. 133-136, Atlanta, GA, USA, March 2015

[35] Yong Zheng. "Improve General Contextual SLIM Recommendation Algorithms By Factorizing Contexts", Proceedings of the 30th ACM Symposium on Applied Computing (ACM SAC), pp. 937-938, Salamanca, Spain, April 2015 4 of 5

[36] Yong Zheng, Bamshad Mobasher, Robin Burke. "Deviation-Based Contextual SLIM Recommenders", Proceedings of the 23rd ACM Conference on Information and Knowledge Management (ACM CIKM), pp. 271-280, Shanghai, China, Nov 2014

[37] Yong Zheng. "Deviation-Based and Similarity-Based Contextual SLIM Recommendation Algorithms", Proceedings of the 8th ACM Conference on Recommender Systems (ACM RecSys), pp. 437-440, Silicon Valley, Foster City, CA, USA, Oct 2014

[38] Yong Zheng, Bamshad Mobasher, Robin Burke. "CSLIM: A Contextual SLIM Recommendation Algorithm", Proceedings of the 8th ACM Conference on Recommender Systems (ACM RecSys), pp. 301-304, Silicon Valley, Foster City, CA, USA, Oct 2014

[39] Yong Zheng, Bamshad Mobasher, Robin Burke. "Context Recommendation Using Multi-label Classification", Proceedings of the 13th IEEE/WIC/ACM Conference on Web Intelligence (IEEE/WIC/ACM WI), pp. 288-295, Warsaw, Poland, Aug 2014

[40] Yong Zheng, Robin Burke, Bamshad Mobasher. "Splitting Approaches for Context-Aware Recommendation: An Empirical Study", Proceedings of the 29th ACM Symposium on Applied Computing (ACM SAC), pp. 274-279, Gyeongju, South Korea, March 2014

[41] Yong Zheng, Robin Burke, Bamshad Mobasher. "The Role of Emotions in Context-aware Recommendation", Proceedings of the 3rd Workshop on Human Decision Making in Recommender Systems held in conjunction with the 7th ACM Conference on Recommender Systems (ACM RecSys), pp. 21-28, Hong Kong, China, Oct 2013

[42] Yong Zheng, Robin Burke, Bamshad Mobasher. "Recommendation with Differential Context Weighting". Proceedings of the 21st International Conference on User Modeling, Adaptation and Personalization (UMAP), pp. 152-164, Rome, Italy, June 2013

[43] Yong Zheng, Robin Burke, Bamshad Mobasher. "Differential Context Modeling in Collaborative Filtering", Proceedings of School of Computing Research Symposium (SOCRS), DePaul University, Chicago, USA, May 2013

[44] Yong Zheng, Robin Burke, Bamshad Mobasher. "Optimal Feature Selection for Context-Aware Recommendation using Differential Relaxation". Proceedings of the 4th Workshop on Context-Aware Recommender Systems held in conjunction with the 6th ACM Conference on Recommender Systems (ACM RecSys), Dublin, Ireland, Sep 2012

[45] Yong Zheng, Robin Burke, Bamshad Mobasher. "Differential Context Relaxation for Context-aware Travel Recommendation". The 13th International Conference on Electronic Commerce and Web Technologies (EC-WEB), pp. 88-99, Vienna, Austria, Sep 2012

Student Supervisions

- PhD Students – Diego S´anchez-Moreno (Part-time PhD Student);
  Project: Music Recommender Systems
- Master Students
  - Maria Delgado Franco, Mili Singh, Mayur Agnani;
    Project: Identification of Grey Sheep Users In Recommender Systems
  - Tanaya Dave, Neha Mishra, Harshit Kumar;
    Project: Reciprocal Recommendations
  - Shephalika Shekhar; Project: Multi-Criteria Recommender System
  - Alisha Anna Jose; Project: Context-Aware Recommender System
  - Nastaran Ghane, Milad Sabouri; Project: Multi-Stakeholder Recommendations
  - Raquel Noblejas Sampedro, Sridhar Srinivasan, Kim Taehun;
    Project: Malware Detection and Usage Analysis In Mobile Apps References

William Lidinsky

630-682-6028 | lidinsky@iit.edu | Illinois Institute of Technology Rice Campus, Wheaton, IL

EDUCATION

BS Electronic Engineering, Illinois Institute of Technology, 1961
MS Computer Engineering, Illinois Institute of Technology, 1968
MBA (applied statistics minor) University of Chicago, 1974
Many advanced courses and specialized training.

SUMMARY

Most recently, university professor engaged in computer and network security, ulnerability analysis and digital forensic research, curriculum and course development, lecturing. Also, development of innovative methods of online teaching of cyber security and forensics laboratories, which resulted in large government grant to refine this work. Performed forensic analysis and acted as an expert witness in cases involving digital forensics. Prior activities include researcher, developer and manager engaged in a variety of networking and distributed computing R&D activities. Adjunct associate professor in computer science involved in curriculum development, course design, research, and lecturing; areas of activity include computer networks, protocols, network security, computer architecture, and microprogramming. Chair and member of executive committee of IEEE 802 international standards organization, writing local area network standards; wrote widely used VLAN and LAN bridge standards. Chaired several conferences and many conference sessions. Widely published; substantial proposal and funding experience; holds16 patents.

Experience in the following areas:

- UNIX and Windows experience
- Development and presentation of many courses, talks, & seminars
- High speed data communications to 100s of gigabits/second
- Computer aided software engineering (CASE)
- Operating system design
- Microprogramming
- Aids for the handicapped
- Integrated video/data/voice switching systems and networks
- Radar systems design and development
- Market research in computer networking
- Biomedical instrumentation
- Proposal generation and successful funding
- Computer and network security
  - *Vulnerability analysis & ethical hacking*
  - *Digital forensics*
- Management and budget responsibility for R&D and operations groups
- Internet evolution, strategies, & protocols
- Video conferencing R&D and services
- World Wide Web services and operation
- Java, UML, and XML R&D
- Development of Internet performance monitoring systems
- Data network monitoring and evaluation
- International standards development
- Organization building
- Project management
- Customer interactions & marketing

PROFESSIONAL HISTORY

ILLINOIS INSTITUTE OF TECHNOLOGY (2001-present)

Alva Todd Professor and Assistant Director, Information Technology & Management (2001-August 2010)

Industry Professor and Director of Security & Forensics Laboratory,
School of Applied Technology (August 2010-August 2019)

- Used $300,000 government grant to refine online laboratories with the goal of improving hands-on methods for teaching cyber security and forensics courses.
- Development of curricula, courses and laboratories for computer & digital forensics, computer and network security, vulnerability analysis, steganography, and computer networking. Conducted research in these areas.
- Lecturer for courses in the above areas
- Performed computer forensic analysis and functioned as expert witness for several criminal & civil proceedings.
- Chaired and organized seven conferences on computer and network security co-sponsored by IEEE, UniForum, IIT and in some cases the FBI.
- Steganography and steganalysis research: Techniques for hiding information in and identifying the existence of hidden information in audio and image carriers.
- Research in the area of techniques and software for self-similar network analysis.
- Self-similar analysis and validation of network traffic for use in properly sizing web servers.
- R&D of techniques for securing computer networks in open environments.
- R&D of techniques identifying physical & topological locations of mobile computers in open environments.

Adjunct Industry Professor and Director of Security & Forensics Laboratory
School of Applied Technology (August 2019-Present)

FERMI NATIONAL ACCELERATOR LABORATORY
(1990-2001)

HEAD, HIGH ENERGY PHYSICS NETWORK RESOURCE CENTER

- Direct and participate in research, design, and prototype development of systems for achieving worldwide distance collaboration, advanced networking, and distributed computing in support of particle physics research. Effort included solicitation of funds of close to one million dollars per year for computer internetworking and collaborative computing technological applications to particle physics research.
- Prototype systems include advanced remote network access to Fermilab, video conferencing, remotely shared application software, networked file systems, worldwide network performance monitoring, multi-host web search engines, electronic logbooks. Technologies include latest high level network protocols, web development languages, Java and XML programming languages, and most recently initial investigations of wireless Internet access.
- Search for synergies between new technologies and needs of international particle physics community. Propose projects based upon these synergies, and design and develop subsequent pilot systems.
- Manage group of 7 professionals. Participated in and supported professional growth among these professionals.
- Work with international community of users.
- Operate specialized World Wide Web server for particle physics community.
- Technology Tracking and Transfer for Fermilab Computing Division.

ILLINOIS INSTITUTE OF TECHNOLOGY
(1979-2001)
ADJUNCT ASSOCIATE PROFESSOR & SENIOR LECTURER

- Teach graduate level courses in computer networking, protocols, network security and microprogramming.
- Conduct research in various aspects of computer networking including CORBA and DCOM, security, multimedia, network traffic congestion, web server traffic, and software-defined networks.
- Developed many of IIT's graduate curriculum in computer networking.
- Designed many of the computer science graduate level computer networking courses
- Thesis advisor for MS and PhD students.

AT&T-BELL LABORATORIES
(1981-1990)
TECHNICAL SUPERVISOR

- Directed and participated in research, design, prototype construction and software development of a 450 Gbps low delay fiber optic campus/metropolitan area computer network. Researched markets, obtained funding, planned and managed projects, and participated in the research, design, and implementation. Yielded over 20 internal papers, several published presentations and 14 patents.
- Directed investigations into object-oriented and CASE (computer aided software engineering) systems, the goal being reduced cost and increased reliability of development projects. Foci included C++, the merging of object, prototyping, and structured software methods, and the use of these methods in the design of real-time systems.
- Participated in the design, implementation and management of a 300 Sun workstation computing environment.
- Consulted with US Dept. of Navy on shipboard data networks.
- Performed product planning and market research for B_ISDN switching systems.
- Directed market research and advanced development for central office B_ISDN switching system for integrated video/data/voice applications. Yielded several papers and patents.
- Managed groups of up to 18 computer and electronic professionals

(1980-1981)
TECHNOLOGY MANAGER

- R&D in distributed computer systems and local area networks for computer-integrated-manufacturing.
- Research into operating system and access method interaction within local area networks.
- Application of local area networks to manufacturing environments and design engineering laboratories.

ARGONNE NATIONAL LOBORATORY
(1968-1980)
RESEARCH GROUP LEADER

- Investigator, designer, and project manager for a Laboratory-wide local area network. Included: determination of Laboratory needs and resultant network features and services; design of network protocols, host interfaces; development of a multiprocessor packet switch; network operating system; design and coding of network software; use of fiber optics for high noise links, and coordination of Laboratory-wide cable plant.

- Designed electronics and supervised production of Argonne Braille Machine and its tape production facility.
- Member of Argonne Advisory Committee on Microprocessors.
- Managed experiment facilities: ALICE image processing, MIRAGE computer graphics, & AMP microprocessor.
- Research into high-level languages for micro compilers and system programming. Resulted in PCL/2 language.
- Directed and participated in research into microprogramming mainframe architectures with high degree of low-level parallelism. Resulted in the design and development AMP (Argonne MicroProcessor) based upon regularized structure of multiple general purpose busses.
- Performed research in CPU parallelism and optimizing micro compilers. Resulted in AMPMAC directly interpretable language and an optimizing microcode compiler.
- Designed full color computer graphics system that provided the first computer graphics capability at Argonne.
- Performed seminal research in compatibility between raster scan TV displays and computer systems.
- Participated in development of a CAD system for digital hardware. System reduced debugging by 30%.

NUCLEAR-CHICAGO CORP.
(1965- 1968)
SENIOR PROJECT ENGINEER

- R&D in nuclear and biomedical instruments and systems.
- Designed and developed UNILUX II computing biomedical instrument.
- Developed ARRMS (Automatic Remote Radiation Monitoring System) for the Federal Civil Defense Agency. It automatically monitored nuclear radiation at unattended remote sites.
- Designed and developed imbedded computer for use in company's instruments.
- Designed 10-femptoampere ammeter.

ADMIRAL CORP. GOVERNEMENT ELECTRONICS DIVISION
(1962-1965)
PROJECT ENGINEER

- Designed analog and digital guidance electronics for TOW missile, lightweight TPSY-21 anti-personnel radar, and an IFF transponder.
- Engaged in research into hybrid integrated circuits. Resulted in development of a clean room research and development facility.
- Extensive proposal writing and contract liaison.

ITT KELLOGG COMMUNICATIONS SYSTEMS DIVISION
(1960-1962)
DESIGN AND RELIABILITY ENGINEER

- Designed and verified reliability of analog and digital electronics for use in U.S. Air Force airborne switching center and for ATLAS missile ground support equipment.

OTHER PROFESSIONAL ACTIVITIES

- Performed computer forensic analysis and functioned as expert witness for several criminal and civil proceedings.
- Chairman of IEEE Project 802.1 - Local Area Network Standards, 1980 - 2001.

- Member of the governing Standards Executive Committee of IEEE Project 802, 1980 - 2001.
- National lecturer in data communications and computer networking, 1980-1986.
- Visiting scientist, Los Alamos National Laboratory, 1973.
- Advisory consultant to Agency for International Development, 1973-1974.
- Published many papers and formal technical reports.
- Co-author of Perspectives on *Packetized Voice and Data Communications*, IEEE Press, 1990.
- Technical Program Chair, MIDCOM 89, September 1989.
- General Chair of Ninth Data Communications Symposium, Sept. 1985.
- Program Chair, Eighth Data Communications Symposium, Oct. 1983.
- Tutorial Chair, Seventh Data Communications Symposium, Oct. 1981.
- Invited speaker, Sydney Local Area Network Conference, Sydney Australia, Dec. 1980.
- Invited plenary speaker, Computing in High Energy Physics Conference, Tsukuba Japan, 1991.
- Organized and chaired sessions at many conferences and symposia.
- Senior Member of IEEE and ACM.
- Past chairman of IEEE Computer Society, Chicago Chapter.
- Past chairman if IEEE Nuclear Electronics Society, Chicago Chapter.
- Conference Chair, IEEE Workshop on Quantized Computer Graphics, 1970.
- Chair of MICRO-8, the Eighth National Workshop on Microprogramming.
- Consultant to private industry, 1961-1985. Developed keyboard-based EDP system, low frequency spectrum analyzer for cardiac research, controller and sensor system for agricultural automatic seed planting, production meat slicing controller.

Louis F. McHugh IV

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Phone: (630) 808-9464 • lmchughi@iit.edu

AREAS OF SPECIALIZATION

Cyber Crime, Cyber Warfare, Leadership, Networking, Security, and Virtualization

Education

2019 Concordia University Chicago Ph.D. Student, Educational Technology Leadership Expected Graduation, Spring 2021

2015 Illinois Institute of Technology, Master of Cyber Forensics and Security

2010 University of Michigan-Dearborn, MS, Information Systems and Technology

2004 Northern Michigan University, BS, Computer Information Systems

Teaching Experience

2017 – Present Adjunct Industry Professor, Illinois Institute of Technology, Chicago, Illinois

2016 – Present Adjunct Faculty, College of DuPage, Glen Ellyn, Illinois 2014 –

2017 Adjunct Associate Industry Professor, Illinois Institute of Technology, Chicago, Illinois

2012 – 2014 Adjunct Instructor, Illinois Institute of Technology, Chicago, Illinois

2010 – 2012 Adjunct Faculty Instructor, Henry Ford College, Dearborn, Michigan

ACADEMIC APPOINTMENTS/TITLES

2017 – Present Member, Illinois Institute of Technology, Information Technology and Management Department, Assessment Committee

2016 – Present Voting Member, Illinois Institute of Technology, Information Technology and Management Department, Full-time Tenure Faculty Search Committee

2016 – Present Voting Member, Illinois Institute of Technology, Information Technology and Management Department, Curriculum Committee Louis F. McHugh IV Page 2

2014 – Present Member, Illinois Institute of Technology, Center for Cyber Security and Forensics Education

2014 – Present Chair, Illinois Institute of Technology, School of Applied Technology, IT Advisory Council

2013 – Present Course Coordinator, Illinois Institute of Technology, ITM 301: Introduction to Contemporary Operating Systems & Hardware I

2013 – 2014 Graduate Faculty Adviser, Illinois Institute of Technology, Department of Information Technology and Management

2007 – 2009 Member, University of Michigan-Dearborn, College of Engineering, Academic Honor Council

Curriculum Development

2018 Operating System Security, Illinois Institute of Technology

2015 – Present NxtGen High School Summer Tech Program, Illinois Institute of Technology

2016 – Present Introduction to Contemporary Operating Systems & Hardware I, Illinois Institute of Technology

2014 – Present Introduction to Cyber Warfare, Illinois Institute of Technology

Courses Taught

ILLINOIS INSTITUTE OF TECHNOLOGY IPRO 497-331 Interprofessional Project ITM 301 Introduction to Contemporary Operating Systems & Hardware I ITM 597 Special Problems in Information Technology ITMO 440/540 Introduction to Data Networking & the Internet ITMO 454/554 Operating System Virtualization ITMS 558 Operating System Security ITMS 557 Introduction to Cyber Warfare

COLLEGE OF DUPAGE CIS 1120 The Internet CIS 1150 Introduction to Computer Information Systems CIS 1180 Introduction to Networking

HENRY FORD COLLEGE CIS-100 Introduction to Information Technology CIS-112 Introduction to Networking CIS-212 Networking II

Work Experience

2016 – Present Director, Information Technology, Illinois Institute of Technology – School of Applied Technology, Chicago, Illinois • Responsible for providing IT leadership to approximately 1,250 students, staff and faculty, managing a total IT infrastructure valued at $4.5 Million. • Overseeing and developing a cross-functional team of 8 highly skilled fulltime equivalent employees • Leading the Architecture and Governance strategy • Implementing project management best practices • Fully accountable for budgetary planning and control, managing a budget of $250,000 annually • Managing vendor relationships, contracts, and negotiations • Designed and Architected several in-house Enterprise IT Solutions in support of six Academic Departments

2012 – 2016 Computer Systems Manager, Illinois Institute of Technology – School of Applied Technology, Chicago, Illinois • Primary support and System Engineer for campuses, academic departments, and labs within the School of Applied Technology • Fully accountable for all budgetary responsibility relating to the department and team • Directly responsible for the administration and support of up to 300 machines • Provided support and management of VMware, Hyper-V, LAN, SAN, Wireless Networks, Servers, Desktops, and peripherals • Supervised a team of up to 7 full-time equivalent employees providing enduser support to clients, faculty, and staff • Migrated all staff desktop machines to Windows 7 • Implemented a NAGIOS server with AWS (Amazon Web Services) for the monitoring of all Campus-based server infrastructure • Deployed corporate branding on all client and student-facing machines • Developed backup process for the PBX system to avoid any extended periods of downtime in the event of a system failure • Installed Visplex automated clock system for the central management of 30 clocks within the building • Installed a completely new Meru wireless network, including cabling, running 22 access points throughout the building • Created a new backup process for file servers to a NAS both on/off-site nightly • Setup and provided training to staff and outside clients on using 3-D printers • Supervised several students seeking an IT-related career as a part of the school internship program

2009 – 2012 Technical Support Analyst, Truven Health Analytics & Thomson Reuters – Healthcare, Ann Arbor, Michigan • Provided Tier-2 and Tier-3 support to end-users within the company. • Managed users within an Active Directory structure, adding machines, and users to organizational units • Administered the setup and distribution of new laptops and desktops to end-users • Assisted other team members in troubleshooting IT issues affecting the companies' end-users • Created, edited, assigned, and resolved cases within HP Service Manager Helpdesk support system • Managed users' computers within a Microsoft System Center Configuration environment • Tasked with maintaining stock reports and ordering of IT-related peripherals while maintaining a budget • Setup and troubleshooting of Cisco, Nortel,

and Juniper VPN connections • Checkpoint Full Disk Encryption implementation for all laptops within the business unit • Determined best upgrade path for all laptops with an older version(s) of software • Developed SOP for recovering users' data on corrupted machines. • Worked with various teams in other Thomson Reuters locations in the development of their implementations • Checkpoint Media Encryption Server / Client for customer support teams • Used to ensure all removable media is encrypted upon interfacing with workstation • Iron Mountain Online Backup System for all Healthcare Executive Staff Members

2007 – 2009 System Administrator, University of Michigan-Dearborn, Department of Computer and Information Science, Dearborn, Michigan • Supervised 6 employees responsible for monitoring lab usage and providing IT assistance • Managed three student labs totaling 75 machines for the department running Windows XP and 7 • Supported 14 faculty research labs used in-class projects and for student projects • Provided support to all servers hosted by the department (Windows 2008, Ubuntu, and CentOS) • Provided end-user support to students, faculty, and staff within the department • Streamlined the management of all lab machines for the department providing an imaging solution and system control for administration. • Planned, implemented, and monitored a Symantec Ghost Server in a Windows 2008 R2 Environment Louis F. McHugh IV Page 5 • Implemented a Subversion control system for software engineering faculty members; supported in Linux Ubuntu Server using WebDAV and SSH authentication • Setup, tested, and responsible for the implementation of an Oracle 11g production environment for the entire department meeting specific time sensitive department deadline. • Coordinated hardware and software purchases for all student labs and servers

Professional Memberships

Association for Computing Machinery (ACM) + SIGCSE + SIGITE + SIGUCCS

Association of Information Technology Professionals (AITP)

High Technology Crime Investigation Association (HTCIA) InfraGard

Publications and Presentations

2014 Embar, M., McHugh IV, L. F., & Wesselman, W. R. (2014). Printer watermark obfuscation. Proceedings of the 3rd Annual Conference on Research in Information Technology - RIIT '14, 15-20.

2018 McHugh IV, L. F., (2018). Hackers? Cyber Security Fundamentals, CDH CPA, Itasca, Illinois

2017 Hajek, J., McHugh IV, L. F., Liaw, J. The Skunkworks Approach: Using DevOps to Foster Rapid Deployment, Innovation, & to Reduce Costs. Supporting Learning & Technology in Education Conference, Northern Illinois University, Naperville, Illinois

2017 McHugh IV, L. F., (2017). Security: Defensive Hacking. IIT NxtGen High School Summer Tech Program, IIT Mies, Chicago, Illinois

2017 McHugh IV, L. F., (2017). Security: Offensive Hacking. IIT NxtGen High School Summer Tech Program, IIT Mies, Chicago, Illinois

2016 McHugh IV, L. F., (2016). Hacker High School. IIT NxtGen High School Summer Tech Program, IIT Mies/Rice Campuses, Chicago/Wheaton, Illinois

2015 McHugh IV, L. F., (2015). Hackers – Who Are They? Security Symposium, West Suburban Bank, Addison, Illinois

2015 McHugh IV, L. F., (2015). Building and Securing a Network: Hands-On System Administration. IIT NxtGen High School Summer Tech Program, IIT Mies/Rice Campuses, Chicago/Wheaton, Illinois

2014 Embar, M., McHugh IV, L. F., & Wesselman, W. R. (2014). Printer Watermark Obfuscation. ForenSecure 2014, IIT Rice Campus, Wheaton, Illinois

2014 Jessop, J. & McHugh IV, L. F., (2014). Interested in 3D Printing? Start here. DuPage Regional Office of Education Center for Professional Learning, Lombard, Illinois

Media Interviews

2019 Molina, T. (July 17, 2019). Viral FaceApp Raises Alarms About Privacy; 'You're Essentially Giving Away Your Fingerprint', Expert Says. CBS 2, Chicago. TV.

2018 Emanuel, L. (May 10, 2018). Expert warns against sharing on social media. U-High Midway. Retrieved from https://uhighmidway.com/1659/indepth/expert-warns-against-sharing-onsocial-media/

2018 Farr, C., (May 7, 2018). Robocalls, Scams at 'Epidemic Proportions,' Official Says. NBC Chicago. TV. Louis F. McHugh IV Page 7

2018 Marotti, A., (March 23, 2018). Facebook users have been giving away their data for a decade. Is it too late to get our privacy back? Chicago Tribune (Chicago, IL).

2017 Kozlov, D., Zuckerberg Promises Facebook Ad Reforms. CBS Chicago. TV.

2017 Madrigal, A., The Mysterious Printer Code That Could Have Led the FBI to Reality Winner. The Atlantic. Atlantic Media Company, 06 June 2017. Web.

2017 Crews, J. & Associated Press, (2017). WikiLeaks claims to release thousands of CIA documents. WGN News, Chicago. TV.

2016 Kim, K., & Capitanini, L., (2016). Your Cellphone Number Might be as Important to Hackers as Your Social Security Number, Expert Says. NBC Chicago. TV.

2015 Leitner, T., & Capitanini, L., (2015). How Hackers Can Commit Cyber-Murder in Just 10 Minutes. NBC Chicago. TV.

2015 Seidman, B., (2015). "Cardless Cash" Eliminates ATM Cards and PIN Codes. CBS News. TV.

PROFESSIONAL ACTIVITIES

ILLINOIS INSTITUTE OF TECHNOLOGY

2018 – 2019 Co-Chair, LabMan: Academic Lab Management Conference

2014 – 2018 Faculty Adviser, IIT Student Chapter HTCIA

2016 – 2017 Member, President's Staff Advisory Council

2014 – 2015 Faculty Adviser, IIT Ham Radio Club Louis F. McHugh IV

INDUSTRY/COMMUNITY

2017 – Present Secretary, Midwest Chapter HTCIA 2017 – Present Member, Board of Advisors, College of Arts and Science, Governors State University

2016 – Present Member, Villa Park Masonic Lodge #1113

2015 – Present Vice Chairman, Board of Advisors, Theta Iota Chapter-Tau Kappa Epsilon Fraternity

2015 – 2017 Member, CDW Advisory Board for Education

Professional Honors and Awards

2019 Professional Member, Gamma Nu Eta – the National Information Technology Honor society

2017 Session Chair, ForenSecure: IT Forensics and Security Conference and Expo, Illinois Institute of Technology

2014 Best Paper, 3rd Annual Association for Computing Machinery's Research in Information and Technology Conference

2008 Member, Upsilon Pi Epsilon – the International Honor Society for the Computing and Information Disciplines

4. FACULTY/STUDENT ACHIEVEMENTS BY DEGREE PROGRAMS/SPECIALIZATIONS

4.1 Information Technology and Management Programs

In each of the ITM specializations, faculty leaders are responsible for the research and educational objectives associated with that specialization. This document identifies for each specialization the key learning units, the primary responsible faculty, the faculty/student real world relevant scholarly accomplishments in support of that specialization, and the activities by which each student can demonstrate a level of excellence. The following framework provides the context in which student achievements are measured:

1. **Accredited Learning** – Each student should master relevant learning units and achieve the learning outcomes defined by the ABET accreditation standards. Our programs are ABET accredited and are an NSA Center of Academic Excellence. Their coursework and GPA provide a measure of how well they have realized the ABET and NSA/CAE learning outcomes. See ITM By-The-Numbers for additional program recognition.
2. **Professional Readiness** – The real-world scholarly efforts of ITM faculty are brought into the courses they teach. As a result, key courses in each specialization provide students with hands-on, real-world course projects. Each student can create a portfolio containing project materials resulting from these real-world projects. Their portfolio should demonstrate their ability to apply what they have learned in the classroom and to engage in professional discussions on how they went about applying that knowledge. The quality of their portfolio and their ability to discuss projects in their portfolio provides a measure of their professional readiness.
3. **Technology Leadership Skills** -- Students who show great achievement in the application of their knowledge are encouraged to ask for recommendations using the TruAccolades system from the faculty guiding these projects. The accolades provide a measure of which technology leadership skills they have demonstrated. In addition, each year a student is selected from each specialization who has demonstrated technology leadership in that specialization. See TruAccolades document and ITM Student Award Application in Section 6 for additional information.

COMPUTER AND INFORMATION SECURITY

Real World Relevant Scholarly Impact & Curricular Support:
Industry Professor William Lidinsky mentors numerous students each year and together they have produced over fifty conference presentations and have been awarded two Best Research Paper Awards from the ACM SIGITE/RIIT conference. One of these award winning papers produced by ITM faculty member Louis McHugh together with two coterminal students was cited by the Atlantic Monthly for its technical relevance to the methods most notably used to catch persons involved in leaking of classified information in 2017. His team is recognized for their research in the field of steganography. The research results of this group have been shared with the FBI Chicago Forensic Lab in their efforts to thwart cyber crimes. Technical issues identified in discussions with the FBI have lead to significant technical contributions by IIT students/faculty. Under the leadership of Professor Lidinsky a group of ITM students analyzed criminal case files and developed a process by which the Public Defenders Office was able to independently, forensically analyze these files in a criminal case in which they were involved. It is this type of real world experience that has opened job opportunities for our students because employers "have not encountered job candidates with such experience".

Adjunct Industry Professor Shawn Davis is the Director of Digital Forensics at Edelson PC where he leads a technical team in investigating claims involving privacy violations and tech-related abuse. His team's investigations have included claims arising out of the fraudulent development, marketing, and sale of computer software, unlawful tracking of consumers through digital devices, unlawful collection, storage, and dissemination of consumer data, large-scale data breaches, receipt of unsolicited communications, and other deceptive marketing practices. His students have performed and presented research in areas such as mobile certificate pinning, malware analysis, phishing detection and remediation, website defacement, network indicators of compromise (IOC) detection, and registry analysis.

Learning Units:

Open Source Software Development

Data Networks and Internet Security

Cyber Security Management, Auditing, and Compliance

Cyber Security Technologies

Cyber Analytics and Forensic Analysis

Student Portfolio Elements:

Application software projects

Award winning research projects, presentations and publications produced in several courses, presented at Forensecure, ACM SIGITE, Uniforum, etc.

DATA ANALYTICS AND MANAGEMENT

Real World Relevant Scholarly Impact & Curricular Support:
Dean and Professor Carl Carlson's team, including ITM faculty member Dr. Adarsh Arora and IIT alum Sargon Hasso, are recognized for their award winning scholarly contributions to database design. Industry tested techniques for relational view integration, use case interaction diagram design, cluster analysis, and pattern-based design have been employed at the DOD Air Force War College, Bell Laboratories, Argonne National Lab, Gould Super Computing, and Boeing along with a long list of companies for which his alums have reported applications of these techniques. Students are expected to become skilled in these techniques and produce prototype designs in ITMT 531 for their Project Portfolio.

Assistant Professor Yong Zheng and his team of students work in the fields of data analytics, data mining and machine learning. His research on recommender systems builds real-world applications to serve the personalization and marketing in several domains, such as educations, movies, music, e-commerce, and so forth. His recent contributions to the technology-enhanced learning enables his team to build a smart learning environment, so that students can gain experience with real-world data science projects.

Learning Units:

Database Modeling and Design

Data Analytics

Data Warehousing

Database Security

Intelligent Device Applications

Service Oriented Architecture

Student Portfolio Elements:

Intelligent device software projects

Award winning research projects, presentations and publications produced in ITMD 527 and ITMT 531 and presented at numerous conferences.

Information system designs produced in ITMT 531 demonstrating the industry tested relational view integration, use case/interaction diagram, cluster analysis, and pattern-based design approaches.

SMART TECHNOLOGY AND INNOVATION (Grad only)

Real World Relevant Scholarly Impact & Curricular Support:
Industry Associate Professor Jeremy Hajek and his students, through grants from the Coleman Foundation for Entrepreneurship, have been able to add new technologies into our curriculum, such as AR/VR, and Smart Assistants, Voice Recognition, and Human Computer Interaction/communication.

One major project is a sub-award contract to work with Florida Atlantic University, where students were tasked to evaluate and deploy current AR and VR technology to enable visualization of rising sea-level projection in Ft. Lauderdale Florida. This research allowed us to push the current state of technology in relation to visualizations and give expertise to FAU as they continue to conduct their research in regard to the state of this type of tooling.

A second project is work being done in conjunction with Chemistry and Armour Engineering professors Dr. Rong Wang and Dr. Hamid Arastoopour. This project combines the specialties of each department. The genesis of the project is a patent held by Dr. Arastoopour. The Chemistry department, Dr. Wang, and her Ph.D. students have done research potentially enabling this patent to be built. Our team has been brought in to then help build the prototype device putting all of the components together into a single presentable wearable prototype, engaging in creating the concept of tele-aroma using a small purse sized device and a VR headset.

Adjunct Industry Professor Vasilios Pappademetriou mentors several students each semester on application development projects, most recently his work with undergraduate student Travis Smith on the low cost, open-source device to aid people with speech disorders.

Learning Units:

Open Source Software

Embedded Systems

Intelligent Device Applications

Intelligent Device, Wireless or Cloud Technology Projects

Student Portfolio Elements:

Digital system application projects (ITMT 593, ITMD 556, ITMD 542, ITMD 544)

Interdisciplinary research projects

INFORMATION TECHNOLOGY INFRASTRUCTURE (Grad only)

Real World Relevant Scholarly Impact & Curricular Support:
Industry Associate Professor Jeremy Hajek and his students have created our own Big Data/HDFS cluster. This is used for teaching Data Analytics and Comparative Data Paradigms. This system is an available resource for all of our researchers who want to do

Big Data Analysis (Spark, Hadoop, R) on large sets of data (up to 20 TB). We have the system securely built, working in conjunction with OTS for secure remote access.

This tool enables not only teaching exercises, but can be used now for researchers, and more importantly since there is no cost associated (as opposed to a cloud service) the barriers to exploration, experimentation, and innovation have been lowered.

Learning Units:

Object Oriented Application Development

Open Source Software

Project Management

Information Technology Management Frameworks

Secure Data Network Management

Student Portfolio Elements:

Infrastructure support projects

Network and information system designs

IT MANAGEMENT AND ENTREPRENEURSHIP

Real World Relevant Scholarly Impact & Curricular Support:
Coleman Entrepreneur in Residence professor Adarsh Arora's career as a successful serial entrepreneur enables him to provide students with industry tested techniques used in the creation of start-up ventures. His mentoring efforts both inside and outside the classroom has led to student driven venture start-ups and given them self confidence in the formulation and presentation of their innovative ideas

Dean and Professor Carl Carlson's published research on the "Business Innovation Maturity Model" and its associated enterprise assessment tools have been applied by students in their dual degree master's projects and taught in the Business Innovation course.

Learning Units:

Object Oriented Application Development

Human and Computer Interaction

Business Innovation

Information Technology Entrepreneurship

Intelligent Device Applications

Student Portfolio Elements:

Software application projects

Participation in award winning innovation competitions including our own Innovation Challenge

Develop innovative solutions to real world problems

Develop new venture business plans

Make frequent oral presentations (ITMM 581/582)

MANAGEMENT INFORMATION SYSTEMS (Grad only)

Real World Relevant Scholarly Impact & Curricular Support:
Associate Chair Ray Trygstad's students have conducted security audits and developed security plans for several local area organizations. Currently, his students are developing the security plans for IIT.

Under the leadership of Adjunct Industry Professor Bonnie Goins, ITM students have published several papers in the Information Security Management Handbook, Vols 1-11 on the topics of security management, governance, risk assessment and compliance.

Learning Units:

Object Oriented Application Development

Service Oriented Architecture

Information Technology Management Frameworks

Client Server Technologies and Applications

Student Portfolio Elements:

Software application projects

SOFTWARE DEVELOPMENT

Real World Relevant Scholarly Impact & Support:
Professor Carl Carlson's research, with contributions from former colleague Ilene Burnstein, on the internationally recognized "Testing Maturity Model" (SM of IIT), rapid prototyping techniques, component-based software design standards, and with alum Sargon Hasso pattern-based design integration techniques and standards have been employed internationally as well as locally with several stock trading firms, Gould Super Computing, and Argonne National Lab.

Industry Associate Professor Jeremy Hajek is a key collaborator in a large project with Chemical Engineering Professor Dr. Ali Cinar. His research into creation of an Artificial Pancreas. The overall goal of the project is to collect data and health information from various subjects and with their custom algorithm generate dynamic insulin injection, which they believe is a superior methodology to what is out on the market. There by easing the impact of diabetes on a person's life.

ITM students were brought into the partnership to speed the application development and standardize the development process. The partnership already includes Bio-medical, Chemical Engineering, and Ph.D. students from ECE. The task is to streamline the software development and application build process. Over 2 years we have standardized development, enabled version control of source code, enabled centralized storage of code, produced documentation, created repeatable software build via OS containers (using Docker) and industry best practices. Dr. Cinar's goal is to seek FDA approval for field tests and this has been the driving quality principle in our development.

This has allowed the application development time to go from 0 builds in a single year, to a build of the application being done in about 25 minutes upon every single commit of code to the source repository.

This methodology also has allowed us to onboard over 5 new people in the course of two years without disrupting development so that we can train new developers. The project is nearing completion of its first protype and will undergo software testing before the fall semester starts.

The development of these components for this software research and a standardization has far reaching effects. We have written multiple papers on this outcome and submitted to conferences. We also believe that this same framework can be used across the university to help other research projects standardize their IT and speed up the process where those researchers can spend more time on the research and not have to worry about the IT backend, and ITM students can come along and support those research projects and broaden and learn about other areas (cross-discipline) while helping research have an impact on the world.

Learning Units:

Object Oriented Application Development

Advanced Software Programming

Software Testing and Maintenance

Rich Internet Applications

Project Management

Student Portfolio Elements:

Software application projects

NETWORKING, INFORMATION, AND COMMUNICATIONS TECHNOLOGY (Undergrad only)

Real World Relevant Scholarly Impact and Support:
Industry Professor William Lidinsky served on and/or chaired the IEEE 802 committee that defined Local Area Network standards without which we would not have the internet as we know it. He received a dozen patents while heading up network research groups at Argonne National Lab, Bell Labs, and Fermi Lab. As a result, he brings considerable knowledge and experience into his classes.

Adjunct Industry Professor Carol Davids has built several network testbeds including the Next Generation 9-1-1 testbed which allows the user to place an end-to-end call for emergency services from a POTS phone, a SIP phone, a mobile phone or a WebRTC based application to a Public Service Answering Point (PSAP) using an Emergency Services IP Network (ESINet). The testbed is used for National Emergency Numbers Associate (NENA) Industry Collaboration Events (ICE). Carol has published several papers with her students based on research in this lab.

Learning Units include:

Rich Internet Applications

Networking and Telecommunications Management

Open Source Operating Systems

Data Networks and the Internet

Network Administration and Operations

Student Portfolio includes:

Network design projects

Information system designs

SYSTEM ADMINISTRATION (Undergrad only)

Real World Relevant Scholarly Impact & Support:
Adjunct Industry Professor and Director of Information Technology for SAT Louis McHugh manages a team of 1 full time and 8 to 10 part time student employees that provides full life cycle support for all of SAT. This allows the students to obtain real world, impactful experience in creating real world systems that are routinely moved into production for use within SAT. The student staff based on this gained experience are able to hire in at a number of premier companies.

Learning Units include:

Project Management

Networking and Telecommunications Management

Open Source Operating Systems

Network Administration and Operations

Cloud Computing Technologies

Student Portfolio includes:

Network design projects

Information system designs

SYSTEMS ANALYSIS (Grad only)

Real World Relevant Scholarly Impact & Support:
Professor Carl Carlson's publications on the topics of system analysis techniques provide learning units utilized in multiple courses.

System analysis experience is gained in all the application development projects that students work on. Here is where the faculty experience benefits the students by the mentoring they receive on these projects.

Learning Units:

Object Oriented Application Development

Human and Computer Interaction

Software Testing and Maintenance

Process Engineering

Object Oriented Sytem Analysis, Modeling, and Design

Student Portfolio Elements:

Software application projects

WEB DESIGN AND APPLICATION DEVELOPMENT

Real World Relevant Scholarly Impact & Support:
Associate Professor Karl Stolley regularly teaches courses on web design and development, information architecture, and humanizing technology. He directs Gewgaws Lab (http://gewga.ws), a digital design and development research group and physical lab space dedicated to investigating open-source technologies. Stolley is the author of the book *How to Design and Write Web Pages Today* (Greenwood Press 2011), which makes the argument for writers designing and developing websites at the source-code level according to Web standards. His publications have appeared in such journals as *IEEE Transactions on*

Professional Communication, *Journal of Business and Technical Communication*, and *Kairos: A Journal of Rhetoric, Technology, and Pedagogy*. Stolley was webmaster of the world-renowned Purdue University Online Writing Lab (OWL). He has also served as interface editor for *Kairos* and led its redesign, which was awarded the Council of Editors of Learned Journals' Best Journal Design Award in 2008—the first Web-based journal to receive that distinction.

Professor Carl Carlson's rapid prototyping techniques developed for the Gould Super Computing Research Group have been used in some of our web development courses.

Learning Units:

Object Oriented Application Development

Human and Computer Interaction

Web Site Application Development

Rich Internet Applications

Web System Integration

Business Innovation

Student Portfolio Elements:

Web development projects

4.2 Cybersecurity Programs

REPORT ON SAT CYBERSECURITY ACCOMPLISHMENTS

Since 2002 cybersecurity activity on the Mies and Downtown Campuses has grown significantly under the leadership of ITM Professors Bill Lidinsky, Ray Trygstad, Carl Carlson, Maurice Dawson, and Louis McHugh. This report focuses on their accomplishments in the areas of Research and Funding, Accreditation, Conference Leadership, Curricular Activities, Community Outreach, and Cybersecurity IIT alums.

RESEARCH AND FUNDING

Begun in 2002, ITM's cybersecurity initiatives have grown significantly under the leadership of ITM Industry Professor William Lidinsky, Associate Chair Ray Trygstad, Assistant Professor Maurice Dawson, and Dean Carl Carlson. ITM research accomplishments include:

1. Industry Professor Carol Davids research with her ITM students in steganographic theft solution methods for real time communication networks led to patent number 8,453,241 on May 28, 2013 titled Method for Securing Streaming Multimedia Network Transmission. Rights to this patent were sold through IIT's Tech Transfer Office to a third party.
2. Professors William Lidinsky and Carl Carlson provided technical assistance to Athena Verify, a local company headed up by long-time collaborator Adarsh Arora. Athena Verify received two patents for their software system which integrated Network Compliance Management products to track configuration versions and to facilitate monitoring and change modeling. This product helped Cisco, Check Point and Juniper Netscreen customers struggling with ballooning corporate network complexities, ad hoc change processes, and demanding compliance requirements. After selling the product to SolarWinds, Adarsh Arora, PhD, joined the ITM program as a full-time faculty Member. ITM students Felix Matthew and Siddhaarth Rajkumar worked on a research project for Athena resulting in the design of a set of best practiced modeled in Athena Verify to check compliance of the Rice Campus Wireless Network. They presented their findings at Netsecure '08 in a paper titled "Best Practices for Wireless Networks Using Athena Verify".
3. ITM's Cybersecurity program was awarded a $300,000 grant from the National Security Agency for research led by Professor Lidinsky resulting in the development of RADISH which supports several courses in the cybersecurity programs.
4. Under the mentorship of Professor Lidinsky, ITM students have produced over fifty conference presentations and have been awarded two Best Research Paper Awards from the ACM SIGITE/RIIT conference. One of these papers produced by ITM faculty member Louis McHugh together with two co-terminal students was cited by the Atlantic Monthly for its technical relevance to the methods used to catch individuals involved in leaking of classified USA information in 2017.
5. Led by Professor Lidinsky, ITM students are the best published university in the field of steganography. The research results of this group have been shared with the FBI Chicago Forensic Lab in their efforts to thwart cyber crimes. Technical issues identified by the Chicago FBI Forensic Lab have lead to significant technical contributions by IIT students/faculty.
6. Under the leadership of Industry Professor Bonnie Goins, ITM students have published several papers in the Information Security Management Handbook, Vols 1-11 far more than any other university.

7. Professor Maurice Dawson has produced considerable publications and made numerous invited lectures on the subject of cybersecurity. The (London) Times quoted him in their special report on the cybersecurity threat to manufacturing.
8. Under the leadership of Professor Lidinsky a group of ITM students analyzed criminal case files and developed a process by which the Public Defenders Office could independently, forensically analyze these files in a criminal case.
9. Professor Maurice Dawson recently served on the organizing committee of the Information Technology: New Generation's 10th annual International Symposium on Cybersecurity. The symposium, held April 1–3 in Las Vegas, is a special track of the international ITNG conference that offers a comprehensive and inclusive forum for researchers, academics, and industry professionals to present and discuss various theoretical and practical issues, solutions, and findings in the field of cybersecurity. At this conference a paper was published with Springer. That paper, titled "Detecting and Preventing File Alterations in the Cloud Using a Distributed Collaborative Approach," which he wrote with José Antonio Cárdenas Haro of California State University Bakersfield, looks at the cybersecurity issues that cloud computing presents, particularly in the applications that run within the cloud
10. Professor Maurice Dawson and student Andreas Vassilakos teamed with a scientific research assistant at the chair for information systems at the Technical University of Munich to publish and present a paper examining big data's contributions to crime prevention.
11. Professor Matthias Gottlieb, scientific research assistant at the chair for information systems at the highly regarded Technical University of Munich (TUM), served as a visiting researcher in the Department of Information Technology and Management during his stay that will last until the second week of April. He also assisted April 11–12 during SAT's ForenSecure, an industry focused technical conference.
12. Nihar Patel, ITM student, received funding through Catholic Relief Services (CRS) and U.S. Agency for International Development (USAID) to do an assignment in Benin with the John Ogonowski and Doug Bereuter Farmer-to-Farmer Program (F2F).

ACCREDITATION

1. Under the leadership of ITM Associate Chair Ray Trygstad IIT was designated by the National Security Agency as a National Center of Academic Excellence in Cyber Defense Education based on the Master of Cyber Forensics and Security curriculum.

2. Professor Ray Trygstad and Louis McHugh are both NSA Center of Academic Excellence (CAE) program peer reviewers, and McHugh is a program mentor as well.

3. IIT's ITM program is the only ABET IT accredited degree program in the State of Illinois. Ray Trygstad has communicated with those developing the proposed ABET cybersecurity accreditation standards so that we can apply for accreditation when we reach the graduation eligibility requirement.

4. Professor Ray Trygstad is an ABET Program Evaluator in both Information Technology and Cybersecurity.

CONFERENCE LEADERSHIP

ITM, under the leadership of ITM faculty and staff, hosts and participates in conferences that bring a broad collection of individuals and organizations with interests and activities in cybersecurity who share their diverse perspectives on this topic.

1. In March 2018, IIT/ITM hosted the sixth annual NSF funded conference on Women in Cybersecurity (WiCyS) at the Chicago Hilton hotel with support from the mayor's office.

2. The week of October 16th, ITM participated in and had a booth at the Cyber Security Chicago Conference at McCormack Place.

3. ITM has run Forensecure, a conference on cybersecurity and forensics, for seventeen years now. This conference has attracted nationally known speakers and participants representing diverse perspectives on cybersecurity and forensics. Employers come from across the major security centers of America to recruit our students. The reason most often given is that "IIT produces the most knowledgeable and experienced students in the field of security". IIT presenters include ITM faculty/students; Law professors Lori Andrews, Hal Krent, and Rich Warner; and Armour professor Paco Ruiz.

4. ITM faculty members Ray Trygstad and Carl Carlson have participated in the National Cyber Summit in Huntsville, Alabama in 2017 and 2018.

5. ITM faculty members Ray Trygstad and Carl Carlson have participated in the CAE Executive Summit in both 2017 and 2019.

6. ITM faculty member Louis McHugh participated in the 12th International Conference on Cyber Warfare and Security at Wright State University in Dayton, Ohio as part of the development of ITM's course on Cyber Warfare Defense.

7. ITM hosted a NIST National Initiative for Cybersecurity Education (NICE) workshop to gather data on the state of cybersecurity education for the May 11th executive order of the President. The report on the data collected was sent to the President of the United States.

8. ITM faculty members Ray Trygstad, Louis McHugh, and Carl Carlson participated in the 2017 and 2018 NICE Conference and the attached Conference for Centers of Academic Excellence.

9. ITM Assistant Professor of Information Technology and Management Maurice Dawson was selected as the president-elect of the Midwest chapter of the Association for Information Systems during its 14th annual conference on May 21–22 at the University of Wisconsin-Oshkosh in Oshkosh, Wisconsin

10. Multiple ITM faculty participate regularly in the annual conference held by the lead academic organization in our field, the ACM Special Interest Group in Information Technology Education (ACM SIGITE), and Professor Ray Trygstad is a SIGITE Executive Board member and is currently a candidate for SIGITE Vice Chair.

CURRICULAR ACTIVITIES

The strength of our cybersecurity initiatives lies in the strong bachelor and master degree programs in ITM designed in compliance with the ABET accreditation standards as they are being developed.

1. ITM faculty are active contributors to the development of the ACM/IEEE Cybersecurity Curricula 2017 and the ABET Cybersecurity accreditation requirements developed based on the curriculum.
2. Funded by the State of Illinois, ITM faculty created and offered cybersecurity training courses for lawyers in collaboration with the Chicago Public Defenders Office.
3. The Master of Science in Applied Cybersecurity and Digital Forensics (with collaboration from Kent Law School).
4. The Master of Cyber Forensics and Security (with Online offering)
5. The Master of Information Technology and Management with specialization in cybersecurity and forensics.
6. The Bachelor of Science in Applied Cybersecurity and Information Technology
7. The Bachelor of Information Technology and Management with specialization in Systems Security.
8. Coterminal ITM degree in Cybersecurity which allow undergraduate students to complete their Bachelor's and Master's degrees simultaneously.
9. Industry Professor Ray Trygstad was a Reviewing Contributor to the *ACM/IEEE-CS Information Technology Curricula 2017*
10. Industry Professor Ray Trygstad and Adjunct Industry Professor Bonnie A. Goins were Reviewing Contributors to the *ACM/IEEE/AIS Cybersecurity Curricula 2017*

COMMUNITY OUTREACH

IIT/ITM faculty and staff have given frequent expert advice on many issues related to cybersecurity with all the major television networks and the major newspapers.

A requirement of NSA designation as a Center of Academic Excellence is that IIT show leadership in community outreach. ITM faculty and staff have been involved in the following community outreach activities:

1. ITM Industry Professor Shawn Davis has give testimony before the Illinois State Legislature on the subject of Privacy and Security and has been invited to provide testimony before the U.S. Congress on Privacy and Security.
2. ITM Industry Professor Louis McHugh is a Midwest officer for HTCIA: High Technology Criminal Investigation Association and is faculty advisor for the Illinois Tech Student Chapter.
3. IIT faculty are members of the Mayor's Cybersecurity Roundtable. Mayor Emmanuel has shown support for the WiCyS event as part of his efforts to build partnerships within Chicago in support of his goal to recognize Chicago as an important center for cybersecurity.
4. ITM faculty work with leaders from area community colleges to support NSA goals, community college curriculum development, and to provide an effective 2+2 pathway for their students, particularly in cybersecurity.

5. IIT is a member of the National Center for Systems Security and Information Assurance (CSSIA), a National Science Foundation (NSF) Advanced Technological Education (ATE) National Resource Center (http://www.cssia.org/) located in Palos Hills, Illinois.
6. ITM's NXTGen summer program provides cybersecurity educational opportunities for high school students.
7. Maurice Dawson, an assistant professor of information technology and management at Illinois Tech, has been selected as the keynote speaker at the St. Louis Gateway Chapter of the National Society of Black Engineers's 2019 Scholars Reception on Sunday, July 21. Dawson, who is also the director of Illinois Tech's Center for Cyber Security and Forensics Education, will deliver a speech titled "Cybersecurity: What It Is, What It Isn't, and Why It Is Critical for African Americans to Enter This Field." The annual event, hosted by the St. Louis Gateway Chapter, supports students pursuing degrees in higher education in engineering and other areas of STEM.
8. Illinois Institute of Technology Assistant Professor of Information Technology and Management Maurice Dawson presented his research titled "Unprepared for Cybersecurity in Saudi Arabia: Argument for a Shift Towards Cyber Readiness" on May 3 on the campus of the University of Wisconsin-Milwaukee in Milwaukee. Dawson argues about the need for Saudi Arabia to better arm itself against cyber threats in the paper. He uses recent cyberattacks against government entities in the kingdom to show that these type of aggressions "render a sector vulnerable" and demonstrate why new laws, security-hardened technologies, and education is needed there.

ITM CYBERSECURITY DEGREE ALUMNI

Included is a list of cybersecurity degree program graduates of ITM and the positions that they currently hold or have held previously:

Name	Company	Position
Samuel Adedayo	Amazon	Cloud Operations Associate
Benro Adeyemo	PricewaterhouseCoopers	Senior Associate, Cybersecurity
Oluseyi Akinlolu	Byline Bank	Senior Information Security Analyst
Sergio Arranz	Telefónica	VasiliosCyber Threats Intelligence team coordinator
Scott Bachmann	IIT	Information Systems Operations Manager
Burim Bakalli	Heartland Health Centers	Chief Information Officer
Amadou Barrow	Verizon	Technical Analyst - Security Analytics and Threat Detection
David Broda	IIT	Security and Forensic Lab Manager
Aquanda Brooks	LSC Communications	IT Governance Specialist II
Joseph Carbon	CACI International Inc.	Lead Digital Forensic Analyst
Seth Carpenter	Transunion	VMware Administrator
Vin Cayanan	Vectrus	System Administrator II (Lead), Baghdad, Iraq
Annette Cedano	Hendrickson	Manager Information Security
Naveen kumar reddy Chillakuru	Charles River Associates	Cyber Associate - Forensic services
Charles Clayton	Houghton Mifflin Harcourt	Senior Technical Specialist
Arthur Clouet	Sopra Steria	Consultant Cybersecurity
Yike Dai	Guidance Software	Information Security Engineer
Anne Daum	KPMG	Manager, Cybersecurity Services
Shawn Davis	Edelson PC	Director of Digital Forensics
Keyur Desai	Macy's	System Security Specialist
Bart Dworak	Microsoft	Software Engineer
Terence Fernandes	Visa, Inc.	Director of Mobile and IoT Security
Irene Fernandez Sanchez	Ey	Cybersecurity and IT Risk Consultant
Dmitriy Fortel	Aqueity Inc.	Principal Information Security Consultant
Satwik Gorre	UL	Security Engineer
Sanjay Govind	Federal Home Loan Bank of Chicago	IT Risk and Compliance Analyst
Victor Haberkorn Gomes	Pagar.Me	Tech Leader and Head of Security
Ismail Hassan	Enova International	Site Reliability Engineer
Sean Hughes-Durkin	McDonalds	Information Security Engineer
David Hunt	Skokie Park District	Director of Information Technology & Information Security
Ainhoa Iglesias Díaz	Ingalls	Information Security Analyst
Daniel Jarzenbowski	Dell Secure Works	Senior Security Analyst
James Jerger	Google	Information Technology Resident
Justin Jessop	Argonne National Laboratory	Information Systems Security Officer
Vinesh Jethva	Autodesk	Compliance and Security Analyst, Cloud Product Security
Teresa Johnson	Google	Cybersecurity Specialist
Thomas A. Johnson, Jr.	ServerCentral Turing Group (SCTG)	Chief Information Security Officer
Kermit Johnson	Tenneco	Senior Manager, Risk Management
Ben Khodja	Box	Security Analyst
Inaae Kim	Warby Parker	Security Engineer
Deborah Kimmach	Argonne National Laboratory	Cyber Security Tools Developer
Puneet Kulshrestha	Oracle	Senior Security Analyst
Deepu Kumar	DK Technology	Information Technology Security Consultant

ITM Cybersecurity Degree Alumni

Name	Company	Position
Zbigniew Kusnierz	Citadel	Site Reliability Engineer
Oshina Lalwani	EY	Cyber Threat Management Consultant
Chris Lennert	Woodward, Inc.	Senior Information Security Analyst
Alejandro Nicolas Llor	University of Chicago Medicine	Information Security Engineer
Michael Lutgendorf	Optimas Solutions	Security Engineer (Infosec/cyber)
Fernando Martinez	AlienVault	Security Researcher
Manuel Martínez Arizmendi	OneMainFinancial	Information Security Engineer
Felix Mathew	Pepsico	Manufacturing Cybersecurity Specialist
Felix Matthew	Mars	Senior ICS Cybersecurity Advisor
Phil Matuzak	Kinship Trust Co	Technology Services Director
Louis McHugh	IIT	SAT Director of Information Technology
Vavathar Mohammed Mudassir	UL	Cyber Security Analyst
Faisal Munir	Capital One	Product Manager
Anita Nandakumar	Goldman Sachs	Vice President Information Security
Ninad Narkhede	Visa, Inc.	Lead Systems Engineer, Identity and Access Management
David Ogbolumani	Kellogg Company	Global Chief Information Security Officer
Temi Olaniyan	Deloitte	Cyber Risk Consultant
Ana Orozco	Motorola Solutions	Cyber Defense Professional
Osarumwense Francis Orumwense	Guggenheim Partners	Information Technology Security Analyst
Tanmay Patani	KPMG	Director, Cybersecurity Services
Dishank Patel	Advanced Technology Services (ATS)	IT Engineer | Cybersecurity & Network Engineering
Tony Plovich	Argonne National Laboratory	Linux Administrator
Larry Potter	JPMorgan Chase & Co.	Vice President - Cybersecurity Lead
Tony Ramirez	nowSecure	Mobile Security Analyst
Meghana Reddy	PricewaterhouseCoopers	Senior Associate, Risk Assurance
Gerald Reimer	Federal Home Loan Bank of Chicago	Security Engineer
Sandra Rubio	Vodafone	Security Solutions Specialist
Mario Russo	NYSE Euronext	Information Security Manager
David Schluchter	Marketo	Security Compliance Specialist
Sebastien Seck	R1 RCM	Security Engineer
Adrijan Seferi	Prosperoware	Software Engineer
Brian Semrau	Edelson PC	Investigator
Atul Shah	Confidential	Head of Cloud Security and Compliance
Jason Shy	Nokia	System/Security Architect/Lead - 4G System Architecture
Himani Solanki	Everlaw	Security and Compliance | FedRAMP Analyst
Geeta Sookoo	EY	Manager - Infrastructure and Service Resiliency
Samyuktha Swaminathan	Grainger	IT SOX Auditor
Abdel Sy Fane	Allstate	Senior Application Security Engineer
Rene Tapia	Loyola University Chicago	Senior Information Systems Analyst
Eric Tendian	Packback	Senior Site Reliability Engineer
Melanie Thompson	Baker Tilly Virchow Krause	Staff Consultant
Marilyn Torres-Barrios	Motorola Solutions	Senior Cybersecurity Training Specialist
Kevin Vacarro	Morraine Valley Community College	Professor
Shefali Varma	Motorola Solutions	Cybersecurity Training & Awareness Specialist
Juan M. Vasquez	JPMorgan Chase & Co.	Information Security Manager – Cybersec. & Tech Controls

ITM Cybersecurity Degree Alumni

Name	Company	Position
Ramachandran Vijayakumar	Ally	Cyber Security Analyst
Adnan Virani	UroPartners LLC.	Information Technology Technical Security Engineer II
Kenneth Warren	Orbis Technologies, Inc.	Information Assurance Engineer / I.S. Security Manager
William Wesselman	Dell Secure Works	Security Analyst
Tiauna Williams	Bank of America	Audit Supervisor
Christopher Willis	Sayers Technology, LLC	Vice President, Cybersecurity Engineering
Zheny Zans	Motorola	S/W Test Engineer
Ilir Zenku	University Of Illinois Health System	Assistant Vice President, HealthSystem IT
Kevin Zheng	Google	Corporate Engineering Support Tech

5. ITM RESEARCH/TEACHING LABS

The technological innovations created by IIT students and alumni have changed the world. Noteworthy innovations include magnetic recording, the mobile/cell phone, local area networks, and voice communications systems such as ALEXA. The goal of all our labs is to provide students with learning experiences involving emerging technologies so that they are able to make significant technological innovations in the future and continue the tradition of IIT's leadership role in technological innovation. Corporate donations, federal (NSA) grants and ITM faculty leadership has enabled us to create these labs with minimal university support.

Forensics and Security (ForSec) Lab (Director William Lidinsky)
The first research/teaching lab in ITM was established when we received approval for the ITM degree programs. Called the Cyber Forensics and Security Laboratory (ForSec Lab), the lab develops and supports an experimental environment for cyber security and digital forensic education, collaboration, evaluation and research. The lab provides students and research partners the opportunity to develop hands-on expertise working in the field of security, forensics, and disaster/data recovery.

The ForSec Lab is built and configured to support the needs of multiple computer, network, and forensic projects. All network and workstation elements have been designed for maximum configurability to allow the study of multiple aspects of digital security and forensics.

Cyber security and forensics research, testing and analysis benefits both academic and industry organizations in today's IT climate. The Cyber Forensics and Security Lab provides an environment where traffic throughout a network can be analyzed and filtered. Cyber intrusions and virus spread can be studied, as well as Malware and Spyware can be tested on multiple platforms. Equipment is easily introduced into several potential network configurations

The Lab is equipped with multiple forensic workstations targeted to be compliant with National Institute of Standards and Technology (NIST) standards, and equipped to investigate multiple interface media. Various toolkits and analysis utilities are utilized to study digital forensic techniques. The ForSec Lab is continuously being updated to keep pace with the increasing cyber security needs of businesses, government institutions, professional and educational organizations, and individuals. The RADISH system, whose development at IIT was funded by the NSA, plays a critical role in providing this service.

Several great ideas and many of the student Lab projects have been recognized with awards, presentations to professional societies, coverage in newspapers, mention in trade publications and offers of employment.

Illinois Tech's Cyber Forensics and Security Lab is operated by the Center for Cyber Security and Forensics Education (C^2SAFE).

Smart Lab (Director Jeremy Hajek)
The lab is a collaborative space where students, faculty and lab partners interact to solve technical issues related to deploying smart technologies and embedded systems. The lab is also used for classroom instruction to support classes and the

Digital Systems Technologies and Embedded Systems masters specialization within the Information Technology and Management program.

The lab started in January of 2016. Prior to that it was a classroom that was shared across numerous academic units. Donations of money, time and equipment from several companies helped make the lab possible. Construction of the lab started in October, 2015 and was mostly completed by January of 2016 for the start of the spring academic semester.

The lab is utilized for classroom instruction and to help support the Digital Systems Technologies master's degree specialization and for ITMT 492/593 Embedded Systems course. The facilities of this lab under the guidance of professor Hajek are used by students throughout IIT on interdisciplinary with professors from several other departments at IIT.

Computer and Advanced Manufacturing Technology Lab (Director Louis McHugh)

This lab is used in the ITM A+ courses where students are required to disassemble and assemble the components that make up computers. This prepares them for the many opportunities for our students in System Administration both in industry and on campus with OTS while they are a student at IIT.

It's functions are being expanded to support the digital manufacturing courses being offered by the Industrial Technology and Management program in partnership with DMG MORI and SIEMENS. In these courses DMG/SIEMENS simulators are being used to teach students the principles of CNC programming.

The foundational course; covers safety, machining processes, CAD CAM programming, metrology, quality and inspection, cutting processes, cooling strategies, and CNC programming and setup (lathe). The advanced course; covers CNC programming and setup (machining centers), multi-axis vertical machining applications, PLC learning, factory automation, process optimization, machine alignment and troubleshooting.

Real-Time Communications Lab (Director Carol Davids)

The Real-Time Communications (RTC) Lab at the Illinois Institute of Technology (Illinois Tech) is a unique venue in which industry and academia connect and collaborate. The lab is an educational facility dedicated to teaching, research and development activities that further the advancement of networked communications.

The Real-Time Communications (RTC) Labs are a collaborative space to design, test and study the performance and behaviors of real-time communications APIs, applications and services. The RTC Labs are located in Chicago and Wheaton, IL and are open to companies, researchers, students, faculty and staff via prior arrangement. The labs are the site of lab assignments for courses in Telecommunications over Data Networks and the Web.

The RTC Labs are a place where industry and academia connect. The labs bring together technical professionals, entrepreneurs, educators and leaders from the data and telecommunications industry, standards bodies, policy and regulatory institutions, and universities to promote an open exchange of ideas to lead future development in the rapidly changing field of real-time communications.

Adjunct Industry Professor Carol Davids has built several network testbeds including the Next Generation 9-1-1 testbed which allows the user to place an end-to-end call for emergency services from a POTS phone, a SIP phone, a mobile phone or a WebRTC based application to a Public Service Answering Point (PSAP) using an Emergency Services IP Network (ESINet). The testbed is used for National Emergency Numbers Associate (NENA) Industry Collaboration Events (ICE). Carol has published several papers with her students based on research in this lab.

The RTC Labs are architected to be highly configurable and to support multiple projects simultaneously. It enables users to create and operate real-time communications applications and services on networks whose configurations can be easily varied.

General Teaching Lab (Director Louis McHugh)
The equipment in this lab was purchased from the Stuart School of Business to provide ITM with a well-managed lab that could be used to support the hands-on teaching requirements of all the ITM courses and be shared with other departments when a high-quality hands-on lab is needed. This lab is also used to run our summer high school outreach programs.

Big Data Cluster (Director Jeremy Hajek)
This is an HDFS/Hadoop Cluster built for students to securely access large datasets remotely in support of class projects from several courses. Access tools include: SQL, Map/Reduce, Spark, and PrestoDB.

Cloud Native Lab (Director Jeremy Hajek)
This lab is based on the industry move to container-based application development, what we would call Cloud Native. In ITMT 595 OS Container Orchestration, we prototyped a remote lab for Kubernetes installation and application development. This is a prototype lab that can expand in purpose. This work dovetails with the infrastructure work Jeremy Hajek is providing for Dr. Cinar's research—enabling application development to move faster and with more assurances of quality and stability.

6. FACULTY AND STUDENT AWARDS

6.1 Student Awards and Criteria

Each year awards are given out to both undergraduate and graduate students for achieving excellence in one of the following areas:

- Computer & Information Security
- Data Analytics & Management
- Information Technology & Infrastructure
- IT Management & Entrepreneurship
- Management Information Systems

- Smart Technology & Innovation
- Software Development
- Systems Analysis
- Web Design & Application Development
- Co-Terminal in Master of Cyber Forsics and Security
- Co-Terminal in Master of Information Technology and Management
- Outstanding First Year Student
- Outstanding Transfer Student
- Outstanding Bachelor of Information Technology and Management Student from the Chicago area
- Outstanding Bachelor of Information Technology and Management Student from the United States outside the Chicago area
- Outstanding Bachelor of Information Technology and Management Student World Wide

Students must submit an application which contains the following information which forms the criteria used by the faculty to select the award winners:

- Grade Point Average
- Extracurricular Activities
- Community Service
- Special Designations
- Campus Work Study
- Portfolio Projects
- Student Research
- Awards and Memberships

6.2 TruAccolades (Student)

The purpose of TruAccolades is to provide a digital presence that signals career readiness based on the technical, business, and soft skills that they have exhibited in portfolio projects, competitions, extracurricular initiatives, etc. The student requests the following recognitions to the professors who have supervised their activities. As a result, the student can back up this recognition by being able to discuss in detail the technical, business, and soft skills that they applied when working on the activity.

Provost Kilpatrick has endorsed this initiative with the following announcement: "As a part of Illinois Tech's focus in becoming even more of a student-centered university we aim to help equip you with the tools that would facilitate your career development beyond your academics. With this in mind, I would like to encourage you to consider using TruAccolades – a free tool to discover your strengths and enhance your professional presence.

With TruAccolades you can collect and showcase real-time feedback and accolades earned for your outstanding projects, internships and other exceptional academic activities from your professors or mentors. You can also embed your accolades to populate your existing professional profiles such as your resume, Linkedin profile, and others."

6.3 SAT Faculty Educational Excellence Award

This award recognizes faculty members for outstanding achievement as an educator in the School of Applied Technology at Illinois Institute of Technology. Recipients are individuals who have made extraordinary contributions to advance education within their field in the university, the nation, and the world.

To be considered for this award, the faculty member must meet five or more of the following criteria:

- Designed, developed, or made significant improvement to a degree program
- Made a significant scholarly impact in their field as recognized by a third party (not including funding organizations)
- Received a College or University Teaching Award
- Received a national or international Teaching or Education Award from a professional society or government agency
- Were awarded significant grants in support of educational programs
- Supervised student publications with special consideration to award winning publications
- Spearheaded degree accreditation (ex. ABET or Center of Academic Excellence (CAE)) designation
- Demonstrated leadership through service as a regional, national, or international officer of a professional society

- Named as a Fellow or Senior Member of a professional society
- Served as an accreditation program evaluator or peer evaluator and/or mentor
- Acknowledged as a contributor to the development of standards for curriculum, accreditation, or certification at the national or international level
- Developed a significant teaching laboratory
- Chaired a major conference and/or designed and ran conferences over several years

The award may be made at or near the end of each academic year. Recipients receive a medallion to be worn with academic regalia. Current faculty who have received this award include:

- Carl R. Carlson – major contributions include developing ABET accredited computer degree programs in three different departments, development of the ITM programs, international, real world impact of database and software engineering research, and obtained corporate and NSF funding for the major ITM and CS labs
- Maurice Dawson – major contributions include Fullbright support for international cyber security education, internationally recognized invited speaker, Director of the Center for Cyber Security Education and Research, and for his efforts to encourage of members of the African American community to pursue cyber security education
- William Lidinsky – major contributions include chairing the IEEE 802 committee that gave us the international standards for local area networks, patents and research publications with numerous students, and development of the Cybersecurity degree programs and Forensecure conference at IIT.\
- Ray Trygstad – major contributions include leadership officer positions in Gamma Nu Eta and ACM SIGITE, leadership in ABET accreditation process, service as an ABET Program Evaluator and NSA CAE evaluator, completing the NSA CAE designation process for the department, and development of ITM and Cybersecurity curriculum.

6.4 Jeffrey Kimont Memorial Teaching Award

This award is given annually to the outstanding adjunct faculty member for that academic year. It is named in honor of Industry Professor of Information Technology and Management Jeff Kimont, who was the first full-time faculty member in Information Technology and Management. The Selection Committee made up of ITM faculty and select the awardee prior to the Spring Faculty Meeting. Winners of this award include:

- 2015 – Jason Lambert
- 2016 – Dennis J. Hood
- 2017 – Shawn Davis
- 2018 – Vasilios “Billy” Pappademetriou
- 2019 – Brian Vanderjack

7. DUAL DEGREE MASTER'S DEGREE PROJECTS

Each year European students enroll in the ITM graduate program as part of a dual degree program between IIT and their home universities. This initiative has served as preparation for our own Master of Science degree programs which have a thesis or project requirement. Ultimately, this will serve as preparation for a proposed PhD program when we hire at least two more tenure track faculty.

The following folder contains the submitted papers of our most recent dual degree students:

https://drive.google.com/drive/folders/12fsQz37vQR30ayfBwnsGgD582cbcQLL?usp=sharing

The project evaluation criteria used by the faculty committee evaluating these projects follows:

ILLINOIS INSTITUTE OF TECHNOLOGY *School of Applied Technology*

Project Presentation Evaluation

Student Name: **Date:**

(Enter the appropriate numerical value in each block)	Excellent	Good	Fair	Weak	Poor
PRESENTATION SKILLS	5	4	3	2	1
Were the main ideas presented in an orderly and clear manner?					
Did the presentation fill the time allotted?					
Were the overheads/handouts or other supporting material appropriate and helpful to the audience?					
Did the talk maintain the interest of the audience?					
Was there a theme or take-home message to the presentation?					
Was the presenter responsive to audience questions?					
KNOWLEDGE BASE	5	4	3	2	1
Was proper background information on the topic given?					
Was the material selected for presentation appropriate to the topic?					
Was enough essential information given to allow the audience to effectively evaluate the topic?					
Was irrelevant or filler information excluded?					
Did the presenter have a clear understanding of the material presented?					
CRITICAL THINKING	5	4	3	2	1
Were the main issues in this area clearly identified?					
Were both theoretical positions and empirical evidence presented?					
Were the strengths and weaknesses of these theories, and the methods used to gather this evidence adequately explained?					
Did the presenter make recommendations for further work in this area?					
Did the main conclusions of the presentation follow from the material presented?					
Were competing explanations or theories considered and dealt with properly?					
OVERALL IMPRESSION (15 points)	Excellent 14-15	Good 12-13	Fair 10-11	Weak 8-9	Poor 0-7
TOTAL:	0				

COMMENTS:

8. COMPANIES WHO EMPLOY OUR GRADUATES

ITM alumni have gone on to work at leading IT companies in significant job positions. Further, IIT has a history of our graduates receiving excellent mid-career salaries. See IIT By The Numbers.

The companies with the most graduates from ITM are in order: **JP Morgan Chase, Amazon, Motorola Solutions, Motorola Networks, Apple,** and **Google**. We are in the early stages of reestablishing a database of alumni at noteworthy companies and have included a first draft of this database. We hope to use this database as part of our efforts to support our students in job searching and future fund raising.

9. MEDIA MENTIONS BY ITM FACULTY

Here are some of the expert interviews given to the media by ITM faculty:

RAY TRYGSTAD

Channel 9 WGN News - Ray Trygstad, ITM Associate Chair, appeared on WGN News on Thursday, December 18, 2014. Professor Trygstad was interviewed for a story on the Sony Pictures cyber attack and the precedent they set by pulling the movie "The Interview".

Channel 2 CBS Chicago - Ray Trygstad, ITM Associate Chair, was interviewed for a CBS Chicago article titled "Communication Will Give Chicago IT Professionals An Edge In Hiring".

COMPUTERWORLD -- Ray Trygstad, ITM Associate Chair, was interviewed by Carolyn Duffy Marsan on March 5, 2013 about "Which Tech Degrees Pay the Most From Day One?" Also appeared in *NetworkWorld* and *ITWorld*

Bloomberg News - ITM Associate Chair Ray Trygstad, interview with Leslie Patton and Lindsay Rupp, "Target Says Encrypted PIN Information Stolen in Breach," Leslie Patton and Lindsey Rupp December 27, 2013, 3:28 PM CST

Excepts from this interview also appeared in:
The Richmond Times-Dispatch on December 28, 2013
The Star online (Myanmar) Monday, 30 Dec 2013 12:00 AM MYT

WILLIAM LIDINSKY

Al-jazeera - Cicada 3301 puzzle. Professor William Lidinsky, Industry Professor, Information Technology and Management and Director, School of Applied Technology Computer Security and Forensics Laboratory showed how to crack the 1st 4 steps in one of the Cicada 3301 puzzle sequences.

Channel 5 NBC News - Professor William Lidinsky, Industry Professor, Information Technology and Management and Director, School of Applied Technology Computer Security and Forensics Laboratory was an interview on passwords & passphrases. Professor Lidinsky share with reporter Marion Brooks examples of good and bad passwords.

Channel 7 ABC News - Professor William Lidinsky, Industry Professor, Information Technology and Management and Director, School of Applied Technology Computer Security and Forensics Laboratory was interviewed on Channel 7 ABC News with Cheryl Burton on computer security and how to reduce the chances of being hacked.

JEREMY HAJEK

CHICAGOINNO - Jeremy Hajek, Industry Associate Professor of Information Technology and Management discussed his research into autonomous movement framework with Chicagoinno during a drone demonstration on July 27, 2016.

Chicago Tribune - Jeremy Hajek, Industry Associate Professor of Information Technology and Management discussed how your phone's vibration motor can be hacked in the Chicago Tribune on May 6, 2016.

Channel 9 WGN News - Jeremy Hajek, Industry Associate Professor of Information Technology and Management, was interviewed on WGN TV news for a story on the evolution of the smartphone on May 6, 2016.

Digi Blog - Illinois Tech Students and School Of Applied Technology Industry Associate Professor Jeremy Hajek were featured in an article in Digi about their Xbee inspired Ipro projects on August 25, 2015.

WLS AM RADIO - Jeremy Hajek, ITM Industry Associate Professor Jeremy Hajek was interviewed about Artificial Intelligence on the John Howell Radio Show on July 30, 2015.

Associated Press - ITM Industry Associate Professor Jeremy Hajek discusses the technology behind SMARTPHONE voices and their potential use during a health emergency MARCH 15, 2016. The story was published by more than 338 national media outlets and in the United Kingdom's DailyMail.com.

This interview was also covered by
ABC News
Fox News
U.S. News & World Report
San Francisco Chronicle

Daily Herald Business Ledger - Jeremy Hajek, ITM Industry Associate Professor discussed commercial drone use in an article on May 27, 2015.

ABC 7 CHICAGO NEWS - Jeremy Hajek, ITM Industry Associate Professor was interviewed about tornado warning sirens adjusting to the digital age in a report on April 28, 2015

Channel 12 FOX 32 News - ITM Industry Associate Professor Jeremy Hajek was interviewed about the possible causes of a key FOB dead zone in Chicago, April 1, 2015

ABC 7 CHICAGO - Jeremy Hajek, ITM Industry Associate Professor demonstrates "How Digital Invaders Can Gain Access To Your Home" in an interview on February 13, 2015.

DNAinfo Chicago - Jeremy Hajek, ITM Industry Associate Professor was interviewed about the damaging impact of winter weather on your smartphone in an article in DNAinfo Chicago on February 5, 2015.

ADARSH ARORA

COMPUTERWORLD - ITM Entrepreneur Professor in Residence Adarsh Arora was interviewed for ComputerWorld on " Lessons from a serial entrepreneur: Reputation is everything"

LOUIS MCHUGH

Channel 2 CBS Chicago - ITM IT Director Louis McHugh was interviewed about "Viral FaceApp Raises Alarms About Privacy - 'You're Essentially Giving Away Your Fingerprint'," July 17, 2019

Channel 5 NBC News Chicago - ITM IT Director Louis McHugh was interviewed by Farr, C., on May 7, 2018 about "Robocalls, Scams at 'Epidemic Proportions'"

Chicago Tribune - ITM IT Director Louis McHugh was interviewed by Marotti, A., on March 23, 2018 about "Facebook users have been giving away their data for a decade. Is it too late to get our privacy back?"

Channel 2 CBS News Chicago - ITM IT Director Louis McHugh was interviewed by Kozlov, D., in 2017 on "Zuckerberg Promises Facebook Ad Reforms."

The Atlantic - ITM IT DIrector Louis McHugh was interviewed by Madrigal, A. about "The Mysterious Printer Code That Could Have Led the FBI to Reality Winner" on June 6, 2017.

Channel 9 WGN News Chicago and The Associated Press - ITM IT Director Louis McHugh was interviewed by : Crews, J. & Associated Press, in 2017 about "WikiLeaks claims to release thousands of CIA documents."

Channel 5 NBC NEWS Chicago - ITM IT Director Louis McHugh was iInterviewed by Leitner, T., & Capitanini, L., . "How Hackers Can Commit Cyber-Murder in Just 10 Minutes" 2015

Channel 2 CBS NEWS Chicago - ITM IT Director Louis McHugh was Interviewed by Seidman, Bianca on "'Cardless Cash' Eliminates ATM Cards and PIN Codes." CBS News, Sept. 18, 2015. Web. Sept. 25, 2015.

MAURICE DAWSON

The London Times: Raconteur.net - ITM Assistant Professor Maurice Dawson was interviewed about "How manufacturing cyberattacks could cripple the UK. 5G Network Security risks could accompany manufacturing innovation when technology upgrades occur."

St. Louis Public Radio - ITM Assistant Professor Maurice Dawson & S. Khan were interviewed on October 9, 2017 about "What you need to know about cybersecurity in light of the Equifax hack." Also Morris, D. (2018, March 19). "Cove alum overcomes health setbacks to earn second doctorate degree." Retrieved August 24, 2018

St. Louis Business Journal. ITM Assistant Professor Maurice Dawson appeared in November 4, 2016 in an article on "Protecting your Tech."

CARL CARLSON

Chicago Citizen –- Carl Carlson, ITM Chair was quoted in an article on "IIT Receiving Recognition for Online Education Programs"

Faculty and Staff Handbook Fall 2019

Department of Information Technology & Management

Contents Page #

Information Technology & Management Mission

Educate and inform students to prepare them to assume technical and managerial leadership in the information technology field.

About the Department of Information Technology & Management

Courses from our department are available at Illinois Tech's Chicago Mies Campus live or via videoconferencing, at remote locations via the Office of Digital Learning and the Internet, and on rare occasions at our Rice Campus in Wheaton. Courses are offered on a semester basis with the fall semester beginning in late August and the Spring semester beginning in mid-January. Because of the strong hands-on emphasis of these programs, many courses will include a laboratory or laboratory exercises. Lecture courses normally will meet two days a week for 75 minutes each session, or once a week for 150 minutes. Lab courses normally will meet two days a week for 100 minutes each session, or once a week for 200 minutes. We have many adjunct faculty members who work each day in the discipline they are teaching, so many course offerings are in the evening or on Saturday morning when they are available to teach. To meet the needs of full-time students, we offer as many daytime classes as possible, and in most cases these courses will be available online for part-time students. Lecture-only evening courses normally run 6:25pm to 9:05pm one day each week. Evening courses with laboratories will normally run from 5:35pm to 9:05pm one day each week.

Course Philosophy

Information Technology & Management courses are a careful blend of theory and practical application.

- *Applications:* A core goal of the Department of Information Technology & Management is to teach students practical, hands-on, applied knowledge that can lead to immediate employment in the IT field. To this end, ITM courses will teach the latest applications and tools used in the field, maximizing their opportunities to make hands-on use of these application and tools. In many instances courses will be tracked to existing industry certification requirements, giving immediate employment credibility to course content. Course tracking will be to vendor-neutral certifications to the greatest extent possible but this does not preclude the teaching of vendor-specific material when appropriate.
- *Theory:* While the stress of courses in the Department of Information Technology & Management is principally practical, given the scope and rapidity of change within the IT industry a solid grounding in theory is necessary to equip students to cope with the emergence of new technologies and to advance in their career in the field. A good grounding in theory is necessary to meet the goals of a university education, equipping students with critical thinking skills and the ability to see beyond "plug-and-chug" solutions all too commonly found in information technology training courses. This allows them to reason out solutions to problems rather than relying on canned solutions and blind adherence to procedure.

Program Objectives

All courses should be taught with the program objectives and students outcomes in mind, and whenever possible if your course fulfills a program objective or outcome it would benefit the students to include those that are applicable in your course outcomes.

Bachelor of Information Technology & Management Objectives

The Bachelor of Information Technology and Management degree produces graduates who are able to:

- Problem solve and create innovative answers to provide technology solutions for the problems of business, industry, government, non-profit organizations, and individuals.
- 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.
- Apply current technical and mathematical concepts and practices in the core information technologies and recognize the need to engage in continuing professional development.

Bachelor of Science in Applied Cybersecurity and Information Technology Objectives

The B.S. in Applied Cybersecurity and Information Technology degree produces graduates who are able to:

- Problem solve, create, and effectively communicate innovative answers to provide technology solutions for the problems of business, industry, government, non-profit organizations, and individuals.
- 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.
- Design and implement an enterprise security program using both policy and technology to implement technical, operational, and managerial controls, which will technically secure enterprise information assets and resources to deter, detect, and prevent the success of attacks and intrusions.
- Investigate information security incidents and violation of law using computer resources in a manner such that all evidence is admissible in a court of law.
- Apply current technical and mathematical concepts and practices in the core information technologies and recognize the need to engage in continuing professional development..

Master of Information Technology & Management Objectives

At the conclusion of their studies, graduates of this degree should be able to:

- Deliver optimal technical and policy technology solutions for the problems of business, industry, government, non-profit organizations, and individuals in each student's particular area of focus.
- Work with, lead, and manage teams in an enterprise environment to collaboratively arrive at optimal technology solutions.
- Manage and deploy information resources applicable to each student's particular area of focus in an enterprise setting.

Master of Cyber Forensics and Security Objectives

At the conclusion of their studies, graduates of this degree should be able to:

- Design and implement a comprehensive enterprise security program using both policy and technology to implement technical, operational and managerial controls.
- Comprehensively investigate information security incidents and violation of law using computer resources in a manner such that all evidence is admissible in a court of law.
- Technically secure enterprise information assets and resources to deter, detect, and prevent the success of attacks and intrusions.

Master of Science in Applied Cybersecurity and Digital Forensics Objectives

At the conclusion of their studies, graduates of this degree should be able to:

- Design and implement a comprehensive enterprise security program using both policy and technology to implement technical, operational and managerial controls.
- Comprehensively investigate information security incidents and violation of law using computer resources in a manner such that all evidence is admissible in a court of law.
- Technically secure enterprise information assets and resources to deter, detect, and prevent the success of attacks and intrusions.
- Conduct and report on significant research in the areas of cybersecurity and/or digital forensics.

Master of Science in Information Technology & Management Objectives

At the conclusion of their studies, graduates of this degree should be able to:

- Deliver optimal technical and policy technology solutions for the problems of business, industry, government, non-profit organizations, and individuals in each student's particular area of focus.
- Work with, lead, and manage teams in an enterprise environment to collaboratively arrive at optimal technology solutions.
- Manage and deploy information resources applicable to each student's particular area of focus in an enterprise setting.
- Conduct and report on significant research in the areas of information technology and related managemen- topics.

Bachelor of Information Technology & Management Student Outcomes

Bachelor of Information Technology and Management graduates should be able to:

(a) Analyze a problem and identify and define the computing requirements appropriate to its solution
(b) Design, implement, and evaluate a computer-based solution to meet a given set of computing requirements
(c) Communicate effectively with a range of audiences about technical information
(d) Make informed judgments in computing practice based on legal and ethical principles
(e) Function effectively on teams to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables
(f) Identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems
(g) Assist in the creation of an effective project plan.

Bachelor of Science in Applied Cybersecurity and Information Technology Student Outcomes

Bachelor of Science in Applied Cybersecurity and Information Technology graduates should be able to:

(a) Analyze a problem and identify and define the computing requirements appropriate to its solution.
(b) Design, implement, and evaluate a computer-based solution to meet a given set of computing requirements.
(c) Communicate effectively with a range of audiences about technical information.
(d) Make informed judgments in computing practice based on legal and ethical principles.
(e) Function effectively on teams to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables.
(f) Identify and analyze user needs and to take them into account in the selection, integration, evaluation, and administration of computer-based systems. [IT]
(g) Apply security principles and practices to the environment, hardware, software, and human aspects of a system. [Cybersecurity]
(h) Analyze and evaluate systems with respect to maintaining operations in the presence of risks and threats. [Cybersecurity].

Undergraduate and Graduate Bulletins

Specific requirements for completion of each student's degree is in the applicable university bulletin. In most cases the bulletin in force in the year the student entered the program governs their curriculum, but revisions to the bulletin may be published by the department between cycles. Illinois Tech bulletins are published annually online only at http://bulletin.iit.edu/. The ITM Graduate Bulletin is at http://bulletin.iit.edu/graduate/colleges/applied-technology/department-information-technology-management/. The ITM Undergraduate Bulletin is at http://bulletin.iit.edu/undergraduate/colleges/applied-technology/information-technology-management-school-applied-technology/.

Faculty Office Hours / Telephone Availability

As faculty members, you must be available to students outside of class. Your contact information and published office hour information must be provided to the ITM Assistant Department Manager, Angela Jarka, ajarka1@iit.edu, 312.567.5927 prior to the beginning of each term, but no later than the end of the first week of the term. Full-time faculty members and adjunct faculty members who are Illinois Tech staff members must provide a

work telephone number to their students; this may be a Google Voice number. At their discretion, adjunct faculty may share a personal telephone number with their students, but this is not required or expected. Otherwise we strongly suggest you use your IIT Google for Education account to establish a Google Voice number. This will ensure students have both an email address and a phone number for you. You can redirect the Google Voice number to your own phone, or redirect it only for limited, specific hours, or not at all. If you don't redirect it, it will give students voice mail access and SMS text access through the number. The voice mail is automatically transcribed and sent to your Illinois Tech Gmail, as are text messages. Sometimes the transcriptions are less than perfect but the email also will have a link you can click on to listen to the voice mail. A tutorial to help you set up this account is available at **http://dickens.rice.iit.edu/GoogleVoiceTutorialForITMFaculty.pdf**.
Of course, if you already have a phone number you are willing to share with students, this is unnecessary, but might be worth doing anyway because it gives you more flexibility and control.

- *Full-Time Faculty:* Full-time faculty members and adjunct faculty members who are full-time Illinois Tech employees will establish and publish/post reasonable office hours. Office hours and location must be given on any course web sites or Blackboard and office hours should be posted prominently on the faculty members' office door. The location and times of office hours should match the location (Rice Campus or Mies Campus) and times (day or evening) of the course. Faculty members should be present in their office for all posted office hours. When teaching a course that includes part-time students, faculty members should accommodate them by having some office hours on evenings and/or weekends. Additionally, faculty members must be available via email or other electronic means.
- *Adjunct Faculty:* Adjunct faculty members should maintain one to two hours of physical presence office hours if possible, and must be available via email or other electronic means. They may keep virtual office hours via a chat application or instant messaging, but must ensure all students understand clearly how to contact them if this is their office hour method. At the Mies Campus, faculty may hold office hours in Perlstein 223 in the project/conference room or at the faculty desk or circular table in the open area of the office. Check with Angela Jarka, **ajarka1@iit.edu** or 312.567.5927 for what space might be available during your scheduled office hours. Adjunct faculty members who are Illinois Tech staff members may elect to hold office hours in the office assigned to them for their staff position.

Communications

The Department of Information Technology and Management has several paths to communicate with students.

- *Illinois Tech Email:* Your official iit.edu email address is the primary method of communication between the ITM Department and you. It is important that you check your email often, and any correspondence to your students must come from your university email address. You need to hold students to the expectation that communications must be by their hawk.iit.edu email,account. If you receive student email from another address, you should always respond to their hawk.iit.edu email address.
- *Weekly ITM Newsletter:* Any announcements, news and calendar events from the ITM Department will be published in our weekly newsletter which will be sent to your iit.edu email every Friday during the fall and spring semesters, and occasionally during the summer term.
- *ITM Loopback Blog:* Important announcements, news and calendar events from the ITM Department as well as IT industry news will appear on the ITM blog, **http://blogs.iit.edu/itm_loopback/**. Faculty bloggers are welcome; if you would like to blog on Loopback, please contact Ray Trygstad, **trygstad@iit.edu** or 630.447.9009.
- *The ITM Facebook Group:* **http://www.itm.iit.edu/facebook/**.

Academic Honesty

As students study in our program, they will be required to submit research papers, programs, labs, quizzes and examinations. These works are very important because they are the metric—the measurement—of our ability to impart knowledge and information to students; and of their ability learn, recall and apply this knowledge and information. If students do not submit work that is their own work, we have no way to measure the success of our efforts to educate them. If they are not being academically honest—if students are cheating, they are not allowing us to adequately measure our success—or their success. Our single largest problem in the Information Technology and Management program is with research papers. Many students in our program have come from other nations where secondary school and undergraduate programs never required completion of research papers, but the ability to research a topic and present the results of that research in a research paper is absolutely required in graduate education in the United States. If this is not a skill that students already possess, they must learn it to be a success in our program.

We have had reports of students boasting to employers during Curricular Practical Training that they "got through" our program by cheating. To us, this seems to be just stupid: why would you boast about being dishonest? Frankly we are very upset by this as it is unfair to the students who study and work hard in our program, and we are taking every step to be sure that *no one* who cheats repeatedly in our program will receive a degree from IIT.

- *Plagiarism:* The code of conduct governing writing by students at Illinois Tech requires original writing, prohibits plagiarism and provides severe sanctions for plagiarism. Original writing means that students will think through ideas and express them in their own way. Plagiarism is submitting written material that contains words that are directly quoted without placing the quotation in quotation marks or as a paragraph that is set off from the text and is not accompanied by a citation of the source. It can also be a statement of a fact that is not regarded as "common knowledge" without citation of the source. Every single sentence or clause that students directly quote and every fact that is not common knowledge that they cite MUST have a related entry in their bibliography. The presence of one sentence or substantial phrase in student–submitted work that is a direct quote and does not have the source cited in their bibliography is automatically plagiarism. Submitting the words of others as your own work is cheating and will not be tolerated in our program.

- *Writing Assistance:* Often students will find material online and cut and paste this material directly into work they submit with no citation. The main reason we find that students do this is a lack of confidence in their ability to express thoughts well in written material. We would far prefer to see a student's own ideas—no matter how poorly expressed—than seeing someone else's ideas written well! Students at IIT's Mies Campus should make use of the Writing Center (http://www.iit.edu/csl/hum/resources/writing_center.shtml); the staff there will go over a student's paper with him or her line by line to help them with their grammar and use of language. They are there to help students learn to write better by explaining each correction as they are made. In addition, research librarians in Galvin or Biegler Libraries are there to assist students in ensuring that their citations and bibliography are correctly formatted; it is their job to assist them and students should be encouraged to ask them.
- *Time Pressure and Research:* Another reason students will plagiarize is that they are pressed for time and need to assemble a research paper in a very short period of time. The solution to this problem is very, very simple but represents a level of self-discipline many students have difficulty with: students need to start their research and writing with enough time to do a thorough and complete job in their own words.
- *Plagiarizing by Paraphrase:* When a writer uses a source, substitutes words and sentences, or even changes the order but keeps the meaning of the original, a citation is required. In the example given below, the original is on the left. The paraphrase on the right constitutes plagiarism. The writer could avoid plagiarism here by acknowledging the source and providing a proper citation.

Original: It is not generally recognized that at the same time when women are making their way into every corner of our work-world, only one percent of the professional engineers in the nation are female. A generation ago, this statistic would have raised no eyebrows, but today, it is hard to believe.	***Paraphrase:*** Few people realize now that women are finding jobs in all fields, that a tiny percentage of the country's engineers are female. Years ago this would have surprised no one, but now it seems incredible.

- *Mosaic Plagiarism:* Here the writer lifts phrases and terms from the source and embeds them in his or her own prose. An example follows in which the lifted phrases are underlined:

  The pressure is on to get more women into engineering. The engineering schools and major corporations have opened wide their gates and are recruiting women zealously. Practically all women engineering graduates can find attractive jobs. Nevertheless, at the moment, only one percent of the professional engineers in the country are female.

  Mosaic plagiarism is sometimes caused by careless note taking. However, it looks dishonest and is judged as such. The use of quotation marks around the original wording and citation avoid the problem of plagiarism. Often a better approach is to use paraphrase or to quote directly—with appropriate citations.

- *Quoting and Referencing Material:* Ultimately we expect that any course work that students submit will contain their own words and not the words of others. They must be scrupulous about separating and referencing the words of others. Faculty members will normally consider unseparated or unreferenced text that others have written to be plagiarism.
  - *Citations:* Plagiarism can be avoided by providing citations for the sources of any material, including ideas, phrases, or sentences used in a paper. A number of different systems are available for providing citations. The key to all of them is that the writer must clearly identify for the reader the sources of all material (including ideas) that have come from somewhere else. If students wish to use the words of others, in most cases they must do two things:
    - ✔ Separate the words of others from those of their own. For one or two lines, place the words in quotation marks or for longer passages quote or indent the words using different font styles.
    - ✔ Properly reference the words. See the reference information provided in the "Writing Research Papers" section of the Undergraduate or Graduate Student Handbook. You may supply more specific instructions for your students if you wish but ensure that you do so in writing.
  - *String Quotation Problem:* Sometimes a student will write a paper consisting of a string of quotations. It is usually much better for a student to provide his or her own analysis and write the paper in his or her own words. In most cases you should reject a paper consisting primarily of material quoted from other sources because the paper does not represent the student's own work. Due to this, you may wish to limit the amount of material that students may quote directly in an assignment. If no guidance is present, as a general rule properly attributed quoted material should not exceed 33% of the content of a paper.
- *Collaboration/Copying:* Some students in our program have found themselves pressured by classmates to give answers to problems and assignments for courses they have already completed. This is also clearly cheating—it is dishonest and is unacceptable; students who give out this information are as guilty of academic dishonesty as are those who ask for this information. Please make it clear to students that if they are asked to do this the only acceptable answer is to just say NO. It benefits neither them nor the students who are copying their answers.
- *Sharing of Completed Course Work Online:* Students cannot share answers to problems, coding assignments, other course assignments, quizzes, or examinations on any web site. If we are made aware of gradable/graded material from departmental courses being posted on sites such as coursehero.com, we will work with the site to determine the identity of the submitter and will treat the offense with the same gravity as a second Academic Honesty Violation.
- *Acknowledgment:* Each student must read and ensure that they understand both the **Illinois Institute of Technology Code of Academic Honesty** in the *The Illinois Institute of Technology Student Handbook* at http://www.iit.edu/student_affairs/handbook/ and the **Information Technology and Management Policy on Academic Honesty Violations** below. They are told that they must understand that if they commit academic dishonesty—if they cheat—there *will be consequences. They will be punished.* At a minimum they should be assigned a grade of zero for the assignment; if it is a second offense they will be given a failing grade

for the class and lose our approval for participation in Curricular Practical Training (CPT) and/or Co-op/ Internship programs. On a third offense, we will recommend that a student be expelled from the university.

INFORMATION TECHNOLOGY AND MANAGEMENT POLICY ON ACADEMIC HONESTY VIOLATIONS

Sanctions for Information Technology and Management students

When an Information Technology and Management student is found to be in violation of the academic honesty standards of the university, the faculty member involved should take the following steps:

1. Identical or Substantively Identical Work: If duplicate work is encountered when grading an item, assign a grade of zero for the assignment, quiz or exam on which the violation has occurred until the situation has been discussed with the students involved.
   a. Discuss the situation with all students involved.
   b. If one student admits to having copied the work, or if there is clear evidence who is guilty, assign the guilty student a grade of zero and grant full credit to student who did the work.
   c. If no one admits to the offense or a reasonable determination of guilt cannot be made, assign each student involved a grade of zero
2. Plagiarism: If a submitted item contains unattributed material that is not a student's own work, assign a grade of zero for the assignment, quiz or exam on which the violation has occurred.
3. Sharing of Completed Work Online: This will automatically be treated with the same sanctions as a second Academic Honesty Violation.
4. In any case, submit an Academic Honesty Violation Report to the ITM Program Manager, Angie Jarka, PH 223, ajarka1@iit.edu, 312.567.5927.
5. If notified by the ITM Associate Chair that the violation is a second offense, expel the student from the course and assign a punitive failing grade.

When the ITM Program Manager is notified of a student violation of the academic honesty standards of the university, the Program Manager will take the following steps:

1. Determine if the violation is a first, second or third offense by consulting the student's ITM Department file and notify the ITM Associate Chair for undergraduate students.
2. If the violation is a first offense, the ITM Associate Chair will notify the Dean of the School of Applied Technology and the Vice Provost for Academic Affairs, and place a notation of the violation in the student's ITM Department file.
3. If the violation is a second offense or is sharing of completed course work online, the ITM Associate Chair will notify the Dean of the School of Applied Technology and the Vice Provost for Academic Affairs; notify the faculty member who should expel the student from the course and assign a punitive failing grade; notify the Career Management Center and the International Office that the Department of Information Technology and Management's approval for the student's participation in Curricular Practical Training (CPT) and/or Co-op/Internship programs has been withdrawn for the current and next semesters; and place a notation of the violation in the student's ITM Department file.
4. If the violation is a third offense, the ITM Associate Chair will perform the same steps as for a second offense and notify the Dean of the School of Applied Technology that this is a third offense. The Dean will then recommend to the Vice Provost for Academic Affairs that the student be expelled from the university.

The ITM Academic Honesty Violation Report may be found in appendix A to this Handbook.

Program and Course Prerequisites

Prerequisites for courses and degrees may be fulfilled though prior college course work, industry certifications or experience, or credit by examination.

- *Graduate Prerequisite:* Although a bachelor's degree is required for admission to the graduate degree, courses equivalent to the required prerequisite courses for the program, ITM 301, ITM 311 or 312, ITMD 361, and ITMD 421 may be completed at many community colleges prior to enrollment in the degree program. Students attempting to meet these requirements elsewhere need to check with an adviser to ensure that the course meets the equivalent ITM requirement.
- *Prerequisites for the Master of Cyber Forensics and Security and the Master of Science in Applied Cybersecurity and Digital Forensics:* This degree requires extensive prerequisites which may add an additional semester of study to the curriculum for students who have not fulfilled these requirements prior to enrolling. See the *Graduate Bulletin* for full details.
- *Waiver of Prerequisites Based on Previous Coursework, Certification or Experience:* Program or course prerequisites may be waived based on previous coursework, industry certifications or significant experience. Waivers can be granted for courses by advisers, course instructors of the course the prerequisite is required for, or the ITM Associate Chair, Ray Trygstad. Degree prerequisite waivers and graduate core course waivers may be granted only by graduate advisers or the ITM Associate Chair. Waivers based on previous coursework or significant experience for prerequisites and/or core courses may require completion of a placement examination. See below for credit by examination and placement examination information.

Credit by Examination

Credit by examination may be granted for any course as per current university policy as found in the *Undergraduate* or *Graduate Bulletin*. For undergraduates, any credit granted by examination must be completed prior to beginning the last 45 hours of coursework for their degree.

- *Credit by Examination for Industry Certifications:* Credit by examination may be granted for certain industry certifications but this credit will not normally be granted after the end of the first semester of studies in a degree program. Many industry certifications may fulfill course requirements; while we recognize their value and applaud students who hold them, we cannot at this time grant graduate course credit for Cisco certifications. If students have industry certifications that they believe may fulfill course requirements, they should contact the ITM Associate Chair, Ray Trygstad (**trygstad@iit.edu** or 630.447.9009), for evaluation of their certification.
- *Administration of Examinations for Credit by Examination:* A student desiring to complete a course through credit by examination will complete the Credit by Examination form at **http://my.iit.edu/iit/registrar/tools_guide/pdf/credit_by_proficiency_exam_form.pdf**, make their payment, and bring the form to the instructor for the applicable course. The instructor may administer the midterm (if applicable) and final examinations from the most recent offering of the class, or may administer an oral examination, to verify that the student possesses an adequate level of knowledge to complete the course. Upon completion of the examination, the instructor will assign a grade on the form; if the student does NOT possess the necessary level of knowledge a failing grade should be assigned. After assigning the grade and signing the form the instructor must return the form in person to Amber Chatallier or Angela Jarka in the ITM offices at the Mies Campus. Once a student hands you the form they may not possess or handle the form again.
  - If you are requested to administer credit by examination and have any questions, please contact the ITM Associate Chair, Ray Trygstad (**trygstad@iit.edu** or 630.447.9009).
- *Credit for Proficiency for Continuing Education Unit (CEU) awarded coursework:* Credit by Proficiency may be granted for coursework in the IT or INT courses of the Information Technology and International Certificate Programs as outlined in Grading of CEU Students below, requiring a grade of "C" or better for undergraduate credit in undergraduate level courses and "B" or better for graduate credit in graduate level courses based on the final letter grade given for the CEU coursework. If a particular section of a course is offered at both undergraduate and graduate levels, students must complete the graduate level coursework to receive graduate credit. Meeting with your program manager of the Office of Professional Development (OPD) at the beginning of each semester will help ensure proper level selection in coursework. The Credit by Proficiency process also begins with the student meeting with the appropriate program manager of OPD. Successful completion of courses in IT or INT may always be considered as credential for admission even if no academic credit may be awarded. There is no Credit by Proficiency awarded for English Language courses

Placement Examinations

Students entering the Master of Information Technology and Management degree program may be required or may elect to take placement examinations based on an evaluation of their background and undergraduate degree program.

- *Subject Placement Examinations:* Students entering the Master of Information Technology and Management degree program who desire to have a prerequisite or core course waived based on previous coursework or significant experience may be required to complete a placement examination in that subject area. The determination for the necessity of a placement exam will be made by the student's Graduate Adviser. Application development course waivers require a placement examination ensuring students can use a contemporary object-oriented programming language; students will be requested to complete a representative set of basic programming tasks and will have a choice of programming languages in which to complete the tasks—Visual Basic is not an acceptable language for this purpose. For all exams, references may be consulted, but each test is timed such that knowledge and experience in the subject area is necessary. Students who cannot satisfactorily complete the exam will be expected to complete the applicable prerequisite or program core course. When directed to take a placement examination, students will contact the ITM Program Manager, Angie Jarka, PH 223, **ajarka1@iit.edu**, 312.567.5927 to arrange for administration and grading of the examination.

English Proficiency

Good written and spoken English skills are essential for students completing our degrees. If you find you have a student who is seriously deficient in either area, please call it to the attention of the student's adviser and provide some representative examples of the students work to illustrate your concern. If we allow students to complete our degrees with unacceptable language skills, we are doing both the student and the department a disservice. We have a great infrastructure right in our own college to assist non-native speaking students with their English skills through Professional Development's ESL programs, but we have to know who these folks are to help them. Native English speakers with seriously deficient skills are much harder to assist and we need to identify them very early on if we are going to help them.

- Students who have low scores on the Test of English as a Foreign Language (TOEFL), those who are not required to complete the TOEFL but do not have English as their first language, or who have very weak scores on the GRE Verbal may be required to complete an English assessment examination. Based on the outcome of the assessment, students may be required to enroll in and successfully complete one or more Proficiency of English as a Second Language (PESL) courses.
- Assistance is available for written and oral assignments at the IIT Writing Center, located in Siegel Hall, Rooms 232–233. Tutors are available during the fall and spring semesters to assist all Illinois Tech students, free of charge. The Writing Center provides individual, 30–minute meetings for students. They can assist your students with any stage in the writing process, from brainstorming and outlining to final touches and reference sheets, as well as issues such as grammar, punctuation, and spelling. Faculty members may refer students who need assistance using their referral form at **https://humansciences.iit.edu/sites/humanscience/files/elements/humanities/pdfs/iit_writing_center.pdf**. For more information, please see **https://humansciences.iit.edu/humanities/writing-center**.

Graduate Course Differentiation

When courses are offered with both undergraduate and graduate students enrolled in common lecture and/or lab meetings, expectations, outcomes, assignments, and grading standards will be differentiated within the courses to reflect the higher level of achievement expected of graduate students. In accordance with expectations of our university accrediting agency, there must be a clear differentiation between undergraduate and graduate work in these cross-listed courses as described below.

- *Course Numbering:* Some courses are offered with both undergraduate and graduate sections sharing the same classroom instruction and instructor; this is reflected by the fact that the course will have both a 4XX and a corresponding 5XX section numbers. As an example, ITMO 440 has a corresponding ITMO 540 course offering. Graduate students may not enroll in any 4XX course except as a prerequisite.
- *Syllabus:* Undergraduate and graduate sections shall each have their own syllabus even when taught in the same lectures. These will reflect differences in course outcomes, learning objectives, and assignments.
- *Outcomes and Objectives:* Outcomes and learning objectives for the undergraduate component of cross-listed courses focus primarily on providing students with basic knowledge needed to understand and apply methods and procedures pertaining to materials covered in the course. In addition to the outcomes and learning objectives for the undergraduate component, the graduate component of cross-listed courses may include one or more of the following additional objectives: (i) design and conduct experiments, (ii) analyze and interpret data, (iii) gain experience in the design of systems or processes within practical constraints, (iv) gain experience working on multidisciplinary teams, (v) deepen knowledge of a subject by synthesizing the scientific literature, (vi) improve technical communication skills, and/or (vii) provide an opportunity to mentor undergraduate students. In addition, similar or related outcomes for undergraduate and graduate students may be differentiated to reflect expectation of a greater depth of knowledge of a topic by graduate students; for example, where an undergraduate outcome may read "Describe the [process or procedure]," the graduate section may read "Explain the [process or procedure]." Explanation of a topic is inherently more complex than description and reflects a knowledge level appropriate to graduate studies. Similar differentiation might include "Recall..." in an undergraduate objective while the graduate objective reads "Recall and describe..."
- *Effort Expected of Graduate Students:* In courses where undergraduate and graduate sections are cross-listed, graduate students are expected to demonstrate a substantively higher level of accomplishment than is expected of undergraduates.
    - *Assignments:* In order to ensure graduate-level work is performed by graduate students in cross-listed courses, assignments reflecting a much greater level of effort on the part of graduate students must be assigned. If the course otherwise has no paper or project assigned (for example, in a system administration course), graduate students may be required to complete a research paper or project. If a programming project is assigned, the level of complexity and effort required for projects completed by graduate students will be demonstratively greater than that assigned to undergraduates, and should reflect an ability to synthesize or arrive at solutions beyond the scope expected of undergraduates. Other additional differentiation in assignments could include advanced problem solving or design applications; additional discussion items required in homework problems and/or exams; or an assigned supervisory roles in group projects. If a paper or project is assigned, the scope and deliverables of the assignment for graduate students will reflect a greater expectation of complexity and effort required than that expected of undergraduates; for example, an undergraduate term paper may be four to six double-spaced pages while a graduate paper may be expected to be eighteen to twenty pages with a far higher expectation of literature review and background research. Another possible avenue of differentiation might be a take-home essay section of the final exam for graduate students only. Identical assignments for graduate and undergraduate students in a cross-listed course may be assigned, and may be graded to different standards for graduate students reflecting higher expectations. *It is critical that this differentiation take place, and that undergraduate students enrolled in the undergraduate sections of the class not be expected or required to bear a graduate-level workload.*
    - *Readings:* Graduate students may, and in most instances should, be assigned more extensive reading in a course than undergraduates. Readings may be from supplementary online resources or from additional course texts, and certainly may be listed as optional reading for undergraduates. These additional readings may also lend themselves to the formation of additional outcomes and objectives for graduate students.
    - *Assessment:* Graduate students will be assessed against course outcomes and objectives, and the program outcomes for their graduate degree. Graduate degree outcomes are broad in nature but become specific when placed in the context a particular course. "Manage and deploy information resources applicable to each student's particular area of focus in an enterprise setting," while broad in general, will become very specific when a course is the particular area of focus of the student's study. Assessment tools will be formulated to reflect this fact.

Syllabus

Instructors must provide a detailed syllabus for students delineating the objectives and outcomes of the course which should also detail specific learning objectives. The content and objectives must substantially match those found in the official course outline if one has been provided by the School of Applied Technology. A detailed syllabus with clearly stated learning objectives is a necessity for the ongoing success and academic validity of our program. Undergraduate and graduate courses taught in a shared lecture section must each have their own syllabus; for example, if you are teaching ITMS 478 and ITMS 578 in a common lecture, ITMS 478 and ITMS 578 must each have a separate syllabus as noted in "Graduate Course Differentiation" above. These will reflect differences in course outcomes, learning objectives, and assignments. **PLEASE NOTE:** Payroll authorizations for adjunct faculty members will normally not be submitted until a syllabus for each course you are teaching that term has been received.

- *Key Things to Consider:* Please ensure you consider these things as you draft and post your syllabus.

- The syllabus is a *contract* between you and your students, and must be treated as such. If you change the topics in your course, or your assignments, or any other significant facet of the course, you need to issue a revised syllabus reflecting these changes. Students are expected to know and understand what is in the syllabus. A statement reflecting the status of the syllabus as a contract is in the *ITM Example Syllabus Statements* file at http://dickens.rice.iit.edu/faculty/.
- The syllabus must include a grading discussion which must address two things: a breakdown of how letter grades relate to percentage grades or points, and how much weight is carried by each category of graded material. It is required that both of these be in writing and be included in the syllabus. This protects both you and the students from ambiguity. Examples of both are in the Grading section below and in the *ITM Example Syllabus Statements*. Please ensure you don't leave any gaps in your grading breakdown, because if 80%-89% is a B and 90%-100% is an A, what does an 89.7% get?
  - All grading in the ITM department, to the maximum extent possible, must be evidence-based grading. This means wherever possible, you should provide your students with a rubric clearly spelling out what aspects of an assignment will be graded and what standards will be applied to each graded area to determine if the work is excellent, good, adequate, poor or unsatisfactory. Rubrics also aid us greatly in assessment of student outcomes for the course as long as the rubrics adequately measure the attainment of those outcomes.
- If you have a course where outcomes, objectives, and content are specific to our status as an NSA Center of Academic Excellence in Cyber Defense Education, as a DOD National Center of Digital Forensics Academic Excellence, or necessary for our ABET Program Accreditation, or are specific to broader curricular requirements, the department may require that you incorporate specific topics, outcomes, and objectives in your syllabus.

- *Syllabus Content:* The syllabus should cover expected outcomes and learning objectives for the course; topics covered in the class; homework assignments; projects; exams; grading policies; and a clear policy on handling of late assignments /projects and academic irregularities. Additionally information for use in non-credit (CEU) marketing of the course must be included, either as a supplementary page submitted with the syllabus or included in the body of the syllabus
- *Syllabus Format:* The syllabus shall follow the format listed below; asterisks (*) indicate mandatory items.

* Course Number - Course Name
* Term
* Faculty Data
  Name
  Mailing Address *(May use 10 W. 33rd St. Suite 223, Chicago, IL 60616)*
  Telephone Number *(Can be home, office, cell, faculty office, or Google Voice number)*
  Office Number *(If an office is assigned; otherwise use Perlstein Hall Suite 223)*
  Office Hours *(If office hours are virtual via chat application or instant messaging, full contact details must be provided)*
  Email Address *(all faculty members **must** provide students with your **iit.edu** email address)*
* Course Catalog Description
* Prerequisites
Credit
Lecture Day, Time & Place(s)
Lab Day, Time & Place(s)
* Schedule of Topics
  Week-by-week
  Specific lesson objectives *(**Note:** Specific topics should have Learning Objectives but there is*
* Course Objectives *no requirement that they all be in the syllabus; they can be in course*
* Course Outcomes *notes or even as a stand-alone document for each topic)*
* Learning Objectives *(Key or representative learning objectives for the course)*
Course Notes
* Textbook information including ISBN and whether textbook is Mandatory or Optional. It should also be noted if previous editions of the book are acceptable or not. Generally in IT they will not be.
* Readings (may be online)
  Week-by-week
* Assignments
Extra Credit (assignments, policy, etc.)
* Examination(s) *(Include online examination information as appropriate)*
* Academic Honesty *(Example in ITM Example Syllabus Statements)*
* Grading
Other Class Resources
* Disability Accomodations *(Example in ITM Example Syllabus Statements)*

Non-credit (CEU) course marketing information (include as a supplementary page or in the syllabus body):
* Who should take the course, i.e. the target audience for those taking it for professional learning
* Prerequisites expressed as an explanation of what knowledge and experience is necessary to take the course, rather than as prerequisite course numbers
* A "snappy" marketing-type description of the course written in a more exciting manner than the course catalog description; it should discuss actual tools used and other information that would make the course attractive to prospective students but might not be found in the course catalog description

- *Objectives:* Course objectives and course outcomes must be presented in the format found in the IIT School of Applied Technology ***Guidelines for Learning Objective Development***; each lesson, lecture, lab, practical exercise or assignment must have specific objectives as per the ***Guidelines***, which are located at http://www.itm.iit.edu/data/SATLearningObjectiveGuidelines.pdf. Details on how to create Course Outcomes, Course Objectives, and Lesson/Specific Objectives are in the ***Guidelines***. One key is to remember that objectives and outcomes can **never** start with these words or phrases: *understand*, *appreciate*, *know about*, *be familiar with*, *learn about*, or *become aware of*. This is because attainment of outcomes defined by these terms cannot be measured as part of assessment. Instead focus on objectives starting with terms such as such as *recall*, *explain*, *describe*, *discuss*, *identify*, *use*, and *demonstrate*. Outcomes and objectives must be different for graduate students in courses with shared lecture content with an undergraduate course, such as ITMS 47/ITMS 578, and reflect a higher level of rigor and expectations. If an undergraduate degree student outcome is met in your course (see page 3 above), it should be included in your course learning objectives.
- *Online Course Exam Information:* If you are teaching a course online, provide midterm and final exam process details for your online students in your syllabus, i.e. will the exam be available online, either as a regular exam or as a take-home exam? Will the exam be administered live only? What arrangements should students with final exam time conflicts make? If live only, will the exam be available at both Main and Rice Campuses? IIT Online and Rice Campus can make exam proctors available; all you have to do is request them and send a copy of your exam—to do so contact Chuck Scott (scott@iit.edu). For true distance learning students—i.e. outside the Chicago area—please ask Chuck Scott to make proctoring arrangements with those students as necessary. If you have have an India Internet section, forward your exam and arrange proctoring with our Operations Director in Bangalore, SivaKumar Dandapani (india@iit.edu).
- *Top Ten Employability Skills:* If an outcome or objective of your course makes a significant contribution to any of the employability skills listed here, please note that in your syllabus.
  - Communication skills: Listening, speaking and writing. Employers want people who can accurately interpret what others are saying and organize and express their thoughts clearly.
  - Teamwork: In today's work environment, many jobs involve working in one or more groups. Employers want someone who can bring out the best in others.
  - Analytical & problem solving skills: Employers want people who can use creativity, reasoning and past experiences to identify and solve problems effectively.
  - Personal management skills: The ability to plan and manage multiple assignments and tasks, set priorities and adapt to changing conditions and work assignments.
  - Interpersonal effectiveness: Employers usually note whether an employee can relate to co-workers and build relationships with others in the organization
  - Computer/technical literacy: Although employers expect to provide training on job-specific software, they also expect employees to be proficient with basic computer skills.
  - Leadership/management skills: The ability to take charge and manage your co-workers, if required, is a welcome trait. Most employers look for signs of leadership qualities.
  - Learning skills: Jobs are constantly changing and evolving, and employers want people who can grow and learn as changes come.
  - Academic competence in reasoning and math: Although most jobs don't require calculus, almost all jobs require the ability to read and comprehend instructions and perform basic math.
  - Strong work values: Dependability, honesty, self confidence and a positive attitude are prized qualities in any profession. Employers look for personal integrity!
- *Syllabus Submission:* Your syllabus must be posted in the Blackboard pages for your course **as a PDF file** under the menu item **Syllabus**. You must submit your syllabus to the department by posting source and PDF copies of your syllabus in the Blackboard "Information Technology & Mgmt Shared Course" under **Syllabus** by the end of the first week of the course. Each submitted syllabus must meet all requirements as published in the *ITM Faculty Handbook*. The Department has administrator access to Blackboard and we will be confirming that a syllabus is posted in the Blackboard course pages for every course. The copy posted to your course Blackboard pages must be a PDF file; DO NOT post a syllabus for students as a Word or text file. Please post both your source file (Word, LibreOffice, RTF or text file) and the PDF file to the Blackboard ITM Shared Course.

Grading

Suggested (not required) grading standards for undergraduate and undergraduate-level CEU students:

A *Outstanding work reflecting substantial effort*.....90-100%
B *Excellent work reflecting good effort*.....80-89.99%
C *Adequate work meeting minimum expected requirements*.....70-79.99%
D *Substandard work not meeting reasonable expectations*.....60-69.99%
E *Unsatisfactory work*.....0-59.99%

Suggested (not required) grading standards for graduate students:

A *Outstanding work reflecting substantial effort*.....90-100%
B *Adequate work fully meeting that expected of a graduate student*.....80-89.99%
C *Weak but marginally satisfactory work not meeting expectations*.....65-79.99%
E *Unsatisfactory work*.....0-64.99%

There is no grade of **D** for graduate students. Some faculty members choose use 70% as the lowest passing grade for graduate students, while others may use higher floor levels for a **B** grade. Identical graduate and undergraduate assignments in a cross-listed course may be graded to different standards for graduate students reflecting higher expectations.

- *Assignments:* Assignment in this context includes all work submitted by students to fulfill course requirements except for exams, and typically includes lab reports, research papers, projects, programs, homework and

quizzes. Every course *must* include a minimum of one graded assignment with grades returned to students before the final day to withdraw from the course. Multiple assignments for a course must be reasonably spread over the course of a semester and each must have a due date and a final late acceptance date; these may be the same date. In-class reviews of assignments may not be held until after the final late acceptance date. No course may have all course assignments due at the end of the semester. In order to better facilitate the use of rubrics and other tools for assessment, all assignment submissions should be via Blackboard. Submissions may be a link to a code repository such as Github, or to a web location, but should still be submitted via Blackboard for record purposes.

- *Examinations:* Every course must have a final examination. Examinations may be in class or take-home; in-class examinations may be open- or closed-book. For courses where it is appropriate, the final examination may be a final project or research paper presentation. However, all instructors must give one closed-book, closed-note exam each term *unless specifically waived by the department*; this exam may be a mid-term rather than a final, and distance learning students must have this exam proctored by arrangement with IIT Online. Final examinations that are not "take-home" exams must be completed in a single, uninterrupted two hour increment, even if administered online. It is the policy of both the university (implicit) and the department (explicit) that in-class final examinations may not be administered before the scheduled time and date. If a student books a flight home before their examination time, the exam may not be administered early—and the student should receive a grade of zero on the examination if they fail to appear for the exam. Students in an online section should schedule exam proctoring with IIT Online, but cannot expect the exam to be administered before the scheduled time and date.
- *Submission of Grades:* Faculty members will submit grades for all courses online through the Faculty Grade Assignment block under the Teaching tab in MyIIT; the exact day and time for grade submission will vary but will be in the Registrar's Grading email near the end of each term. Student grades will normally appear on unofficial transcripts in MyIIT within a few minutes of posting.
- *Grade Changes:* Change of grade requests are made online at http://iit.edu/registrar/forms/view.php?id=22296. To make it easier to remember, we have put a redirect at http://www.itm.iit.edu/faculty/gradechange/.
- *Grading of Continuing Education Unit (CEU) students:* The actual grades submitted online for CEU students will be either a P for "passing" or an F for "failing" or NA for "non-attend." Actual letter grades for all CEU students will be submitted to the Office of Professional Development (OPD) to keep on record to be used for credit by proficiency (see information on *Credit by Proficiency* above). CEU students must complete all class assignments and examinations to receive a letter grade. If a letter grade of "C" or better for undergraduates or "B" or better for graduate students is not received, the course may not be transferred into a degree program at Illinois Institute of Technology through Credit by Proficiency. CEU students who attend at least 80% of classes, participate actively in the classroom, and who submit a course evaluation, will be assigned a grade of "P" if all course requirements are completed and a minimum letter grade of "D" is earned.
- *Attendance:* Class attendance is expected of all students enrolled in live (i.e. not online) sections of a class. At the instructor's discretion, students in live sections who do not attend class may be penalized in a class participation component of the course grade; this should be explained explicitly in the course syllabus. Faculty members are required to take attendance in all 100- and 200-level courses and may always elect to take attendance in any course. CEU students are required to attend course sessions unless specifically notified by the Office of Professional Development that online attendance is sufficient; at least 80% of classes must be attended live.
- *Extensions for Completion of Courses:* Students may be assigned a grade of "I" (incomplete) if the student requests it, all requirements for assignment of an "I" are met, in the instructor's opinion there is a valid reason for an extension of time to complete their coursework, and the Registrar's Office grants approval. A grade of "I" will be assigned only in case of illness or for unusual or unforeseeable circumstances that that prevent the student from completing the course requirements by the end of the term. Students must apply to the instructor in writing for a grade of incomplete, using the request form at http://www.itm.iit.edu/incomplete/. Students may not seek an incomplete before the last day to withdraw from the course and must request a grade of incomplete prior to final examination week. If the instructor approves, the request must be forwarded to the Registrar's Office (registrar@iit.edu) for final approval before the grade is assigned. The student must have substantial equity in the course and the written agreement between the student and instructor must detail the remaining requirements to complete the course. Students must meet the university Academic and Department Regulations requirement that students have "substantial equity" in the course. The written agreement between the you and the student must detail the remaining requirements to complete the course. Grades of "I" will automatically lapse to "E" on the published deadline of the subsequent term. Please bear in mind that the only acceptable reasons for an "I" are either illness or unusual/unforeseeable circumstances. The fact that a student has fallen behind in course work when neither of these situations exists is NOT adequate cause to award an incomplete. In these cases the student should be awarded the grade they have earned in the class. If you deny a student's request for an incomplete based on a lack of adequate grounds and the student has issues with that, please refer them to discuss it with either Ray Trygstad, ITM Associate Chair or the Office of the Dean. In the case of Professional Learning students, no grade will be submitted until the course is completed. Instructors must grant Professional Learning students extensions for course completion when directed by the Office of Professional Development, and may grant extensions for other reasons as well with permission of the Office of Professional Development. If Professional Learning students have completed the requirements for a "P" grade they should be assigned that grade even if the letter grade is otherwise an "I".
- *Withdrawal from a Course:* If you determine that a student will be unable to complete a course with a passing grade, you should advise them to withdraw from the course rather than have the failing grade appear on their transcript. The deadline for withdrawal is normally six weeks prior to the end of the term; consult the academic calendar for the current term for the exact date. A grade of "W" will be administratively assigned to undergraduates and "WP" (withdrew passing) or "WE" (withdrew failing) will appear for the course on graduate students' transcripts. This grade does not apply toward GPA and no credit is awarded for the course, but payment is still required for the course if the student is a graduate student or a part-time undergraduate. If a full-time undergraduate drops below twelve credit hours for the term by withdrawing, they can expect to be on academic proba-

tion the following term due to failure to make adequate academic progress; generally this is still preferable to receiving a failing grade in a course. If a student has been ill or have other mitigating circumstances that have prevented them from submitting their work in the final few weeks of the course, they should discuss this with you before they withdraw; if they present a good case and meet the criteria, at your discretion they may be granted an extension to complete the course by awarding a grade of Incomplete (see above).

- *Not Attending:* If a student stops attending class, you need to assign them a midterm grade of "NA" (not attending). This does not impose a requirement to submit any other grades at the midterm—but as a reminder, first and second year undergraduates really should be assigned a midterm grade. If a student stops attending but you determine that the student has participated substantively in the course and has not withdrawn by the end of the course, you must assign a failing final grade of "E"; "NA" is not a valid final grade.
- *Extra Credit:* If a faculty member desires to allow students to earn extra credit in a course, the extra credit must be applied to the grade after the final grade calculations for the term have been made. This is to prevent extra credit points from "skewing the curve" or otherwise penalizing students who elected not to do the extra credit assignment(s). Policies for awarding of extra credit should be explicitly stated in the course syllabus. **If there is no policy for extra credit in the syllabus students *should not expect* an instructor to grant extra credit.**
- *Retention of Graded Exams:* Faculty members may elect to retain completed student examinations after they have been submitted and graded, or may return them, but in all cases students must be allowed an opportunity to review their graded examination upon request. If faculty members elect to retain graded examinations, they must be retained for three years following the completion of the course. See the discussion on Student Intellectual Property below for a discussion of other retention of coursework.
- *Appeal of Final Grades:* Grades a student has earned based on their work in a course are final. If the minimum score to earn a grade of **A** in a course is 90% and the student has earned a score of 89.97%, their **grade is a B**. We point out to them that if they are unhappy with the grade they have earned at the end of the term, pleading with the instructor will probably be a waste of both your time and the their time. Students cannot do additional work after a grade has been submitted to change their grade.
  - If a student does want to appeal a letter grade assigned in a course, they should first confer directly with you as the course instructor. If you and the the student cannot come to an agreement, they should contact the Associate Chair of the Department. If necessary, they can appeal to the Dean of the School of Applied Technology. Appeal of a final course grade should be initiated within two weeks of the end of the term.

Classroom Conduct

Students are expected to conduct themselves in a professional manner showing courtesy to the instructor & their fellow students. The following standards are published in the student handbooks and compliance is expected

- Professional conduct includes participation in group activities and discussions. Making an active, positive contribution may help a class participation grade and will improve not only the students experience, but also the experience of the entire group.
- Unless required to accommodate a student disability, students should turn off cell phone ringers and other distracting electronic devices and leave them off while class is in session. If you request that students not use notebook PCs, tablets, or smartphones while in class they should comply. Failure to comply may be reflected in a class participation grade.
- Students may use voice or video recording devices as long as their use does not disrupt class proceedings.
- If a students is late to class, they should enter the classroom and take a seat as quietly as possible
- Students should not engage in conversations while an instructor, lecturer, or fellow student is speaking.
- If a class exceeds seventy-five minutes, there will generally be a break in the middle of each meeting of the class; students should return from the break promptly and be in their seat at the appointed time.
- Students should use restraint and good judgment when bringing food and drink items into the classroom.

Course Evaluations

Student evaluations of our courses are considered to be a critical component in the continuous improvement of our program offerings. Course evaluation results are reviewed by senior academic administration as well as the departmental staff as just one component of the normal administrative review of instructor performance. The evaluation data and comments will also be available for review by each instructor (after grades have been submitted) to help improve the course. Evaluations are completely anonymous and confidential; evaluation results and comments are available to the instructor only without identifying information.

- *Submission of ITM course evaluations:* Course evaluations are made available under students' Academics tab in the MyIIT portal. Evaluations are conducted the last two weeks prior to the exam week of each academic semester, and students cannot access evaluations after Sunday night prior to exams. Constructive feedback from our students is **very** important to us, both positive and negative, and it is important that students understand that their submission will be *completely anonymous and confidential*. **Please** encourage your students to complete their evaluations to help us improve our program; they really are important to us.
- *Submission of CEU student course evaluations:* CEU students will not be awarded Continuing Education Units (CEUs) without submitting a properly completed course evaluation. Evaluations will be completed during the last two weeks of the course prior to any final examination. The Office of Professional Development will provide students with specific instructions as to how to complete and submit their evaluations. If you have questions about course evaluations for CEU students, please contact the Office of Professional Development at 630.682.6035 for the Rice Campus or 312.567.5280 for the Mies Campus.

Course Assessments

In order to ensure that our students, are attaining the outcomes that we have established for our degrees and for each course that we offer towards a degree, we have established a formal assessment process. Assessments may be conducted by evaluating assignments in the course to measure attainment of outcomes using a rubric, by surveys of the students in the course, and by surveys of the faculty member teaching the course. Between three and seven courses are assessed each term. Assessments create a baseline that we can measure against for evidence of improvement, and allow us to identify flaws, shortcomings, and issues with courses to support a process of continuous improvement. Assessments and the process of continuous improvement they facilitate are an important facet of ITM program accreditation by the Computing Accreditation Commission of ABET and university accreditation by the Higher Learning Commission. Much of the responsibilities for assessments are borne by the ITM professional staff; please provide them will full cooperation as they carry out these important tasks.

- *Assessment Plan:* Two three-year Assessment Plans—one for graduate degrees and one for undergraduate degrees—are published by the department and are updated each term. For undergraduate courses, one program educational objective and two to four student outcomes will be assessed each term, and for graduate courses, one program objective will be assessed each term. All objectives and outcomes will be assessed twice in each three-year cycle. In addition to the objectives and outcomes for the degree, course objectives for each course will be assessed. If your course is being assessed you will receive an email with details at the beginning of the term. We will specifically identify which objectives and outcomes are being assessed in your course; assessible program objectives and outcomes are on pages 2 and 3 of this handbook. The *2019-2021 ITM Assessment Plans* are available at http://itm.iit.edu/faculty/#assessment. The Fall 2019 Assessment Plans should be published in lat August 2019..
- *Course Assessment Surveys:* These surveys are conducted by ITM Department staff during the final weeks of each course being assessed. The surveys ask students to evaluate how well they have achieved each of the course and program outcomes covered in the course. Please encourage students take the surveys seriously as they are very important to the ongoing process of improving what we do to ensure we are delivering the best possible education to our students. Please help us ensure that all students are present in class for the surveys.
- *Faculty Assessment Surveys:* These surveys are conducted by ITM Department staff after the end of a semester, and asks faculty members to evaluate how well they believe their students achieved each of the course and program outcomes covered in the course. They will not be given every term and not necessarily in every course.
- *Assignment Assessment:* If your course is being assessed, we would like the faculty member to identify one or more assignments in the course that can be graded using a rubric measuring attainment of one or more of the objectives and outcomes being assessed. We will assist you in design and drafting of appropriate rubrics.

Student Intellectual Property

As a general rule, intellectual property created and submitted in fulfillment of assignments in the Information Technology and Management degree remains the intellectual property of the student; if no license is included, the assignments are copyrighted under the Berne Copyright Convention and distribution is subject to international and national copyright law. This means that there may be no redistribution or re-use of the material submitted in fulfillment of assignments without the express consent of the copyright owner—the student. Additional policies for student intellectual property can be found in the university *Student Handbook*, Chapter III, Policies and Procedures, at https://web.iit.edu/student-affairs/handbook/fine-print/policies-regulations-and-procedures. Because it is necessary to maintain files of student work for normal administrative and pedagogical purposes, such as accreditation requirements, the Department of Information Technology and Management hereby gives notice of its desire to secure a non-exclusive, perpetual, royalty-free license solely to use, at its discretion, student-created work produced in all courses offered by the department, with appropriate attribution, for its own non-commercial and educational purposes, including to promote the programs of the academic unit. Unless the student submits a written notice to the Dean of the School of Applied Technology indicating that he or she does not agree to grant such a license by the last regularly scheduled day of the course, then the student shall be deemed to have granted the foregoing described license. The university owns both questions and answers on tests and examinations, unless otherwise indicated by the course instructor. There are too many possible variations on how intellectual property may be handled for full inclusion here, but in general the following policies will apply.

- *Requests for Assignments of Rights:* As many student projects are ongoing from term to term, and since faculty members would like to be able to present examples of superior student work, faculty members may request an assignment of rights for re-use or redistribution of student work from students, but students are not expected or required to assign any rights, and the refusal to assign rights may not be prejudicial to the student in any way.
  To ensure any consent granted for re-use or redistribution of any student work is clearly unequivocal, such rights must be granted in writing by the copyright owner. Suggested formats for assignments of rights may be found at http://www.itm.iit.edu/faculty/licensing.php and in Appendix B of this handbook.
- *Software Licensing:* While it is not required, students are strongly encouraged to license academic programing assignments under an applicable Open Source license. This is in line with the academic traditions of openess and sharing that have created Linux and the Internet. The preferred license for ITM student use is the MIT License. Alternative licenses could be the GNU General Public License (GPL) or any one of a variety of other Open Source licenses. Suggested formats for software licensing may be found at http://www.itm.iit.edu/faculty/licensing.php.
- *Other Intellectual Property Licensing:* Again, while it is not required, students are strongly encouraged to license research papers and other academic coursework under licenses that allow some sharing of the material such as a Creative Commons license. With a Creative Commons license, you keep your copyright but allow people to copy and distribute your work provided they give you credit—and only under specific conditions that you specify. For detail on licensing under Creative Commons, see http://creativecommons.org/license/.
- *Public Domain:* Students may explicitly place any coursework in the public domain by placing a comment in their code or text that reads: **`This <software/text/etc.> is placed in the Public Domain by`**

`the author, <student name>, <date>`. *This indicates intent only and may not be legally binding in any or all jurisdictions*. The use of Creative Commons CC0 licensing is normally the best option from a legal perspective.

Specializations

The Bachelor of Information Technology and Management offers seven specializations, while the Master of Information Technology and Management offers nine specializations. These specializations are intended to prepare students for particular roles in the IT working world, but there is no requirement to complete a specialization for graduation. Students can elect to tailor a course of study that meets their own specific needs, and not pursue a specialization. If a students elects to complete a specialization, they must complete a sequence of courses within the specialization as outlined in the Undergraduate or Graduate Bulletin. Advisers will determine if a student has completed a specialization and will also authorize any substitution of courses toward the specialization. Completion of a specialization should be indicated by an annotation on transcripts and may be recognized by a document issued by the School of Applied Technology. If a student is completing the Information Technology Infrastructure specialization, there are three tracks defined by the department: Data Center Operations and Management, Voice and Data Communication Technology, and System Administration. The Bulletin Supplement on page 21 of the current *ITM Graduate Student Handbook* has the details.

Minors

Undergraduate ITM students are required to complete a minor, which at Illinois Tech consist of 15 hours or more of study in a single or multidisciplinary subject outside of your major. Students completing a minor may want to consider minors which complement their primary program of study; these include (but are not limited to) Industrial Technology and Management; Communication; Business; Information Architecture; Software Engineering; and Telecommunications. Alternatively, students may which to minor in an area completely dissimilar—such as Philosophy, Music or Urban Affairs—to make them a more well-rounded and better educated individual. Any course you take to fulfill a minor requirement may not also be used as an elective in the ITM major although some limited overlap with general education requirements may be possible. Please refer to the *Undergraduate Bulletin* at http://bulletin.iit.edu/undergraduate/undergraduate-education/minors/ for detailed information as well as for the list of available minors. There is no form required to declare a minor; you need only to notify Undergraduate Academic Affairs of your minor when you request an audit of academic programs and when you fill out an application for graduation form. If you want to declare a minor not already listed as approved, you must confer with your adviser to determine the necessary steps to gain permission.

- ROTC students may minor in Military Science, Naval Science, or Air Force Aerospace Studies as appropriate.
- Minor requirements are normally waived for students transferring in or changing majors with 30 or more hours of credit.

Co-Terminal Degree Program

Undergraduates in the Bachelor of Information Technology and Management degree can now complete a graduate degree simultaneously with their undergraduate degree, while maintaining their undergraduate status (and undergraduate financial aid!) In most normal circumstances, students can complete both degrees in five years of study, or in three years for transfer students. To be eligible for the Co-Terminal Degree Program, students must:

- be a full-time Undergraduate student at IIT.
- have completed at least 3 semesters as a full-time Undergraduate student or have 60 or more credit hours of Undergraduate course-work.
- have a minimum Undergraduate GPA of 3.25. This means that transfer students may not apply until during their second term at Illinois Tech and cannot commence their graduate studies until their third term.

Degree combinations currently available under this program are:

- Bachelor of Information Technology and Management → Master of Information Technology and Management
- Bachelor of Information Technology and Management → Master of Cyber Forensics and Security

Additional Co-Terminal degree combinations which should be possible now include:

- Bachelor of Science in Applied Cybersecurity and Information Technology → Master of Information Technology and Management
- Bachelor of Science in Applied Cybersecurity and Information Technology → Master of Cyber Forensics and Security
- Bachelor of Science in Applied Cybersecurity and Information Technology → Master of Science in Applied Cybersecurity and Digital Forensics

A course matrix showing a sample program of study for each option is on pages 33 through 38 of this handbook. Note that three graduate courses are counted towards both the undergraduate and graduate degrees. To apply for the program, students must log in to the **my.iit.edu** portal, select the **Academics** tab and navigate to the **Graduate Admissions – Student channel**, then select the "IIT Co-Terminal Degree Program Application" hyperlink. For more details see the Co-Terminal Degree information page at **http://web.iit.edu/gaa/co-terminal-degrees**. For questions specific to the ITM Department, contact the ITM Associate Chair, Ray Trygstad, **trygstad@iit.edu** or 630.447.9009.

- *Co-Terminal Degree Students:* Students admitted as a co-terminal graduate students should carefully read the *ITM Graduate Student Handbook* **http://www.itm.iit.edu/data/ITMGraduateStudentHandbook.pdf**, and the ITM section of the *Graduate Bulletin* **http://bulletin.iit.edu/graduate/**. In addition to their Undergraduate Adviser, co-terminal students will be assigned a Graduate Adviser who will be responsible for oversight of their graduate studies including approval of their specialization and any course substitutions. Co-terminal students must still contact their Undergraduate Adviser each term to complete undergraduate advising and to receive their registration PIN and permits to register for their 500-level courses.

Advising

Each student enrolled in our program is assigned an academic adviser. The role of the adviser is to assist the student in monitoring progress toward graduation by fulfilling degree requirements; helping each student select courses that meet their individual goals and career objectives; ensuring that they take an appropriate, balanced load of technical and non-technical courses each semester while meeting all course prerequisites; and dealing with problems such as the need to drop a course, academic probation, and so on. Advisers are full-time ITM faculty or staff members. Limited advising duties may also be performed by academic counselors employed by the School of Applied Technology. Students should be advised to see their adviser for any academic problems they encounter that they don't know how to resolve.

Goals of Academic Advising at IIT

1. To provide students with academic guidance as they fulfill their program of studies.
2. To guide students in choosing a program of study that meets their individual goals and career objectives.
3. To assist students with academic administrative matters (registration, minors, course repeats, etc).
4. To familiarize students with IIT policy (Bulletin), major requirements and general academic policies, enabling them to take responsibility for the successful completion of their academic careers.
5. Provide a custom one-on-one engagement mechanism to differentiate IIT from larger institutions.

Undergraduate Advising

Our Director of Undergraduate Advising and primary undergraduate adviser is Ray Trygstad, trygstad@iit.edu or 630.447.9009. Undergraduate transfer students may be advised by Jeremy Hajek, hajek@iit.edu or 630.666.1961.

- *Transfer Course Evaluation:* The Undergraduate adviser will evaluate information technology and related courses for transfer as required or elective ITM courses. Students may be requested to provide a course description or a syllabus to verify content of courses to be transferred.
- *Pre-Registration Advising:* In order to register for classes, each undergraduate must complete pre-registration advising with their adviser. A face-to-face meeting during office hours or through an appointment at other times is preferred, but if necessary, advising can be done by phone or email. This is the adviser's opportunity to monitor each student's academic progress, discuss with them how they are doing, and ensure that they registering for appropriate courses for the upcoming term. The adviser will then issue the student their Alternate PIN number which will allow them to register for the term. The adviser must also enter a permit to allow undergraduates to register for courses in any of the following categories:
  - ✔ Online (Internet) course sections, except for Fourth-Year Undergraduates (Seniors)
  - ✔ Graduate (500-level) courses
  - ✔ Any course for which a prerequisite is waived

Undergraduate Advising Notes

- *Term Planning:*
  - For planning purposes ITMD 460, ITMD 462, ITMO 444, and ITMS 443 are normally offered only in the Fall term, and ITMM 485, ITMO 441, and ITMO 454 are normally offered only in the Spring term. This is subject to change without notice.
  - 300-level ITM courses are normally offered every term at the Mies Campus. These are hands-on live laboratory courses and are never offered online, except ITM 311 which may be offered online during the summer term.
- *Minors:* All students entering the Bachelor of Information Technology and Management degree as first-year students (formerly known as freshmen) or with less than 30 hours of credit are required to complete a minor; see the paragraph above for more details.
- *Overloading:* Undergraduates may register for a maximum of 18 credit hours per semester. To register for more than 18 credit hours, undergraduates must request permission to overload from the Dean of the School of Applied Technology via their Undergraduate Adviser. **Note:** ROTC courses do not count toward the maximum of 18 hours.
- *ITM Undergraduate General Education Notes:*
  - CS 116 or CS 201 may be substituted for ITM 311 with permission of the adviser.
  - All students entering the Bachelor of Information Technology and Management degree as Freshmen are strongly encouraged to take EG 225 Engineering Graphics and PSYCH 301 Industrial Psychology as part of their Illinois Tech Core Curriculum requirements. While not expected of students who do not enter the curriculum as freshmen, all ITM undergraduates are encouraged to take these courses.
  - Here is a summary of **IIT's Core Curriculum Requirements** with ITM notes indicated in sans-serif type:
    - ✔ **Writing and Communications:**
      - ***English Proficiency:*** Pass the IIT English Proficiency Examination or pass a composition course at IIT. **Note:** Or transfer in an acceptable composition course.
      - ***Communication* (C) *Courses:*** Complete a minimum of 36 credit hours of courses with a significant written and oral communication component, identified with a **(C)** in the bulletin, with minimums of 12 hours in major courses and 12 hours in non-major courses.
        Full-time students should enroll in two **(C)** courses, and part-time students should enroll in one **(C)** course each academic year.

Notes: All ITM undergraduates are required to take 12 hours of ITM **(C)** courses: The required courses ITMD 361, ITMM 471, ITMS 448, and ITMT 430 will fulfill this requirement.

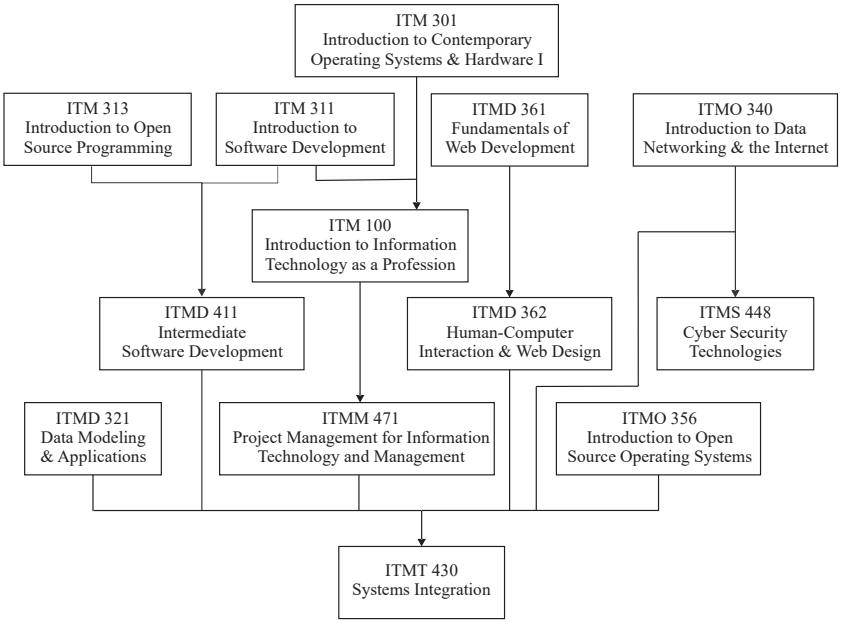
- ✔ **Mathematics:** 5 to 20 credit hours
  - **Notes:** BITM students are required to complete Discrete Mathematics, MATH 180 or MATH 230, and a statistics course. BUS 221, Statistics for Managerial Decision Making is recommended, but acceptable alternatives include MATH 225, PSYC 203 or MATH 425. For transfer students, mathematics courses equivalent to MATH 180 or MATH 230 Discrete Mathematics and a statistics course satisfy this requirement.
    Bachelor of Science students are required to complete MATH 151, Calculus I; MATH 152, Calculus II, MATH 230, Introduction to Discrete Math; MATH 251, Multivariate and Vector Calculus; and MATH 474, Probability and Statistics.
- ✔ **Computer Science:** 2 credit hours.
  - CS 105, 115, 116, 201, ARCH 125, ITM 311 or a computer science course at the 200-level or above.
    Note: ITM undergraduates do NOT need to take a CS course to meet this requirement.
- ✔ **Humanities and Social or Behavioral Sciences:** 21 credit hours
  - **Note:** Humanities or Social Science courses transferred from community colleges are normally at the 100- or 200-level unless they are intermediate or advanced foreign language courses.
  - ***Humanities:*** a minimum of nine credit hours of courses marked with an **(H)** in the bulletin.
    Note: Subjects include AAH, HIST, HUM, LIT, PHIL and some (but not all) COM.
    - At least one **(H)** 100- or 200-level course.
    - At least two **(H)** courses at the 300-level or above. Students may use foreign language courses at the 200-level to fulfill 300-level requirements.
    - Foreign language classes can be taken to fulfill the Humanities requirements as long as they are at the 200-level or above.

    Note: One **(H)** course MUST be at the 100- or 200-level. HUM 200 is the prerequisite for all upper-level Humanities courses.
  - ***Social or Behavioral Sciences:*** a minimum of nine credit hours of courses marked with an **(S)** in the bulletin; subjects include ANTH, ECON, PS, PSYC, and SOC.
    - At least two **(S)** courses on the 300-level or above for students matriculating Fall 2015 or later; one 300-level **(S)** course for students who started their degree before fall 2015.
    - Courses from at least two different fields.
    - At least six credits in a single field.

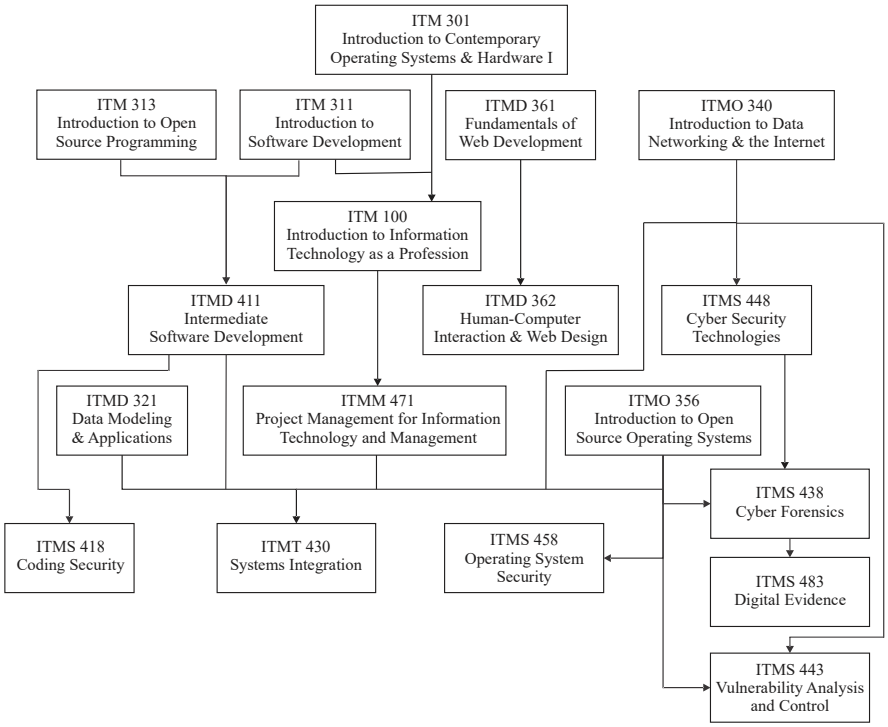
    Note: There is no requirement that any of the **(S)** courses be at the 100- or 200-level but two courses MUST be from the same field. PSYC 301, Industrial Psychology, is strongly recommended for ITM undergraduates. Upper-level PS, SOC or SSCI courses require HUM 200 as a prerequisite.
- ✔ **Natural Science or Engineering:** 10 credit hours

  Courses in engineering, biology, chemistry and physics, or by courses in architecture and psychology marked with an **(N)**. Students completing less than 6 hours of Math must complete 11 hours of **(N)** courses.
  - Two sequential natural science or engineering courses in a single field.
    Note: We recommend two sequential courses in Engineering Graphics (EG) for ITM students if possible. EG 225 is strongly recommended.
  - At least one natural science or engineering course in a second area.
    Note: We recommend PHYS 200 Introduction to Energy, Waves, Materials, and Forces and/or PHYS 120 Astronomy.
- ✔ **Introduction to the Profession (ITP):** 2 credit hours minimum; 3 credit hours in ITM
  - In most departments, students must complete this requirement in their first year. (Not in ITM.) Students entering with 30 credit hours or more of transfer credit may have this requirement waived with department approval. (Not in ITM.)
    Note: The ITM ITP course is offered in the fall semester of students' second year. The ITP requirement will not be waived for students transferring into or changing majors to ITM.
- ✔ **Interprofessional Projects (IPRO):** 6 credit hours
  - Students will participate in at least two Interprofessional Project experiences.
    Note: May be waived for part-time students who are employed full-time. See below for details.

Bachelor of ITM Required Course Prerequisite Flow



Bachelor of Science in Applied Cybersecurity & IT Required Course Prerequisite Flow



Graduate Advising

The role of graduate advisers is to assist graduate students in monitoring progress toward graduation by fulfilling degree requirements, and to help them select courses and plan a program of study that will meet their individual goals and career objectives. Graduate advisers are normally full-time ITM faculty or staff members. Selected faculty members serve as academic advisers and assist in initial (first semester) advising. Students cannot enroll in courses in their first semester until they have met with an adviser and received their Alternate PIN; in subsequent terms their Alternate PIN will be listed under the Academics tab in the MyIIT portal.

- *Prerequisite and Core Courses:* Advisers will determine if any of the prerequisite or core courses may be waived, based on a student's placement exam and/or previous studies, certifications, and industry experience. If any one or two cores courses is/are waived, students must still complete nine hours of core course content. Core courses that are recommended courses in a specialization will fulfill the core course requirement. Advisers must request registration overrides (permits) on the student's behalf to allow them to enroll in courses for which the prerequisite is waived. Appropriate core course substitutions will be made

for students who have completed the Bachelor of Information Technology and Management degree at IIT. See the section on Registration Overrides below for more details.

- *Specializations:* During their first semester of study, each student must submit their concentration (which is the same as what the Graduate Bulletin calls a "specialization") for approval through the eForms feature of Graduate DegreeWorks, found in the Academics tab of the MyIIT portal. You as their adviser will determine allowable course substitutions for the specialization; any course substitutions must be submitted through eForms as well. If a student registers for and completes a course that is not in their specialization, has not been approved as a course substitution prior to commencing the course, and is not a valid elective, that course will not be counted toward their degree. Since there is no longer a Plan of Study, it is the responsibility of the student, and not the adviser's, to ensure that each course they take will apply to their degree.
- *Graduate Adviser Assignments:*
  The primary academic adviser for **Master of Information Technology and Management** students is Ryan Nelson, 312.567.5192, Perlstein 223C, nelsonr@iit.edu.

  The primary academic advisers for **Master of Science in Applied Cybersecurity and Digital Forensics** and **Master of Cyber Forensics and Security** students are Maurice Dawson, Director of the Center for Cyber Security and Forensics Education (mdawson2@iit.edu/312.567.5242), and Bill Lidinsky, Director of the SAT Cyber Security and Forensics Laboratory (lidinsky@iit.edu/630.682.6028.)

  The ITM Program Manager will assign a secondary academic adviser based on the student's indicated interest in a specialization. These advisers will assist students with specific course selection when the knowledge and experience of a faculty member is necessary. Secondary Graduate Adviser assignments are generally as follows:

Computer & Information Security:	Maurice Dawson	– mdawson2@iit.edu	or 312.567.5242
IT Management & Entrepreneurship:	Adarsh Aurora	– aarora12@iit.edu	or 312.567.5804
Data Management:	Yong Zheng	– yzheng66@iit.edu	or 312.567.3575
Web Development & Electronic Commerce:	Ray Trygstad	– trygstad@iit.edu	or 630.447.9009
Software Development:	James Papademas	– jpapadem@iit.edu	
IT Infrastructure:	Ray Trygstad	– trygstad@iit.edu	or 630.447.9009
Systems Analysis:	Ray Trygstad	– trygstad@iit.edu	or 630.447.9009
Management Information Systems:	Ray Trygstad	– trygstad@iit.edu	or 630.447.9009
Digital Systems Technology:	Jeremy Hajek	– hajek@iit.edu	or 630.296.4012
Graduates of the ITM Bachelor's Program:	Ray Trygstad	– trygstad@iit.edu	or 630.447.9009
Co-Terminal Degree Students:	Ray Trygstad	– trygstad@iit.edu	or 630.447.9009
Not Specified or General Course of Study:	Ryan Nelson or any full-time ITM faculty member		

- *Program Approvals:* You must have your adviser's specific approval in each semester in order to:
  - ✔ Register for a course from another college or department within the university
  - ✔ Register for an Interprofessional Project (IPRO) course
  - ✔ Register for more than 15 hours
  - ✔ Register for any course for which a prerequisite is waived
  - ✔ Engage in Curricular Practical Training (CPT – internships for International Students)

  See the section below on Registration Overrides (Permits) for details of the process for permitting students to register for these courses.

Graduate Advising Notes

- For planning purposes, the following courses are normally offered only in the term indicated, however this is subject to change without notice:
  - Fall: ITMS 548 research track section; due to lab requirements, this section of this course is currently only offered at the Rice Campus.
  - Fall: ITMD 515, ITMD 562, ITMD 563, ITMD 532, ITMD 535, ITMO 517, ITMO 544, ITMS 528, ITMS 543, ITMS 555, ITMT 531, ITMT 535
  - Spring: ITMD 526, ITMD 529, ITMD 564, ITMD 567, ITMO 541, ITMO 554, ITMM 572, ITMM 576, ITMM 585, ITMS 538, ITMS 539, ITMS 549, ITMS 558, ITMS 583, ITMS 588
- *Overloading:* Graduate students may register for a maximum of 15 credit hours per semester. To register for more than 15 credit hours, you must request permission to overload by submitting a G701 form to the Office of Graduate Academic Affairs via your Adviser (http://web.iit.edu/sites/web/files/departments/academic-affairs/Graduate%20Academic%20Affairs/G701%20-%20Student_Petition.pdf).

General Advising Notes and Policies

- *Advisee Responsibilities:* The following responsibilities of students as advisees have been published in the student handbooks:
  - *Know and Interface with your Adviser:* Familiarize yourself with your primary and secondary adviser. Meet with your adviser on a regular basis, once a semester at a minimum, to discuss courses and career plans.
  - *Take Control:* As much as possible, take control of your education by learning about, understanding and complying with your program's and specialization's requirements. Be familiar with program resources such as the Graduate/Undergraduate Bulletin and Degreeworks. Once the course schedule is published, investigate and know what courses will be offered in the next term. And remember, it is your responsibility to ensure that each course you take will apply to your degree

- *Tell Us Who You Are:* Always include both your name and your *Student ID Number* when communicating with your adviser by email. This should help you get a quicker response and will certainly make their job easier. Many email addresses are pretty obscure and we have no idea of who whangdoodle387@yahoo.com is. Also, please remember that you are required to use your iit.edu email to communicate with us officially. If you forward your IIT email to Gmail or Hotmail or Yahoo, set up a "send as" in your account to send email from your iit.edu address. You are studying to be an IT professional; you should be able to figure out how to do this.
- *Give Us Some Time:* When you contact your adviser, they will try to respond to you within 24 hours if possible, but they have 48 hours (2 days) to respond. You are *very* important to us as a student, but please remember that your adviser may have as many as 200 other students they are advising, and normally have major administrative responsibilities over and above their advising duties. Please be patient!
- *Keep It Together:* If you have multiple issues to discuss with your adviser, do it all at once! Ten emails or visits on ten different questions or topics is going to make your adviser's job much harder than it needs to be, and will probably annoy them after about the fourth or fifth contact. Please cover all of your current issues and/or questions in a single email or visit.
- *Recognize That We Are Not Your Mother:* You are a college student, and this is not high school. You are responsible for making your own decisions about what you will study based on your own career aspirations and interests. It is NOT your adviser's job to tell you what courses to take. *Adviser* means we will give you *advice* based on what you tell us about what you would like to accomplish in your graduate studies and we are happy to do this, but really, don't expect us to tell you what to take. And by the way, don't ask us sign any form that you have not filled out completely!
- *Apply for Graduation:* You will not graduate from IIT until you apply for graduation. You should apply in the first two weeks of the final semester of graduate study; the actual deadline for each term is published in the academic calendar for the term. Instructions on how to apply for graduation are at http://web.iit.edu/gaa/graduation-faqs.

- *Adviser Responsibilities:* As an adviser you need to:
  - Be knowledgeable about the degree programs, course scheduling, and academic policies.
  - Meet or communicate in an appropriate fashion with students on a regular basis and keep records of advising communications.
  - Guide students in scheduling and planning their program of study, and in complying with other program requirements.
  - Inquire about career interests and guide students on career planning, with the aid of the ITM Internship and Career Services Manager and university Career Services.
  - Ensure students take required courses in an expedient fashion, as is optimal for progression through the curriculum of the program. This includes things such as:
    1. Direct students into narrowly specified courses as early as reasonably possible in order to have more options as their graduation nears.
    2. Direct students (mainly first-year) who need COM 101 into the course during the first year—first semester, if possible.
    3. Direct students who need HUM 20x course (that's most of them) into the course during the first year so that upper-level HUM/SSCI courses will be accessible.
  - If you are concerned that a student's speaking and/or listening abilities in English may not be adequate for college-level work in the U.S, contact English Language Services at els@iit.edu.
  - Direct students to other resources as necessary including but not limited to Financial Aid; Student Health and Wellness; Center for Disability Resources; Public Safety; International Center; Academic Resource Center; the Writing Center; Undergraduate Academic Affairs; Graduate Academic Affairs; Office of Technology Services; Office of Student Access, Success, and Diversity Initiatives; and the Career Services Center.
  - Ensure secondary advisers are notified when you will not be available for advising.
- *Registration Holds:* Advisers **cannot** remove any registration holds, but they should be able to tell students who placed the hold and who to contact to have it lifted.
- *Response Time to Student Requests:* When a students contacts you as their adviser, you should try to respond within 24 hours whenever possible, but in normal circumstances you must respond within 48 hours (2 days). We recognize that each adviser may have as many as 200 other students they are advising, and may be teaching three classes, and often has administrative responsibilities over and above their academic duties, so we do ask students to please be patient, but a timely response to student requests is essential.
  - *Vacation:* If you know you will not be able to reply to students, please set a vacation response in your Illinois Tech email; don't forget to clear it when you are available again!

Registration Overrides ("Permits")

All faculty members may issue a registration override, commonly known as a "permit", to any student for any course they are teaching in the current or upcoming term. There are three types of permits: Instructor, Departmental, and Time Conflict Override. For all practical purposes when issued by an instructor for your own courses there is no difference between Departmental and Instructor permits. The most common use of these permits is to waive a prerequisite. Time Conflict Override permits allow a student to registered for a course that has a time conflict with a course the student is already registered for. We may want to do this, for example, if the end of a lab conflicts with another course and you are willing to let the student leave the lab early to go to the other course.

- *Undergraduates and Online Course Sections:* Instructors must not issue a permit for the online section of a course to an undergraduate student; these must be issued by the student's adviser.
- *"Waiving" of Prerequisites:* When an adviser would like to permit a student to register for a course where the student has no prerequisite present in the Illinois Tech system, and the adviser is not the instructor, the request should go to one of the ITM personnel authorized issue Departmental permits. The request should include:
    1. Student name
    2. CWID ('A' number)
    3. The five-digit Course Registration Number (CRN) of the course
       OR the Subject Code, Course Number, and Section Number of the course
    4. Reason for waiving of prerequisite
- Submit Departmental permit and Time Conflict Override requests to:
    - ITM Associate Chair Ray Trygstad, trygstad@iit.edu or 630.447.9009
    - ITM Program Manager Angie Jarka, PH 223, ajarka1@iit.edu, 312.567.5927

Undergraduate Independent Study

Undergraduates may request independent study with a faculty member for subjects not covered in courses offerings, or research that expands their knowledge and abilities. The faculty member will issue a permit to register for ITM 497, Independent Study, or ITMT 491, Undergraduate Research, for between one and six hours of study as applicable. Full-time faculty may schedule students for ITM 497 or ITMT 491 as the faculty member's schedule allows. Faculty members receive no additional compensation for independent study or research, so adjunct faculty members are under no obligation to do so and their participation is entirely voluntary.

- *Proposals and Outcomes:* Students must have a permit to register for research or independent study issued by the faculty member. You must prepare and submit a written research prospectus, proposal, or abstract of material to be studied to the faculty member before they issue you a permit to register. The prospectus, proposal, or abstract must include clearly defined objectives and learning outcomes. The faculty member will work with the student as necessary to refine this document to their mutual satisfaction. Outcomes of ITMT 491 or ITM 497 may include a formal project or presentation of research results and should include a paper documenting the project or research.

Graduate Independent Study, Research, and Thesis

Any graduate student may request independent study with a faculty member for subjects not covered in courses offerings. Faculty members will issue students a permit to register for ITMT 597, Special Problems in Information Technology, for between one and six hours of study as applicable. Full-time faculty may schedule students for ITMT 597 as the faculty member's schedule allows. Faculty members receive no additional compensation for independent study or research, so adjunct faculty members are under no obligation to do so and their participation is entirely voluntary. Master of Science students must complete either a project through enrollment in ITMS 539, ITMS 549, ITMT 594, ITMT 596, or ITMT 597, or a thesis through enrollment in ITMT 591.

- *M.S. Thesis Requirements:* Full steps for completion of a thesis can be found at http://bulletin.iit.edu/graduate/graduate-education/synopsis-graduate-studies/. Thesis option students should also read the Thesis Examination FAQs at https://web.iit.edu/gaa/thesis-examination-faqs and the Thesis Examiner information at https://web.iit.edu/gaa/thesis.
    - Graduating MS students must submit Form G300, *Masters Final Thesis or Comprehensive Exam Committee and Exam Scheduling*, for approval by the Department Chair. The approved form must be submitted to the Graduate College no later than two weeks prior to the exam date. The examination committee consists of at least three faculty members whose purpose it is to evaluate the the thesis and carry out the comprehensive examination. The committee includes the student's adviser, and one of the three faculty members must be a departmental representative from a discipline different than your major area of study. Students must prepare a preliminary draft of their thesis at least five weeks before graduation for approval by the Thesis Examiner.
    - At least seven days prior to the comprehensive examination, students must distribute copies of the approved thesis draft to the thesis committee members. Their adviser will then email all ITM faculty members announcing the place and time of the examination. The email should include an abstract of the thesis. It is the student's responsibility to ensure that the email is sent on time. Failure to do so may result in rescheduling of the examination.
    - The thesis committee conducts a comprehensive oral examination on the student's thesis and related areas. The examination is open to all IIT faculty. The examination is scheduled at a mutually convenient time and date, but must be taken at least fifteen days prior to the end of the semester. The adviser will report the results of the examination to the department using Form G303, *Masters Comprehensive/ PhD Qualifying Exam*, which will be provided to the adviser by the Graduate College. Exam results reported on Form G303 must be submitted to the Graduate College within 48 hours of the exam and received no later than one week prior to the last day of classes.
    - The student will obtain signature approvals of the final thesis draft from their adviser, all thesis committee members, and the Department Chair on Form G501, Final Thesis Approval. Students must pay the advanced degree fee at the Student Accounting Office and meet with the Thesis Examiner for final thesis approval. Students should bring three unbound copies of the completed thesis in marked manila envelopes with their adviser's original signature on the title pages along with a receipt showing payment of fee and Form G50lB bearing all approval signatures except that of the Thesis Examiner.
    - Note: The three thesis copies are bound and distributed to the library, the department archives, and the adviser. The Graduate College will not provide binding for more than three copies. Additional personal bound hard copies can be obtained by using IIT Office Services.

- *Proposals and Outcomes:* Students must have a permit to register for research or independent study issued by the faculty member. Each student must prepare and submit a written research prospectus, proposal, or abstract of material to be studied to the faculty member before you issue a permit to register. The prospectus, proposal, or abstract must include clearly defined objectives and learning outcomes. The faculty member will work with the student as necessary to refine this document to their mutual satisfaction. Outcomes of ITMS 539, ITMS 549, ITMT 594, ITMT 596, or ITMT 597 should include a formal project or presentation of research results and a paper suitable for publication. Outcomes of ITMT 591 include a published thesis and a thesis defense.

All full-time faculty members are listed on the course schedule for ITMT 597 each term, as are adjunct faculty who have indicated a willingness to support and oversee independent study by students. If you agree to supervise ITMT 594 studies you will need to request addition of an ITMT 594 section to the schedule for the upcoming term. Faculty members supervising thesis research should similarly request addition of an ITMT 591 section to the schedule for the upcoming term. Direct these requests to the ITM Program Manager, Angie Jarka, PH 223, ajarka1@iit.edu, 312.567.5927.

Interprofessional Projects (IPROs)

Our Interprofessional Projects are core to what makes an Illinois Tech undergraduate education unique. An IPRO course is a team-based learning environment in which students from various concentrations and disciplines work together to solve a real-world problem. Although there is an introductory IPRO, IPRO 397, students may elect to take two IPRO 497 project courses. Each IPRO project has a course number of IPRO 497 and they are differentiated by section number. These courses are an IIT Core Curriculum requirement, and all undergraduates must complete at least two three-credit-hour IPRO project courses. Students completing an ROTC minor are exempt from one of the two IPRO requirements. See http://ipro.iit.edu/ for full details on IPROs.

- *Waiver of the IPRO Requirement:* Waivers of the IPRO course requirement (not the semester hour requirement) will be considered on a case-by-case basis for part-time students who are employed full-time. The written request for a waiver must be submitted to **Undergraduate Academic Affairs**. The request must include a resume and documentation of work experience that developed communication and leadership skills, as well as an awareness of economic, marketing, ethical and social issues within the framework of a multidisciplinary team project. This documentation must be verified by the employer. If the request is reasonable, it will be forwarded for approval to the student's major department and the Associate Provost for Academic Affairs. The department will also determine appropriate course substitutions.
- *Graduate Student IPROs:* Graduate students enrolled in IPROs often are assigned the role of Project Manager. This is an excellent opportunity for our graduate students who do not have real-world work experience to gain hands-on, real-life project management experience. We do recommend graduate student enrollment in IPROs on a case-by-case basis. If a graduate student is interested in an IPRO, they should discuss it with their adviser. Graduate students may enroll in IPROs to provide leadership and oversight, and with adviser approval they will receive elective credit toward your degree.
- *Proposing or Teaching an IPRO:* If you would like to propose an IPRO, the program solicits faculty inputs each term for the upcoming term. Please contact Tom Jacobius, IPRO Program Director of Operations, at jacobius@iit.edu or 312.567.3986 for more information. If you would like to teach an IPRO, discuss it with Dr. Carlson or Ray Trygstad and then contact Tom Jacobius.

Recognition of Student Achievements

Dean's List: The names of all undergraduate students who have completed at least 12 graded hours in a semester and who have a semester grade point average of 3.50 or better appear on the Dean's List. Deans's List certificates may be picked up from the ITM Assistant Department Manager in Perlstein Hall room 223.

Graduation Honors: To graduate with honors, eligible undergraduate students must complete a minimum of 60 graded semester hours in residency at Illinois Tech. Honors are awarded in three levels and are recognized with ropes to be worn with the cap and gown at commencement.

- *Summa cum laude (with highest praise):* GPA of 3.900 – 4.000; commencement recognition is a gold rope
- *Magna cum laude (with great praise):* GPA between 3.800 – 3.899; commencement recognition is a silver rope
- *Cum laude (with praise):* GPA between 3.500 – 3.799; commencement recognition is a white rope

Annual Student Awards: Since Spring 2017, annual awards are given to recognize achievement by graduating students and selected continuing students.

Dean's List: The names of all undergraduate students who have completed at least 12 graded hours in a semester and who have a semester grade point average of 3.50 or better appear on the Dean's List. Deans's List certificates may be picked up from the ITM Assistant Departmental Coordinator in Perlstein Hall room 223.

Gamma Nu Eta (ΓNH): ITM undergraduate students who have completed three semesters of study with a GPA of 3.65 or greater and who are in the top 15% of their class and ITM graduate students who have completed fifteen semester hours of study with a GPA of 3.8 or greater and who are in the top 15% of their class may be elected to the Beta Chapter of the National Information Technology Honor Society, Gamma Nu Eta (ΓNH). For undergraduates, two of the three semesters must have been completed at Illinois Institute of Technology. Membership is based on three primary criteria: academic excellence, community service activities, and leadership in the field of Information Technology. The executive board of the chapter are responsible for selecting candidates for induction each semester. In addition, the chapter may induct Professional Members each term, and faculty members may be invited to become a Professional Member. Candidates will be notified of their election with an invitation to pledge at the beginning of each term. Inducted members receive a pin and a certificate. Students who continue their membership and active participation in the chapter are recognized with ropes or stoles in the Society's colors to be worn with the cap and gown at commencement. The Beta Chapter is currently inactive and can be activated if student leadership steps up and is willing to run

the chapter.For more information on GAMMA NU ETA, see the Beta Chapter website at http://www.itm.iit.edu/gam-manueta/ or contact Beta Chapter President Andreas Vassilakos, avassilakos@hawk.iit.edu. . The ITM Associate Chair, Ray Trygstad is a Professional Member of ΓNH, the Beta Chapter Adviser, and former Chair of the National Board of Directors of Gamma Nu Eta. Our Dean and Chair, Dr. C. Robert Carlson, is a Professional Member of ΓNH and wears a doctoral cap and gown in ΓNH colors!

Upsilon Pi Epsilon (UPE): UPE is an honors society for the computing and information disciplines whose aim is to support high-performing students and academics in computing fields and encourage them to contribute to the advancement of computing science. Undergraduate students who have completed forty-five hours of study with fifteen of those hours in computing subjects at Illinois Tech, who have a cumulative GPA of 3.00 and a major GPA of 3.3 or greater and graduate students who have completed eighteen hours of study at Illinois Tech and have a cumulative GPA of 3.6 or greater are eligible for induction into Upsilon Pi Epsilon. In their Spring 2019 induction, 17 ITM students were inducted into the Illinois Tech chapter. UPE has received endorsements from the two largest computer organizations in the world, the Association for Computing Machinery and the IEEE Computer Society. See https://www.facebook.com/upeiit/ or contact upe@iit.edu or UPE President Travis Koehring, tkoehring@hawk.iit.edu, for more information.

Fifty for the Future: The Annual **Fifty For The Future** Celebration, run by the Illinois Technology Foundation, recognizes exceptional students with an interest in and potential to use technology in innovative ways. The Fifty For The Future Celebration provides encouragement and recognition to students who pursue innovation through technology, providing access to business leaders to showcase their talent. Winners are chosen through a rigorous nomination and judging process, focused on high school through university and graduate level programs. The celebration is attended by industry leaders, judges, winners and their families, Foundation sponsors and other supporters of the technology industry. They are awarding over 50 awards, so there is a good chance that your student could be an awardee. Students can nominate themselves, or faculty or staff members can nominate them at: http://illinoistechfoundation.org/itf-programs/fifty-for-the-future-celebration/. Awardees (and the faculty member who nominated them!) get formal recognition and a variety of benefits. Nominations normally open in the early fall and usually close sometime in early October. Students who have been nominated must complete an extensive questionnaire online to qualify for the award. We strongly encourage faculty to nominate students as we know what a strong group of students we have in our program, and we would like to see Illinois Tech very well represented at these awards. See more details at http://illinoistechfoundation.org/itf-programs/fifty-for-the-future-celebration/.

TruAccolades: TruAccolades is a system created by an ITM faculty member that allows students to earn authentic badges and highlight their business & soft skills in ways that grades cannot. Students can collect feedback from their teachers, professors, and other supervisors on their coursework and the skills you've gained. This will help you identify their core strengths and choose career paths that complement them. You can embed your earned accolades to existing professional profiles and resumes and be on a road to success. You can request feedback from faculty members and learn more about your strengths by just simply filling out a form. See https://www.truaccolades.com/ for full details.

Student Research Paper/Project Publication Opportunities:

ACM SIGITE: The ITM Department has been a major contributor of papers the Association of Computing Machinery (ACM) Research in Information Technology Conference, and had papers named "Best Paper" in three of the last five years. If you complete research that represents new and original thought, please consider preparing a paper for submission to this conference. It is now a track of the ACM Special Interest Group in I.T. Education (SIGITE) Conference each fall, usually in October. The SIGITE Call for Publication will be forwarded to all faculty members each year when it is released. Watch the ITM weekly Newsletter for more information.

ForenSecure: Students have an opportunity to present research at our Cyber Security & Forensics Conference, presented every spring by our Center for Cyber Security and Forensics Education (C²SAFE). This is an industry-focused conference with multiple tracks. It attracts 200+ professionals for an intensive one- and a half-day schedule that includes discussion and debate over forensics, security, data/information governance, cyber crime and security, cyber security legislation and legal issues, ethical hacking, eDiscovery, cloud forensics, steganography, policy and compliance, privacy, wireless security, cloud computing, identity theft, and more. Watch the weekly ITM Newsletter for more information.

CRC Press Information Security Management Handbook: We also have more student-authored papers than any other institution published as chapters in the CRC Press *Information Security Management Handbook*. If you believe you have completed work suitable for publication in any of the areas of the CISSP Body of Knowledge, you can submit your paper to Bonnie A. Goins, Adjunct Industry Professor, at bgoins@iit.edu or 630.387.9496.

White Papers: Papers of particular industry interest may also be published as a *School of Applied Technology White Paper*. SAT White Papers featured on the Web site of the Chicago-based Technology Executives Club have consistently been the most downloaded papers on the site, so this represents a significant opportunity for professional exposure for our students. To nominate your paper for publication, please submit it to ITM Associate Chair Ray Trygstad, trygstad@iit.edu or 630.447.9009.

ITM Student Organizations

GAMMA NU ETA (ΓNH): See "Recognition of Academic Achievement" above.

I***nformation Technology and Management Organization (ITMO):*** The purpose of ITMO is to increase recognition for the ITM Major by making resources available for all ITM students. ITMO members organize, promote, and manage this organization to assist their peers in the ITM Department. ITMO also holds events, fundraisers, socials, and other functions; they also do community work and invite guest speakers. ITMO wants to serve as an as umbrella for multiple partnerships, affiliations, and organizations that members will have options to join. Watch the weekly ITM Newsletter for meeting information. For more information email itmo@iit.edu or contact the Vice President, Sofia Martinez, smartinez@hawk.iit.edu.

The High Technology Crime Investigation Association (HTCIA) Illinois Tech Student Chapter: HTCIA was formed to provide education and collaboration to global members for the prevention and investigation of high tech crimes. The purpose of our student chapter is to foster, promote, and encourage the study of criminal investigations

involving advanced technologies and security by the academic community. It is limited to undergraduate or graduate students in information technology and management, computer science, cybersecurity, law, accounting, auditing, or similar programs of study. For more information, contact Marika Jasinski, mjasins2@hawk.iit.edu.

CompTIA Association for Information Technology Professionals (AITP): Illinois Tech students were launching a chapter of Association for Information Technology Professionals (AITP), but AITP recently merged with CompTIA, the computer industry trade association. We are actively engaged with AITP about plans for student chapters, and we will pass along any information as we learn more. A very positive outcome of the reorganization is that student membership in CompTIA AITP at the national level is now **free** and among other benefits includes a 50% discount on CompTIA certification exam vouchers. We strongly encourage every ITM student to join now at https://www.aitp.org/join-now/register/student/.

ACM-W: The Association for Computing Machinery (ACM) is the oldest and best established professional and academic association in the computing disciplines. ACM-W supports, celebrates, and advocates internationally for the full engagement of women in all aspects of the computing field, providing a wide range of programs and services to ACM members and working in the larger community to advance the contributions of technical women. Illinois Tech has a very active ACM-W chapter; to find out more go to https://www.facebook.com/acmw.iit/.

Women in Cybersecurity (WiCyS): The mission of the WiCyS Student Chapter is to build a community within Illinois Institute of Technology that promotes women's education, participation, and leadership in the field of cybersecurity. WiCyS also assists students who wish to attend the WiCyS Conference each spring (The ITM Department hosted the 2018 Conference). Membership is open to all Illinois Tech students. Watch the weekly ITM Newsletter for meeting information. For more information contact the Vice President, Natalie Freund nfreund@hawk.iit.edu.

Student Athletics Academic Policy

Responsibilities of Faculty and Student Athletes: Faculty members work very well with the Illinois Tech athletics department to facilitate the ability of our student athletes to pursue their academic interests and to satisfy all academic requirements while still competing on a varsity team. Varsity athletics is important to the fabric of university life, important not just to the participating athletes but also to the entire student body. At llT, participation in athletics is often a key element in preparing individuals for later life.

On occasion, a situation arises where an instructor requires a student athlete to choose between coursework and participation on a varsity team. Though rare, such situations can undermine student morale and blunt the development of a healthy classroom-extracurricular balance for students.

To avoid such situations the university, in a Memorandum from the President dated September 6, 2012, has defined the responsibilities of varsity student athletes and faculty members with respect to such matters:.

- The student athlete is responsible for providing the instructor with a schedule of all sanctioned contests during the first week of the semester or as soon thereafter as the dates are set.
- Except in extraordinary cases, a varsity student athlete is to be excused without penalty from a class when it directly conflicts with a formal sanctioned contest with another university/college.
- If an exam, quiz or other academic test/presentation is scheduled for the class period for which the student athlete is excused, the instructor is generally expected to work with the student to make reasonable arrangements to take the exam or quiz, or make the required presentation, either before or after the missed class. In cases where reasonable arrangements cannot be made, such as joint student presentations (e.g., IPRO presentations), then the student-athlete will be expected to attend the class .
- The instructor is responsible for informing the student athlete in a timely manner of any assignment that will be made during the missed class.
- The student athlete is responsible for obtaining class notes from the students who attend the class and for completing all assignments due at the missed class or assigned at the missed class.
- The athletic director is responsible for communicating this policy to the varsity coaches and student athletes, collecting first-hand information for claims of violation and transmitting those claims to the relevant deans with back-up information.
- The deans of the colleges are accountable for communicating this policy to their faculties, and for ensuring that their faculty members adhere to the policy.

Funding: Scholarships, Internships, Coops, Job Placement and Student Employment

Scholarships: **Undergraduate students** should discuss financial aid possibilities with admissions and the financial aid office at IIT's Mies Campus. There is currently no ITM departmental funding or scholarship support available for undergraduate students. **Graduate students** can apply for a limited number of merit scholarships as part of the admission process. These are quite competitive; students wishing to be considered should apply by February 15 for the next academic year. If there are scholarship funds left, they may be awarded to later applicants, including those starting in the spring term. However, students need to recognize that funds are limited and they are not likely to receive funding later than July. Faculty members are not qualified to address financial aid issues and should refer all questions from students to the IIT Office of Financial Aid. There are also externally funded scholarships that require application through the department.

- *Department of Defense Cybersecurity Scholarship:* The Secretary of Defense for Networks and Information Integration annually announces a Department of Defense (DoD) Cybersecurity Scholarship Program grant and scholarship competition. Recipients are required to serve a period of obligated service in DoD as a civilian employee or a member of one of the armed forces. Recipients receive full tuition, books, and stipends of $22,500 for undergraduate students and $34,000 for graduate students. Applicants must be U.S. citizens or permanent residents and must be enrolled in a program with a cybersecurity focus. Applications for this grant will be actively solicited by the department as soon as the announcement is received from the DoD, and will normally be due in mid-May. While awarded annually, the scholarships are renewable but will require a new application each year.

- *CyberCorps® Scholarship for Service:* This U.S. government program provides scholarships that fully fund the typical costs incurred by full-time students in or entering cybersecurity curricula, including tuition and education and related fees, for up to three years. Additionally, recipients receive stipends of $22,500 for undergraduate students and $34,000 for graduate students. The scholarships are funded through grants awarded by the National Science Foundation, and require one year of Federal service for each year of scholarship received. Applicants must be U.S. citizens or permanent residents. Our application to award these scholarships is pending, and we will make an announcement if we are awarded this grant.

Internships, Coops, and Job Placement: IIT Career Services (http://web.iit.edu/career-services/) is the organization within the university that supports and facilitates student internships, cooperative education (coops) and job placement efforts. They also conduct university-wide Job Fairs once each semester as well as regular seminars covering topics such as résumé preparation. Please see their Web site for full details and descriptions of how to use their services. In addition, the ITM Department has frequent opportunities to assist students seeking internships, co-ops, or employment.

- *Curricular Practical Training (CPT):* These are co-op and internship programs that allow students on an F-1 (student) visa to work for an employer in the United States other than the university. "An F-1 student may be authorized, by the Designated School Official (DSO), to participate in a Curricular Practical Training Program which is an integral part of an established curriculum. Curricular practical training is defined to be alternate work/study, internship, cooperative education or any other type of required internship or practicum which is offered by sponsoring employers through cooperative agreements with the school." All CPT must be managed through Career Services. Student advisers must sign several forms for students to authorize CPT. While it is most appropriate that the assigned adviser sign these forms, it is acceptable practice in ITM that any graduate adviser may sign CPT forms. Students must appear in person to have forms signed. Before you sign the forms:
  - Read the offer letter carefully and ensure that the job description and duties are appropriate for an information technology professional. If there is no offer letter available, do NOT sign the CPT forms; the student must provide this for your review.
  - If the compensation offer is less than $15/hour, advise the student strongly that they should renegotiate the compensation or not accept the job. Many co-ops and internships in other fields are unpaid but in our field they always are paid, and we must ensure that employers are not exploiting our students.

  Please ensure all forms are completely filled out by the student and sign the following forms:
  - Faculty Advisor Review of Co-op/Internship Job Description & Eligibility for Curricular Practical Training (https://web.iit.edu/sites/web/files/departments/career-services/pdfs/advisor-review-and-CPT-eligibility-in-use.pdf)
  - Student Co-op and Internship Agreement Form; ensure that the calendar section is completely filled out. (https://web.iit.edu/sites/web/files/departments/career-services/pdfs/student-agreement-form-04-2009.pdf)
- *Optional Practical Training (OPT):* International students completing a degree in a Science, Technology, Engineering and Mathematics field—like ITM—may remain in the United States on their F-1 visa and work to gain on-the-job training for up to 29 months following graduation. Students may bring advisers a form for OPT and must appear in person; it is one page and very simple, and all we have to do is sign it.
- *Direct Offers to ITM Students:* Occasionally the ITM program will receive direct solicitations for internships, coops and employment. These may be posted on the Jobs board at the Rice Campus and will normally be sent to all ITM students via email. In the case of internships and coops, even if a direct solicitation is received, all arrangements for the internship or coop must be made via the IIT Career Development Center. This includes OPT and CPT for international students.
- *Employer Showcase sessions:* Prospective employers in all areas of information technology will present opportunities offered by their companies in lunchtime sessions throughout the year. They usually buy lunch—most often pizza—and after their presentation will have an opportunity for questions. Past events have included a diverse set of employers including Google, Red Sky Technologies, and University of Chicago Medicine. Watch the ITM Weekly Newsletter for announcements of these Employer Showcase sessions.
- *Other Opportunities for Employment:* The opportunity to present at workshops, conferences and student colloquiums sponsored by the School of Applied Technology has proven to be fertile ground for employment for many ITM students. At any of these events, there may be (and usually are!) prospective employers evaluating students as they present results of their research and projects. Students have received direct job offers as a result of the quality of their participation in these events; in some cases offers have been made immediately following the conclusion of the student's presentation. Direct job offers are also solicited from faculty and staff members of ITM and are usually emailed to students directly. Occasionally, employers ask faculty members to select students to apply for jobs, and those requests are forwarded to faculty members exclusively. **Please** respond to these requests in a timely manner, even if your response is that you have no one to recommend.
- *LinkedIn:* linkedin.com is the leading professional networking social media site for the information technology profession. The ITM Department urges every student embarking on a search for internships or employment to complete and maintain a full profile on LinkedIn. Students in the department have been offered interview opportunities by firms where they had not applied based on the strength of their profile, and this is the first place IT professionals look for information on fellow professionals. Student profiles should include a professional portrait photograph, and Career Services will do *free* student headshots at least once each semester so there's no reason not to have one. (One of the companies who has invited students to interview based on their LinkedIn profiles is Google!) As faculty members, we need to set a good example and ensure that our LinkedIn presence is complete and current and includes an appropriately professional photo.

ITM Program Student Employment: The following student employment positions in the School of Applied Technology and the ITM Program are available to ITM students:

- *Teaching Assistanceship:* This is a 20 hour/week position, reporting to one or more faculty members to grade student-submitted course materials and in some instances to support curriculum-specific laboratories. Teaching Assistants (TAs) must apply every term and may or may not be appointed each term. TAs normally receive a stipend, which is paid monthly, and tuition for three credit hours each semester of appointment. Full-time faculty members can nominate their preferred candidates for their Teaching Assistanceships. Students can apply for Teaching Assistanceships at http://itm.iit.edu/ta/ .
- *Research Assistanceship:* This is a 20 hour/week position, reporting to one or more faculty members to support research. These positions will be offered to students by faculty members who have them available. They are often funded through grants or contracts and will be semester-by-semester.
- *Administrative Staff Member:* Students in these positions perform administrative tasks in the Rice Campus main office or the School of Applied Technology office in Perlstein Hall at the Mies Campus and are paid hourly up to 20 hours/week. Students should contact the ITM Program Manager, Angie Jarka, PH 223, ajarka1@iit.edu, 312.567.5927 for information on applying for these positions.
- *Technical Staff Member*: Students in these positions perform information technology tasks in the School of Applied Technology for Rice Campus technology support, Mies Campus technology support and School of Applied Technology infrastructure support and are paid hourly up to 20 hours/week. Students should contact the SAT Director of Information Technology Louis McHugh, IIT Tower room 14C3-2, lmchughi@iit.edu for information on applying for these positions.

Campus-Wide Identification (CWID) and Unified-ID (UID)

Each student and faculty member is assigned a 9-digit Campus-Wide Identification Number or CWID; it's also frequently referred to as a "Student ID Number" or "A number". Graduate students received this number in their acceptance letter from the Information Technology & Management Degree program; undergraduates receive it in their acceptance letter from Admissions. Everyone is also assigned a Unified-ID (UID), which is used to log into MyIIT and is also your email username. It is generally the first letter of your first name followed by the first seven letters of your surname. If there is someone else with the same letter combination, your UID may have a number appended to the end as well. If an entire name is less than eight letters, then the UID will be less than eight letters.

MyIIT

MyIIT (http://my.iit.edu/) gives you access to online services for IIT, including email, class registration, online course access via Blackboard, University announcements, IIT Today, and university news and events. The initial password for MyIIT is your birth month and year in MMYY format followed by the last four digits of your CWID number. For example, if you were born on July 4th, and your CWID is A2005678, your initial MyIIT password would be 07045678. You can look up both your Unified-ID and your email address by looking yourself up in the IIT People Search at http://www.iit.edu/people/search/. If you are not listed there, you can add your information in MyIIT by going to the Work tab and them to Employment Details > Update Campus Address; for faculty members without a regularly assigned office, use Perlstein Hall room 223 or Rice Campus room 138, and since you must list a phone number use a Google Voice number as discussed above if you choose not to share a personal number. For more information on MyIIT, see the "Training and Support" tab at http://my.iit.edu/. (By the way, the software that runs MyIIT is called *Banner*.)

Online Student Services

Almost every function of Illinois Tech student services is available online through MyIIT; most are found under the Academics tab, which accommodates several channels:

- **Academic Profile:** *View basic academic profile, primary adviser and unofficial transcript and holds.*
- **Registration Tools:** *Provides quick links to look up class schedules and add or drop classes.*
- **Banner Self-Service:** *Allows navigation through all areas of Banner Self Service including student records, financial aid and personal information forms where you can update addresses and other info.*
- **Student Grades:** ***A*** *quick link to view student grades.*
- **Enrollment Verification:** *Students can access and print official certificates of enrollment to provide to a health insurer, auto insurer, or other company that requests proof of their enrollment.*

Undergraduates must receive an Alternate PIN number from their adviser to register (see the *Advising* section above). Graduate students find their Alternate PIN on MyIIT but must receive their Alternate PIN number from their adviser in their first semester. Students having difficulty registering should contact the IIT Registrar's office at registrar@iit.edu from their hawk.iit.edu email account.

Online Faculty Services

Faculty services on MyIIT are found under the Teaching tab, which accommodates several useful channels:

- **Academic Affairs Faculty System:** *Some advisers will have this channel which gives you an accurate, quick list of advisees with links to transcripts and admissions info. Very useful. (It will go away with Banner 9.)*
- **Banner Self-Service:** *Allows navigation through all areas of Banner Self Service; look up student info, enter grades, see your advisee list and their grades.*
- **Faculty Grade Assignment:** *Enter your midterm and final grades*
- **Faculty Dashboard:** *Pull up enrollment rosters and post your syllabus and office hours for your current courses.* **NOTE:** *This does* not *post your syllabus to Blackboard; you have to do that separately.*
- **IIT Online for Faculty:** *Resources to help you teach online more effectively..*

Electronic Mail

The primary method for university-to-student communication is through IIT email. An email account is set up for new faculty members after your payroll authorization has been submitted. Your email username is the same as your UID, and this email username, when followed by "@iit.edu", makes up your email address at IIT. Email service is IIT Gmail provided through Google Apps for Education, available through Web access at MyIIT or by using a client program such as Outlook Express, Thunderbird, Windows Mail or Eudora. Your email password for client programs is the same as your MyIIT login. It is very important that you either check your IIT email regularly or forward your email account to your primary email address. To learn how to forward IIT email and change your IIT email contact address, please see the IIT Faculty Accounts FAQ at http://my.iit.edu/iit/ots/how_to/faq1.shtml. (You must already be logged into MyIIT to use this link.)

Blackboard and Online Courses

All faculty and students are provided with accounts on IIT Blackboard, IIT's online learning support system. Online resources for all Illinois Tech courses are normally available through Blackboard, and online course lecture content is always on Blackboard. Use of Blackboard for delivery of your syllabus, assignment details and assignment submissions is expected even if your course is *not* delivered online. Login by clicking the Blackboard icon at the top of the screen in MyIIT. Once you access the system, you should see a welcome page that lists your courses for the current semester. Click on the appropriate link to access and edit course materials. Please direct Blackboard problems to the OTS Support Desk at 312.567.DESK (3375); *ITM staff cannot help you with Blackboard problems.* For more information about teaching online, many resources are provided under the IIT Online heading at http://my.iit.edu/iit/ots/how_to/faq2.shtml . (You must already be logged into MyIIT to use this link.)

ITM Online Course Policies

Most non-laboratory courses in our programs are offered on the Internet via IIT Online. Online course lectures can be accessed via Blackboard. Online course content is available to all students registered for the course, including those students in the live classroom sections of the course.

- *Online Course Policies for Students on F1 Visas:*
  - Only one online course may be taken per semester. This is a U.S. Government requirement & cannot be waived.
  - In their first semester in the program, Fl Visa students living on Mies Campus cannot enroll in online sections of any course. This is intended to engage the student in the learning process so that they are not distracted from their studies.
- *Online Course Policies for Students Enrolled in Live Sections:*
  - For students in live sections, actual classroom attendance is expected and online content may not serve as a substitute for live classroom attendance. Students in live sections who do not attend class may be penalized in the class participation component of their course grade.
  - If a course has an online component, live students who miss a class session due to illness or other authorized absence are expected to view the lecture they have missed online.
- *Online Course Policies for All Students:*
  - Online students are responsible for all assignments announced in class. Failure to watch the lecture is *never* an acceptable excuse for failure to submit assignments on the due date. Since assignments must be submitted via Blackboard and the published assignment must include a due date, this should be moot—but students can come up with very creative excuses.
  - Some students fail to keep up with the on-line lectures and only skim over the material. As a result they miss critical information and fail to hand in assignments on time because they are not prepared when the assignment is due. Often they try to review all the lectures at the last moment to prepare themselves for an assignment, with bad results. Live students sometime use the Blackboard facilities as a substitute for attending class regularly, thus depriving themselves of the best option available to them, which is the live class. As a result, instructors may require that no more than the last three lectures be available at any point in the semester, which will force students to stay on schedule with lectures and course assignments. If this is the class policy, instructors may have all lectures made available online two weeks prior to the final exam for review purposes. These arrangements must be made with IIT Online.
  - Undergraduate students may take online courses only with permission of their adviser. This permission will be based on the adviser's judgment as to the capability of the student to succeed in an online course. The adviser must enter a permit in the system to enable undergraduate enrollment in an online course section. Permission to enroll in an online course will not normally be granted during a student's first semester in the program. It is not possible to complete the undergraduate degree through distance learning; live course attendance is required.

Computers and Computer Labs

The ITM Department does not issue noteboook PCs to students. In some cases notebooks may be provided in classrooms for student use. These computers are not to leave the room in which they are used.

Computer accounts and laboratories are essential to our academic programs. Computer labs for use by ITM/IT students are provided by the Rice Campus, the School of Applied Technology and by IIT's Office of Technology Services. Portal and email accounts are provided for students and faculty by IIT's Office of Technology Services located on our Mies Campus. **The ITM Department does not issue any computers to students.**

- *Rice Campus Computer Labs:* The labs are managed by the Johannesen Computer Center, Rice Campus room 208, and include Rice Campus rooms 207, 208, 210, 240, 244, 247, 249, 250, 255 and 256. Room 240 is a Cloud and Embedded Systems laboratory, room 250 is a network, security & forensics lab which is normally physically isolated from the rest of the campus network, room 255 is a specialized Voice over IP (VoIP) and digital communications lab, and room 256 is a wireless data communications lab. Rice Campus also provides an 802.11g/n wireless network for student and faculty use. Problems or issues with Rice Campus computing facilities should be reported via an email trouble ticket to appliedtech@iit.edu.

- *Mies Campus Computer Labs:* The School of Applied Technology provides computer labs at 3424 South State Street, and on the ninth floor and fourteenth floors of the IIT Tower. Problems or issues with ITM-managed computing facilities at Mies Campus should be reported via an email trouble ticket to **appliedtech@iit.edu**. The Mies Campus Office of Technology Services also provides general purpose computer labs, public workstations across the campus, and 802.11g/n wireless network for student and faculty use.
- *Information Technology (IT) / Information Technology & Management (ITM) Servers and Server Accounts:* Additional server accounts may be provided for ITM/IT students and faculty and dedicated servers may be provided to support specific courses; details of these accounts and servers are available from Louis McHugh (IIT Tower room 14C3-2 or **lmchughi@iit.edu**). Problems or issues with ITM servers should be reported via an email trouble ticket to **appliedtech@iit.edu**.
  - *Project Support:* Computers may be requested by faculty members to support student projects; such requests should be made as soon as the need is recognized. Servers will be virtual servers unless there is a compelling reason why that will not work. Virtual servers in standard configurations may be provided on a next-day basis; custom configurations are normally provided in two days but may take up to a week to provision. It may take up to a week to provide physical computers and providing these computers is completely dependent on the availability of resources.
- *Student Computer Ownership and Use:* Students entering any ITM degree as of Fall 2016 are required to possess a notebook computer with both wired and wireless network access for use in our programs; details of the minimum and desired configurations may be found in the latest ***Information Technology & Management Student Notebook Computer Specification*** at **http://www.itm.iit.edu/data/ITMNotebookSpecs.pdf**.
- *Office of Technology Services Accounts:* OTS (OTS **http://www.iit.edu/ots/**) provides common computer accounts for Illinois Tech faculty, staff and students; these accounts include MyIIT, Blackboard, Email, Google Apps, and Web accounts. Illinois Tech does not provide remote dial-up network access. OTS also provides general-purpose computer classrooms on the Mies Campus, which may be used for teaching ITM 311 and ITM 312. Problems or issues with OTS-managed computing facilities at Mies Campus should be reported via a trouble ticket via email to **supportdesk@iit.edu** or online at **http://support.iit.edu**.

Software Available for ITM/IT Students & Faculty

To enhance student learning, the ITM program makes software available for free to students and faculty. Free software programs are coordinated by the ITM Associate Chair, Ray Trygstad, **trygstad@iit.edu** or 630.447.9009.

- *Microsoft Software:* The School of Applied Technology is a subscriber to Azure Dev Tools for Teaching software under terms of the licensing agreement which permits academic use of this site by faculty and students. The files include most current Microsoft operating systems, servers, and application development tools, and include applications such as Windows 8.1, Windows 10, Windows Server, Access, Project, Visio, and Visual Studio. Our subscription does not include any Microsoft Office tools except Access (for Office, see below). You can download this Microsoft software from your Azure Dev Tools for Teaching account. Product keys for the software are provided at the time of download so we suggest that you save a copy of the page. To access our Microsoft webstore see **https://azureforeducation.microsoft.com/devtools**. You will need to register a Microsoft account using your hawk.iit.edu email account to make use of this site. Microsoft Azure Dev Tools for Teaching membership benefits information is at at **https://azure.microsoft.com/en-us/education/institutions/dev-tools-for-teaching-faq/**. This subscription also includes training tools from Pluralsight and WintellectNow (90 days free), learning tools for Azure, and a Microsoft Store account that will allow you to publish your apps on the Microsoft Store for free with a special student registration code.
  Current courses from Pluralsight that might serve as a good supplement for your classroom instruction include:
  - Python: The Big Picture
  - Python Fundamentals
  - HTML, CSS, and JavaScript: The Big Picture
  - JavaScript: Getting Started
  - Python: Getting Started
  - HTML Fundamentals
  - Introduction to CSS
  - JavaScript Fundamentals

  There are other courses that would help with Cloud Computing, Data Analytics, and C# as well.
- *Microsoft Office:* You can subscribe to Office 365 for Education at **https://www.microsoft.com/en-us/education/products/office**. For Illinois Tech students in the past, features in the Office 365 A3 level have been provided at no cost but also with no support, but this is supported for ITM Faculty. This level includes 5 desktop installations of Office. Office 365 / Microsoft Office are **not available** through our Microsoft Azure Dev Tools for Teaching account. An alternative is to use free and open-source LibreOffice; we recommend you download it with an installer at **ninite.com**.
- *VMware:* Software available to students and faculty through the VMWare Academic Program can be downloaded through your ITM *Software* account managed by Kivuto Solutions. This account will give you access to VMware products—for free—as well as a token allowing you to enroll in VMware eLearning Courses online. You are entitled to one free copy of each product, with licenses good for 1 year. Unlike the Microsoft Imagine account, we CANNOT authorize *additional* downloads (i.e. more than one license) of these products, but according to the site you can redownload the software as necessary. More importantly, license keys are issued to you on the Web page at the time of download, and we cannot get you additional or replacement keys, so we suggest that you save a copy of any keys issued to you on the site.
- *Oracle:* The ITM Department is an Oracle Academy which makes Oracle software available to faculty and students. Contact the Oracle Academy manager for access to software: SAT Director of I.T. Louis McHugh, IIT Tower room 14C3-2 or **lmchughi@iit.edu**.
- *IBM Academic Initiative:* As an IBM Academic Affiliate, IBM developer and analytics software is available to students and faculty. Go to **https://ibm.biz/academic** to register and access software and educational materials.

- *Autodesk:* Free software for students from Autodesk including *Autocad* and *Maya* is available at http://www.autodesk.com/education/free-software/featured
- *Other Free Widows Software:* We used to maintain a download page with links to recommended software, but this year instead we recommend that you use https://ninite.com/. Ninite will create an installer for all the software you have selected, which when run will install the correct version for your OS with no toolbars or other crapware. To update the software, just run the installer again. The School of Applied Technology uses Ninite Pro to configure our computer lab systems.
- *IIT Licensed Software:* Commercial software licensed for Illinois Tech use is available under the Training and Support tab in MyIIT and includes applications such as Mathmatica and Virus Scan anti-virus products from McAfee.

Textbook Selection

Textbooks are a key part of the learning process. Courses in our program should make use of textbook resources to the maximum extent possible, but we recognize that in many cases online resources my be the most accurate and timely material for instructional use. In any case, we are obligated BY FEDERAL LAW and university policy to inform the bookstore—and the students—what text resources will be used in each course well in advance of the next term. **Ref:** http://web.iit.edu/sites/web/files/departments/general-counsel/policies/procedure_m_bookstore_textbook_requisitions.pdf

- The bookstore will send book requisition forms with instructions to each department at least four weeks before the requisition's due date. The ITM Assistant Department Manager will then collect textbook information from faculty member to ensure that the the information can be returned to the bookstore by the due date.
- Typical due dates for book requisitions will be:
  - Third week in October for spring semester,
  - Last week in March for summer semester, and
  - Last week in April for fall semester.
- Textbook selection should include the following information:
  - Title / Author(s) / ISBN / Edition

  If you are not going to specify a textbook, please indicate one of the following:
  - No Text
  - To Be Assigned Later
  - Text will be assigned from online resources
    - ✔ If the resources are known at the time of textbook submission, please provide the URLs.

  This information is important when preparing book lists for student use.
- Please direct any questions about the textbook selection process to the ITM Department Manager, Angela Jarka, PH 223, ajarka1@iit.edu, 312.567.5290.

ITM Curriculum Committee

Decisions on the Information Technology and Management curricula are made by the ITM Curriculum Committee, which consists of three full-time and three adjunct faculty members appointed by the Chair, with participation open to all full-time faculty members. The Committee, in concert with the faculty and course coordinators, is responsible for evaluating the consistency and quality of the courses, their support of student outcomes and program educational objectives, and modifying the curriculum when necessary. The Committee engages a constant review of the program to ensure that is comprehensive, academically sound, and meeting the needs of the students as a pre-professional educational program. Any faculty member may propose curriculum revisions which are then considered and acted upon by the Committee.

- *Assessment Evaluation:* A subcommittee of the Curriculum Committee appointed as *Assessment Evaluators* will evaluate course assessments each semester and publish Assessment Reports reflecting their evaluations. The full Committee will review the Assessment Reports on at least an annual basis. Recommendations in the Assessment Reports will be used by the Curriculum Committee as a key element in the continuous improvement process for our degrees.
- *Curriculum Oversight:* A subcommittee of the Curriculum Committee, the *Curriculum Oversight Committee*, make unannounced class visits to validate that the course is following syllabus timelines, to assess whether or not the instructor is teaching to the course objectives, and to observe student engagement. Additionally, these visits serve as a tool to assess teaching style, course design, and the validity of course materials. They are an important aspect of continuous improvement in the ITM Department.

New Course Proposals

Given the rapidly-changing face of the profession, faculty members are strongly encouraged to propose new courses. Because of the nature of the university scheduling process, new course proposals should be submitted by October 1 for the Spring and Summer terms, and by March 1 for the Fall term. There is some flexibility but there is a far better chance of the course being properly scheduled if these guidelines are followed. Topic courses that have not been previously taught should be submitted as a new course proposal as well.

- *Proposal Requirements:* So that we can complete the necessary forms with all necessary information, course proposals should include the following elements:
  - Course Title
  - Course description
  - Course level, i.e. undergraduate/graduate/both
  - Credit hours
  - Prerequisite(s)
  - Expected enrollment, if known
  - Course outcomes and objectives
  - A 15-topic syllabus
  - A one-or two-line discussion of the place of the course in overall curriculum

A course proposal for a topics course should include:

- Topic Title and correct topic course number (ITMD 419/519, ITMD 469/579, ITMS 479/579, ITMT 495/595)
- Course description
- Course level, i.e. undergraduate/graduate/both
- Credit hours
- Prerequisite(s)

- *Submission and Approval:* Submit new course proposals to the ITM Associate Chair, Ray Trygstad (trygstad@iit.edu or 630.447.9009). (Eventually the Department will institute a formal online form and process for new course proposals.) After review and approval by the Curriculum Committee by the Dean the submitter will be notified of approval and the course will be scheduled. New courses proposed by faculty will normally be offered as a topics course when taught for the first time.

Course Scheduling

Proposed course schedules for upcoming terms will be developed by the ITM Associate Chair and the Program Manager based on previous term offerings, the ITM three-year schedule, and new course proposals. These schedules will be sent to all ITM faculty members for review, generally in late September or early October for Spring and Summer, and sometime in March for Fall. ***Please*** review these schedules carefully and make any necessary changes to your course offerings as soon as possible after you have received the proposed schedule. Once feedback has been received from the faculty, the schedule will be submitted to the Registrar's Office. It is possible to make changes once the schedule has been submitted, but substantive changes such as course offerings, day and time, etc. should all be made prior to the opening of registration for the next term.

Faculty Travel

School of Applied Technology Travel & Training Request Policy: All travel and training anticipated within the fiscal year should, whenever possible, be requested by September 1 of the fiscal year. These requests should be submitted on an Anticipated Travel Request Form (http://www.itm.iit.edu/data/SAT_travel_request.xlsx) and submitted to the ITM Budget Manager. All requests will go through the following approval process:

- ITM Budget Manager,
- ITM Associate Chair (acting on behalf of the Chair), Ray Trygstad, 630.447.9009, trygstad@iit.edu
- Approval of the Dean is only required for travel funded directly by the School of Applied Technology.

- The following guidelines will be used for assessing travel requests
  - Within budget considerations, the ITM Department will assume the cost of travel and registration to one (1) annual conference for each full-time faculty member. Funding for additional conferences will be available for research and tenure-track faculty. Regardless of the funding source, all travel still requires advance approval.
  - SAT/ITM Staff members may submit a request to attend training seminars that are related to his/her job function. These requests will be considered dependent on budgetary constraints and value to the department or college as a whole.
- If your travel request is approved and all expenses are on your university procurement card, no additional forms are required. Travel expenses not on your card or arranged through the university travel agency will only be reimbursed through submission of an *Employee Travel and Expense Report*, found on the Controller's webpage at https://web.iit.edu/controller/forms.

Hiring and Retention of Faculty

- *Full Time Faculty:* Full-time Category 1 faculty will be hired, tenured, promoted, and retained in accordance with the *IIT Faculty Handbook* and SAT policy in *Promotion and Tenure for the IIT School of Applied Technology* (Appendix D). Full-time Category 2 or Category 3 faculty will be recommended by the Academic Unit Committee on Appointments and Retention for the Information Technology and Management Degrees as per the *Standards for Appointment and Retention for Faculty in Information Technology and Management* (Appendix C). After approval by the Dean of the School of Applied Technology, they will be proposed to the Provost for appointment. Contract renewal for Category 2 or Category 3 faculty will be upon review and recommendation of the Academic Unit Committee on Appointments and Retention for the Information Technology and Management Degree Programs as per the *Standards for Appointment and Retention for Faculty in Information Technology and Management.*
- *Adjunct Faculty:* ITM faculty members may propose candidates for adjunct faculty positions or positions may be posted through the Illinois Tech HR site. Candidates must hold an advanced degree and have significant industry experience as per the *Standards for Appointment and Retention for Faculty in Information Technology and Management* (Appendix C). A complete resume and/or curriculum vitae will be submitted to the ITM Program Manager. After reviewing the resume, if the candidate is appropriate for the position, the Program Manager may schedule an initial live or telephone interview with the Associate Chair. Upon the Associate Chair's determination that the candidate is suitable for the position, a full in-person interview will be conducted by the Chair and the Associate Chair prior to offering an adjunct faculty appointment. New hire faculty are probationary for their first year and adjunct faculty who do not comply with departmental academic policies are not invited to return to teach for us. Although official and legal language requires that we state that adjunct appointments are not permanent and carry no implication of continuing connection with the university, our adjunct faculty members are equal partners in what we do, and are valued members of our faculty. Renewal as an adjunct faculty member is at the discretion of the Dean.

Faculty Expectations

- *Planned Absences:* All faculty absences from class planned in advance must be reported to the department prior to the beginning of the term when possible, and otherwise as far ahead as possible. Faculty members teaching a live course may not take a planned absence from any class sessions during the first two weeks, last week, and final exam week of the course, or during first and last weeks of any summer session.

- *Duration of Lectures:* For lecture courses faculty members are expected to teach for 150 minutes each week. if a class scheduled to meet for 150 minutes is dismissed after 45 minutes, this is a real problem, because the faculty member is not doing the job we are paying for and is not giving the students their fair access to knowledge.
- *Unplanned Absences:* Faculty members who fall ill or have other unplanned circumstances arise that will result in absence from class should notify their students if possible, and notify Angela Jarka at **ajarka1@iit.edu** 312.567.5927, preferably *prior* to the meeting time of the course. An excessive number of unplanned absences will be grounds for non-renewal of adjunct faculty status.
- *Classrooms:* Do not enter a classroom where another faculty member is teaching unless you have made a prior arrangement with the instructor, you have been assigned by the department to observe the class, or there is a genuine emergency.
- *Remarks to Students:* Do NOT make disparaging remarks to students about any other faculty member or about any course offered by the department. You are entitled to your opinions, but in this instance you are not entitled to share those opinions with students. If you have an issue with another instructor or with a course, tell your fellow faculty member directly or tell Professor Trygstad or Dr. Carlson.
- *Live Course Sections:* If you are teaching a course with a live section, you must be present in the classroom at the scheduled time for the course unless you have made other arrangements with the department in advance. "Live" course sections cannot be taught online as it will jeopardize the immigration status of our international students.
- *Online Students:* Apart from examinations which can be proctored for online students, students enrolled in online sections CANNOT be required to appear in person in a classroom for any other reason. They may be given an opportunity to present a project or paper in person, but the cannot be required to do so, and cannot be penalized for failing to do so. If students in your live section are required to present, you must have an alternative for online students. Some faculty members allow online students to record a presentation on video or to submit a script for their presentation with accompanying presentation graphics (PowerPoint or the like).
- *Monthly ITM Faculty Meetings:* These meetings are normally on the fourth Thursday of each month at 12:45pm in the ITM Conference Room. All full-time faculty members are required to attend these meetings and all adjunct faculty are welcome (but not required) to attend as well.
- *Faculty & Course Introduction:* On the first day of a class when going over the syllabus and class expectations, or sometime within the first two weeks of class, please discuss the following:
  - A synopsis on who you are and what you do outside of the classroom, especially professional activities.
  - Where the course would apply within the students' curriculum. We recognize that not all adjunct faculty will be familiar with the full curriculum; if the is the case, please focus on the third point below.
  - Applications of the course and what career paths this course can lead to; this engages student concerns about their investment in their education and this class.

ITM Subject Designations and Course Numbering

Information Technology and Management (ITM) courses historically were numbered according to a subject-area schema; i.e., 54x courses are Networking and Communications, while 57x are Management of Information Technology. Since we were running out of numbers at the graduate level, for courses above the 300-level we have added a fourth character to the Subject Code (ITM), e.g., ITMS will indicate Security and Forensic courses, ITMD will be used for Data Management and Application Development courses, etc. The entire list appears below.

ITMD	*Development:*	Application development, web development, multimedia, data management
ITMO	*Operations:*	Networking, communications, operating systems and system administration
ITMM	*Management:*	Management of information technology, business, law and ethics
ITMS	*Security:*	Security and forensics
ITMT	*Theory & Technology:*	Theory, systems, system design and general topics in information technology

Additionally, we have added the subject designation **TECH** for courses that are offered across departments, particularly between INTM and ITM, such as technical consulting and advanced project management.

TECH	*Applied Technology:*	Courses offered in common by SAT and not by a specific degree program

These subject codes were viewed as informational by the Undergraduate Studies Committee and were approved and published by the Registrar on November 9, 2010. Existing course numbers in the previous ITM/IT numbering scheme were as follows:

X0X – Hardware and general computing
X1X – Programming and Software Development
X2X – Database
X3X – Theory, systems and system design
X4X – Networking and communications
X5X – Operating systems
X6X – Web and multimedia
X7X – Management
X8X – Business, law and ethics
X9X – Topics, projects and problems; independent study
XX8 – Security

Course numbering levels for ITM follow the following guidleines

1XX	ITM Courses normally only taken by first or second year students.
2XX	Currently used for ITM notational courses for community college transfer credit
3XX, 4XX	ITM Undergraduate courses
5XX	ITM Graduate courses
6XX	Doctoral research (does not currently apply to ITM & should not be used at this time)
70X-74X	ITM Undergraduate accelerated courses
75X-79X	ITM Graduate accelerated courses
8XX	Professional Learning (CEU) course sections

Teaching Assistants

A Teaching Assistant (TA) will be assigned to each instructor who requests one and who meets the current Departmental criteria for assignment based on course loading and TA availability. TA assignments are limited by budget and it will not be possible to assign a TA to every faculty member who has requested one; priority for TA assignments in this case will go to faculty teaching assignment-intensive courses, i.e. lab courses or courses with a significant weekly assignment load, and to faculty members holding significant academic administration responsibilities. Faculty members with an extremely high student load may, in some circumstances, be assigned two TAs, but additional TA assignments will always be based on student load, budget, and availability. Courses with two course sections with the same number taught by different faculty members may request a shared TA. Teaching Assistant assignment requests should be made to the ITM Program Manager, Angie Jarka, PH 223, ajarka1@iit.edu, 312.567.5927, as far in advance of the next semester as possible but ideally no later than thirty days prior to the beginning of the term.

- *TA Selection:* Full-time faculty members are requested and encouraged to select their own Teaching Assistants, with the understanding that it may not be possible to assign the desired student. TAs should be full-time graduate students who ideally have completed a minimum of one term of study in the program as a graduate student or an undergrad. Course Graders are undergraduates who grade student-submitted course materials. You should specify any special requirements you may have for a TA or Grader; for example, some faculty members require their TA to have completed all courses they are teaching that term with a minimum grade of 'A'. If you do not request a specific student as a TA but you are entitled to a TA and request that one be assigned, the ITM Program Manager will assign one from the pool of qualified applicants. TAs for Adjunct Faculty members will be assigned by the Program Manager; in some cases these may be students who were offered a Teaching Assistanceship as part of a merit-based financial aid package designed to attract the best and most qualified graduate students.
- *TA Compensation:* This will vary by term; TAs also receive a three credit hour tuition scholarship. Official university policy on stipends for TAs can be found at http://web.iit.edu/sites/web/files/departments/general-counsel/policies/procedure_n_graduate_college_stipends_graduate_assistants.pd

Personal Hygiene

(This information is provided in the Student Handbook starting in Fall 2008 at the request of faculty and is included here for your information.) Students in program at Illinois Tech come from all over the world and as everyone knows, social and cultural differences mean that we do things in many different ways. In much of the world, clean fresh water is something that is in very short supply and consequently standards of personal hygiene can very greatly. And quite frankly, many domestic American students, once free of the critical eyes and noses of Mom and Dad, often lapse into unhygienic practices. In the interests of student harmony—and so we don't have to single anyone out to discuss the adverse effect of poor personal hygiene on people trying to sit next to you in class—here are normal expectations for personal hygiene in the United States, where clean fresh water is plentiful and is included with your dorm room fees or apartment rent.

- *Bathing:* Adults normally bathe or shower every day, washing with soap. Additional showering or bathing may be necessary after sports or other vigorous activities.
- *Deodorant:* Most adults in the U.S. use some form of underarm deodorant.
- *Perfumes and Colognes:* In many societies where it is not practical to bathe daily, unpleasant body odors are often masked with heavy applications of perfume or cologne. This should not be necessary with daily bathing, and may be not only offensive to others but may actually produce allergic reactions. This is not to say that they should not be used, but they should be used very lightly or sparingly at most.
- *Teeth:* Teeth should be brushed at least twice a day; many Americans brush after every meal. If you brush your teeth well (dentists recommend brushing for at least two minutes with toothpaste) this will handle most problems with bad breath, but some people will use a mouthwash as well.
- *Laundry:* Americans normally launder all undergarments and shirts, blouses, dresses or other upper body garments that come in direct contact with underarms after every wearing; in other words, these clothing items are normally worn for a day and then put into the laundry. Lower body garments (trousers, slacks, shorts, skirts, etc.) can be worn more than one day but certainly should be laundered anytime they are visibly soiled or there is a noticeable odor. Outer garments (coats, sweaters, etc.) are laundered or drycleaned anytime they are visibly soiled or there is a noticeable odor. This does not mean you must wash your laundry every day, but you certainly should do it whenever you have no clean upper body clothing items or undergarments.

Other Important Faculty Resources

- *ITM Faculty Resource Pages:* http://www.itm.iit.edu/faculty/ and http://dickens.rice.iit.edu/faculty/
- *ITM Loopback (ITM Program blog):* http://blogs.iit.edu/itm_loopback/
- https://appliedtech.iit.edu/information-technology-and-management/current-students/resources/ (Includes links to the ITM Undergraduate and Graduate Student Handbooks)
- *ITM Resource Page:* https://appliedtech.iit.edu/information-technology-and-management/current-students/resources/
- *IIT Policies and Procedures Handbook:* http://web.iit.edu/general-counsel/resources/policies-and-procedures
- *IIT Faculty Handbook:* http://web.iit.edu/general-counsel/faculty-handbook
- *IIT Student Handbook:* http://www.iit.edu/student_affairs/handbook/
- *IIT Graduate Bulletin:* http://bulletin.iit.edu/graduate/
- *IIT Undergraduate Bulletin:* http://bulletin.iit.edu/undergraduate/
- Link to software provided under *Microsoft Azure Dev Tools* and the *VMware Academic Program:* http://www.itm.iit.edu/software/webstore.html

IIT's Commitment to Diversity: Building Community and Fostering Diversity

IIT's commitment to diversity is affirmed in the following institutional statement: Illinois Institute of Technology is a community that values and respects its members. We appreciate that our faculty, staff, students, alumni/ae and trustees come from many backgrounds and many parts of the world. We embrace the contributions that differences offer. We are committed to providing a working and learning environment in which all students and all members of the faculty and staff are able to realize their full potential.

Building community—one that includes students, faculty, staff, visitors, partners, and tenants—and embracing diversity requires action at the institutional as well as the personal level. From an institutional perspective, it means committing to hiring practices that result in faculty and staff who better reflect the composition of our student body. It means partnering with our neighbors and taking a leadership role in community engagement. And it means holding each member of the IIT community accountable for doing his and her part to move this agenda forward.

At the personal level, it means recognizing that some of the things we do on a daily basis also can strengthen our community and make others feel welcome, included, and valued. The following is not meant to be a comprehensive list of suggestions but rather starting points to build community and foster diversity and respect—one person and one day at a time.

- ***Ask rather than assume.***
  - *And names are a good place to start.* For example, "Do you prefer Timothy or Tim?" Then remember the preference; use the name in conversations and email; and, if necessary, apologize for mispronouncing or forgetting it.
- ***Don't forget the please.***
  - Or the *thank you, I'm sorry, and it's good to see you*. Being polite goes a long way to making someone feel welcomed and included. Sometimes all it takes is saying hello.
- ***Don't forget the please.***
  - *And names are a good place to start.* For example, "Do you prefer Timothy or Tim?" Then remember the preference; use the name in conversations and email; and, if necessary, apologize for mispronouncing or forgetting it.
- ***Give people the benefit of the doubt.***
  - Assume people have a good reason for saying what they are saying—and doing what they are doing. Think the best before you assume the worst.
- ***The difference between hearing and listening is understanding.***
  - Communication is complicated. But it gets easier when we move from hearing what is being said to listening to the person who is saying it.
- ***Face it. There are times when you need to pick up the phone or deliver the message in person.***
  - But if you decide to go electronic, at least think before you hit that send button.
- ***Acknowledge your baggage.***
  - Some of it is worth carrying with us. Some of it should be checked. And sometimes we may not even realize we're taking it with us. So try not to leave your bags unattended—and be aware when it may be weighing on your perceptions, actions, and responses.
- ***Consider when it's a good thing to act—and when it's better to watch from the sidelines.***
  - Don't be content to look the other way when something unacceptable is happening.
- ***Take advantage of "talking moments."***
  - Sometimes people are just unknowing rather than insensitive. And most of them will thank you for gently pointing this out. But don't call it a teaching moment.
- ***Perception is reality.***
  - Keep in mind: What I hear may not be what you said. What you conclude may not be what I meant. So, asking for clarification is better than assuming.
- ***Put diversity into your daily routine.***
  - Add a new colleague to your committee. Seek out someone with a different point of view. Get to know someone in another office. Ask someone about his or her country. It all starts with you.

It's time to move forward, stand up, and be counted. Let's build community, embrace diversity, and foster respect at IIT—one person and one day at a time

(http://www.iit.edu/president/commitment_to_diversity.shtml dated Aug. 14, 2013)

Department of Information Technology and Management

Bachelor of Information Technology & Management Curriculum

(Co-Terminal with Master of Information Technology & Management)

Semester 1		Undergrad Credits	Grad Credits
ITM 301	Contemporary Op Sys / Hardware I	3	0
ITM 311	Introduction to Software Development	3	0
Natural Science or Engineering Elective		4	0
Humanities 200-level Elective		3	0
Total Hours		**13***	**0**

Semester 2		Undergrad Credits	Grad Credits
ITM 313	Intro to Open Source Programming	3	0
ITMO 340	Intro to Data Networks & the Internet	3	0
MATH 180	Fundamentals of Discrete Math	3	0
Social Sciences Elective		3	0
Natural Science or Engineering Elective		3	0
Total Hours		**15**	**0**

Semester 3		Undergrad Credits	Grad Credits
ITM 100	Introduction to IT as a Profession	3	0
ITMD 321	Data Modeling and Applications	3	0
ITMD 361	Fundamentals of Web Development	3	0
Natural Science or Engineering Elective		3	0
Social Sciences Elective (300+)		3	0
Total Hours		**15**	**0**

Semester 4		Undergrad Credits	Grad Credits
ITMD 411	Intermediate Software Development	3	0
ITMO 356	Intro to Open Source Operat Systems	3	0
ITMD 362	Human/Comp Interact & Web Design	3	0
Statistics Elective (MATH 425, BUS 221, PSYC 203)		3	0
Free Elective		3	0
Total Hours		**15**	**0**

Semester 5		Undergrad Credits	Grad Credits
ITMM 471	Project Management for Info Tech	3	0
ITM Elective		3	0
Minor Elective		3	0
Humanities Elective (300+)		3	0
Free Elective		3	0
Free Elective		3	0
Total Hours		**18**	**0**

Semester 6		Undergrad Credits	Grad Credits
ITM 5XX Elective		3	3
IPRO Elective I		3	0
Social Sciences Elective (300+)		3	0
Minor Elective		3	0
Minor Elective		3	0
Free Elective		3	0
Total Hours		**18**	**3**

Semester 7		Undergrad Credits	Grad Credits
ITMS 448	Cyber Security Technologies**	3	0
ITM 5XX Elective		3	3
ITM 5XX Elective		0	3
Humanities Elective (300+)		3	0
Minor Elective		3	0
Total Hours		**12**	**6**

Semester 8		Undergrad Credits	Grad Credits
ITMT 430	System Integration	3	0
IPRO Elective II		3	0
ITM 5XX Elective		3	3
Minor Elective		3	0
Humanities or Social Sciences Electives		3	0
		15	**3**

Semester 9		Undergrad Credits	Grad Credits
ITM Undergraduate Elective		3	0
ITM 5XX Elective		0	3
ITM 5XX Elective		0	3
ITM 5XX Elective		0	3
Total Hours		**3**	**9**

Semester 10		Undergrad Credits	Grad Credits
ITM Undergraduate Elective		3	0
ITM 5XX Elective		0	3
ITM 5XX Elective		0	3
ITM 5XX Elective		0	3
		3	**9**

Total Undergraduate Credit Hours	**127**
Total Graduate Credit Hours	**30**

* Students should be aware that students not completing 30 hours of study in their first year will still be classified as a first year student in the first semester of their second year of study, which may adversely impact some financial aid. Students with issues or questions about this should discuss it with a Financial Aid Counselor.

** Co-terminal students completing the Computer and Information Security graduate specialization will substitute ITMS 548 for ITMS 448.

Bachelor of Information Technology & Management Curriculum

(Co-Terminal with Master of Cyber Forensics and Security)

Semester 1		Undergrad Credits	Grad Credits
ITM 301	Contemporary Op Sys / Hardware I	3	0
ITM 311	Introduction to Software Development	3	0
Natural Science or Engineering Elective		4	0
Humanities 200-level Elective		3	0
Total Hours		**13***	**0**

Semester 2		Undergrad Credits	Grad Credits
ITM 312	Intro to Open Source Programming	3	0
ITMO 340	Intro to Data Networks & the Internet	3	0
MATH 180	Fundamentals of Discrete Math	3	0
Social Sciences Elective		3	0
Natural Science or Engineering Elective		3	0
Total Hours		**15**	**0**

Semester 3		Undergrad Credits	Grad Credits
ITM 100	Introduction to the Profession	3	0
ITMD 321	Data Modeling and Applications	3	0
ITMD 361	Fundamentals of Web Development	3	0
Natural Science or Engineering Elective		3	0
Social Sciences Elective (300+)		3	0
Total Hours		**15**	**0**

Semester 4		Undergrad Credits	Grad Credits
ITMD 362	Human/Comp Interact & Web Design	3	0
ITMD 411	Intermediate Software Development	3	0
ITMO 356	Intro to Open Source Operat Systems	3	0
Statistics Elective (MATH 425, BUS 221, PSYC 203)		3	0
Free Elective		3	0
Total Hours		**15**	**0**

Semester 5		Undergrad Credits	Grad Credits
ITMM 471	Project Management for Info Tech	3	0
ITM Elective		3	0
Minor Elective		3	0
Humanities Elective (300+)		3	0
Free Elective		3	0
Free Elective		3	0
Total Hours		**18**	**0**

Semester 6		Undergrad Credits	Grad Credits
ITM 5XX Course (Typically ITMS 543)		3	3
IPRO Elective I		3	0
Social Sciences Elective (300+)		3	0 (300+)
Minor Elective		3	0
Minor Elective		3	0
Free Elective		3	0
Total Hours		**18**	**3**

Semester 7		Undergrad Credits	Grad Credits
ITMS 548	Cyber Security Technologies**	3	3
ITMS 5XX Course (Typically ITMS 578)		3	3
ITM Elective		3	0
Humanities Elective (300+)		3	0
Minor Elective		3	0
Total Hours		**15**	**6**

Semester 8		Undergrad Credits	Grad Credits
ITMT 430	System Integration	3	0
ITMS 586	Digital Forensics	3	0
IPRO Elective II		0	3
Humanities or Social Sciences Elective		3	0
Minor Elective		3	0
		12	**3**

Semester 9		Undergrad Credits	Grad Credits
ITM Undergraduate Elective		3	0
ITMS 5XX Elective		0	3
ITMS 5XX Elective		0	3
ITMS 583	Digital Evidence	0	3
Total Hours		**3**	**9**

Semester 10		Undergrad Credits	Grad Credits
ITM Undergraduate Elective		3	0
ITMM 585	Legal and Ethical Issues in I.T.	0	3
ITMS 5XX Elective		0	3
ITMS 5XX Elective		0	3
		3	**9**

Total Undergraduate Credit Hours 127
Total Graduate Credit Hours 30

* Students should be aware that students not completing 30 hours of study in their first year will still be classified as a first year student in the first semester of their second year of study, which may adversely impact some financial aid. Students with issues or questions about this should discuss it with a Financial Aid Counselor.

** Co-terminal students enrolled in the Master of Cyber Forensics and Security will substitute ITMS 548 for ITMS 448.

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Department of Information Technology and Management

Bachelor of Science in Applied Cybersecurity and Information Technology Curriculum

(Co-Terminal with Master of Cyber Forensics and Security)

Semester 1		Undergrad Credits	Grad Credits
ITM 301	Contemporary Op Sys / Hardware I	3	0
ITM 311	Introduction to Software Development	3	0
MATH 151	Calculus I	5	0
Humanities 200-level Elective		3	0
Total Hours		**14**	**0**

Semester 2		Undergrad Credits	Grad Credits
ITM 312	Intro to Open Source Programming	3	0
ITMO 340	Intro to Data Networks & the Internet	3	0
MATH 152	Calculus II	5	0
Social Sciences Elective		3	0
Natural Science or Engineering Elective		3	0
Total Hours		**17**	**0**

Semester 3		Undergrad Credits	Grad Credits
ITM 100	Introduction to the Profession	3	0
ITMD 321	Data Modeling and Applications	3	0
ITMD 361	Fundamentals of Web Development	3	0
MATH 251	Multivariate and Vector Calculus	4	0
Natural Science or Engineering Elective		4	0
Total Hours		**17**	**0**

Semester 4		Undergrad Credits	Grad Credits
ITMD 362	Human/Comp Interact & Web Design	3	0
ITMD 411	Intermediate Software Development	3	0
ITMO 356	Intro to Open Source Operat Systems	3	0
ITMM 471	Project Management for ITM	3	0
MATH 230	Discrete Mathematics	3	0
Natural Science or Engineering Elective		3	0
Total Hours		**18**	**0**

Semester 5		Undergrad Credits	Grad Credits
ITMS 418	Coding Security	3	0
ITMS 548	Cyber Security Technologies*	3	3
ITMS 578	Cyber Security Management*	3	3
Humanities Elective (300+)		3	0
Social Sciences Elective (300+)		3	0
Free Elective		3	0
Total Hours		**18**	**6**

Semester 6		Undergrad Credits	Grad Credits
ITMS 438	Cyber Forensics	3	0
ITMS 458	Operating System Security	3	0
ITMS 543	Vulnerability Analysis and Control*	3	3
MATH 474	Probability and Statistics	3	0
IPRO Elective I		3	0
Total Hours		**15**	**3**

Semester 7		Undergrad Credits	Grad Credits
ITMS 483	Digital Evidence	3	0
ITMS 5XX Course		0	3
Cybersecurity Elective		3	0
Humanities Elective (300+)		3	0
IPRO Elective II		3	0
Total Hours		**12**	**3**

Semester 8		Undergrad Credits	Grad Credits
ITMT 430	System Integration	3	0
ITMM 485	Legal and Ethical Issues in IT	3	0
ITMS 5XX Course (substitute for ITMS 538)		0	3
Social Sciences Elective (300+)		3	0
		19	**3**

Semester 9		Undergrad Credits	Grad Credits
Cybersecurity Elective		3	0
ITMS 5XX Course (substitute for ITMS 583)		0	3
ITMS 5XX Course (substitute for ITMM 585)		0	3
Free Elective		3	0
Total Hours		**6**	**6**

Semester 10		Undergrad Credits	Grad Credits
ITMS 5XX Course		0	3
ITMS 5XX Course		0	3
ITMS 5XX Course		0	3
Humanities or Social Sciences Elective		3	0
		3	**9**

Total Undergraduate Credit Hours	**129**
Total Graduate Credit Hours	**30**

* Co-terminal students enrolled in the Master of Cyber Forensics and Security will substitute ITMS 543 for ITMS 443, ITMS 548 for ITMS 448, and ITMS 578 for ITMS 478.

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Bachelor of Science in Applied Cybersecurity and Information Technology Curriculum

(Co-Terminal with Master of Information Technology & Management)

Semester 1		Undergrad Credits	Grad Credits
ITM 301	Contemporary Op Sys / Hardware I	3	0
ITM 311	Introduction to Software Development	3	0
MATH 151	Calculus I	5	0
Humanities 200-level Elective		3	0
Total Hours		**14**	**0**

Semester 2		Undergrad Credits	Grad Credits
ITM 312	Intro to Open Source Programming	3	0
ITMO 340	Intro to Data Networks & the Internet	3	0
MATH 152	Calculus II	5	0
Social Sciences Elective		3	0
Natural Science or Engineering Elective		3	0
Total Hours		**17**	**0**

Semester 3		Undergrad Credits	Grad Credits
ITM 100	Introduction to the Profession	3	0
ITMD 321	Data Modeling and Applications	3	0
ITMD 361	Fundamentals of Web Development	3	0
MATH 251	Multivariate and Vector Calculus	4	0
Natural Science or Engineering Elective		4	0
Total Hours		**17**	**0**

Semester 4		Undergrad Credits	Grad Credits
ITMD 362	Human/Comp Interact & Web Design	3	0
ITMD 411	Intermediate Software Development	3	0
ITMO 356	Intro to Open Source Operat Systems	3	0
ITMM 471	Project Management for ITM	3	0
MATH 230	Discrete Mathematics	3	0
Natural Science or Engineering Elective		3	0
Total Hours		**18**	**0**

Semester 5		Undergrad Credits	Grad Credits
ITMS 418	Coding Security	3	0
ITMS 448	Cyber Security Technologies	3	0
ITMS 578	Cyber Security Management*	3	3
Humanities Elective (300+)		3	0
Social Sciences Elective (300+)		3	0
Free Elective		3	0
Total Hours		**18**	**3**

Semester 6		Undergrad Credits	Grad Credits
ITMS 438	Cyber Forensics	3	0
ITMS 458	Operating System Security	3	0
ITMS 443	Vulnerability Analysis and Control	3	0
MATH 474	Probability and Statistics	3	0
IPRO Elective I		3	0
Total Hours		**15**	**0**

Semester 7		Undergrad Credits	Grad Credits
ITMS 483	Digital Evidence	3	0
ITMD 514 or ITMD 515 (515 as sub for ITMD 510)		0	3
ITM 5XX Course		3	3
Humanities Elective (300+)		3	0
IPRO Elective II		3	0
Total Hours		**12**	**6**

Semester 8		Undergrad Credits	Grad Credits
ITMT 430	System Integration	3	0
ITMM 485	Legal and Ethical Issues in IT	3	0
ITM 5XX Course		0	3
Social Sciences Elective (300+)		3	0
		9	**3**

Semester 9		Undergrad Credits	Grad Credits
ITM 5XX Course		3	3
ITM 5XX Course		0	3
ITM 5XX Course		0	3
Free Elective		3	0
Total Hours		**6**	**9**

Semester 10		Undergrad Credits	Grad Credits
ITM 5XX Course		0	3
ITM 5XX Course		0	3
ITM 5XX Course		0	3
Humanities or Social Sciences Elective		3	0
		3	**9**

Total Undergraduate Credit Hours	**129**
Total Graduate Credit Hours	**30**

* Co-terminal students enrolled in the Master of Information Technology & Management will substitute ITMS 578 for ITMS 478.

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Department of Information Technology and Management

Bachelor of Science in Applied Cybersecurity and Information Technology Curriculum

(Co-Terminal with Master of Science in Applied Cybersecurity and Digital Forensics)

Semester 1		Undergrad Credits	Grad Credits
ITM 301	Contemporary Op Sys / Hardware I	3	0
ITM 311	Introduction to Software Development	3	0
MATH 151	Calculus I	5	0
Humanities 200-level Elective		3	0
Total Hours		**14**	**0**

Semester 2		Undergrad Credits	Grad Credits
ITM 312	Intro to Open Source Programming	3	0
ITMO 340	Intro to Data Networks & the Internet	3	0
MATH 152	Calculus II	5	0
Social Sciences Elective		3	0
Natural Science or Engineering Elective		3	0
Total Hours		**17**	**0**

Semester 3		Undergrad Credits	Grad Credits
ITM 100	Introduction to the Profession	3	0
ITMD 321	Data Modeling and Applications	3	0
ITMD 361	Fundamentals of Web Development	3	0
MATH 251	Multivariate and Vector Calculus	4	0
Natural Science or Engineering Elective		4	0
Total Hours		**17**	**0**

Semester 4		Undergrad Credits	Grad Credits
ITMD 362	Human/Comp Interact & Web Design	3	0
ITMD 411	Intermediate Software Development	3	0
ITMO 356	Intro to Open Source Operat Systems	3	0
ITMM 471	Project Management for ITM	3	0
MATH 230	Discrete Mathematics	3	0
Natural Science or Engineering Elective		3	0
Total Hours		**18**	**0**

Semester 5		Undergrad Credits	Grad Credits
ITMS 418	Coding Security	3	0
ITMS 5XX	Cyber Security Management*	3	3
ITMS 5XX Course		0	3
Humanities Elective (300+)		3	0
Social Sciences Elective (300+)		3	0
Free Elective		3	0
Total Hours		**15**	**6**

Semester 6		Undergrad Credits	Grad Credits
ITMS 438	Cyber Forensics	3	0
ITMS 458	Operating System Security	3	0
ITMS 543	Vulnerability Analysis and Control*	3	3
MATH 474	Probability and Statistics	3	0
IPRO Elective I		3	0
Total Hours		**15**	**3**

Semester 7		Undergrad Credits	Grad Credits
ITMS 483	Digital Evidence	3	0
ITMS 548	Cyber Security Technologies*	3	3
Cybersecurity Elective		3	0
Humanities Elective (300+)		3	0
IPRO Elective II		3	0
Total Hours		**12**	**3**

Semester 8		Undergrad Credits	Grad Credits
ITMT 430	System Integration	3	0
ITMM 485	Legal and Ethical Issues in IT	3	0
ITMS 5XX	Elective (substitute for ITMS 538)	0	3
ITMT 591 or ITMS 539 or ITMS 549		0	3
Social Sciences Elective (300+)		3	0
		9	**6**

Semester 9		Undergrad Credits	Grad Credits
Cybersecurity Elective		3	0
LAW 273	Evidence	3	3
ITMS 5XX Course		0	3
Free Elective		3	0
Total Hours		**9**	**6**

Semester 10		Undergrad Credits	Grad Credits
ITMS 5XX Course		0	3
ITMT 591 or ITMT 594 or ITMT 597		0	3
Law Elective		0	2
Humanities or Social Sciences Elective		3	0
		3	**8**

Total Undergraduate Credit Hours	**129**
Total Graduate Credit Hours	**32**

* Co-terminal students enrolled in the Master of Science in Applied Cybersecurity and Digital Forensics will substitute ITMS 543 for ITMS 443, ITMS 548 for ITMS 448, and ITMS 578 for ITMS 478.

IIT Undergraduate Bulletin 2019-2020 ITM Departmental Supplement

Bachelor of Science in Applied Cybersecurity and Information Technology Curriculum

(Co-Terminal with Master of Science in Information Technology and Management)

Semester 1		Undergrad Credits	Grad Credits
ITM 301	Contemporary Op Sys / Hardware I	3	0
ITM 311	Introduction to Software Development	3	0
MATH 151	Calculus I	5	0
Humanities 200-level Elective		3	0
Total Hours		**14**	**0**

Semester 2		Undergrad Credits	Grad Credits
ITM 312	Intro to Open Source Programming	3	0
ITMO 340	Intro to Data Networks & the Internet	3	0
MATH 152	Calculus II	5	0
Social Sciences Elective		3	0
Natural Science or Engineering Elective		3	0
Total Hours		**17**	**0**

Semester 3		Undergrad Credits	Grad Credits
ITM 100	Introduction to the Profession	3	0
ITMD 321	Data Modeling and Applications	3	0
ITMD 361	Fundamentals of Web Development	3	0
MATH 251	Multivariate and Vector Calculus	4	0
Natural Science or Engineering Elective		4	0
Total Hours		**17**	**0**

Semester 4		Undergrad Credits	Grad Credits
ITMD 362	Human/Comp Interact & Web Design	3	0
ITMD 411	Intermediate Software Development	3	0
ITMO 356	Intro to Open Source Operat Systems	3	0
ITMM 471	Project Management for ITM	3	0
MATH 230	Discrete Mathematics	3	0
Natural Science or Engineering Elective		3	0
Total Hours		**18**	**0**

Semester 5		Undergrad Credits	Grad Credits
ITMS 418	Coding Security	3	0
ITMS 5XX	Cyber Security Management*	3	3
ITM 5XX Course		3	3
Humanities Elective (300+)		3	0
Social Sciences Elective (300+)		3	0
Free Elective		3	0
Total Hours		**18**	**6**

Semester 6		Undergrad Credits	Grad Credits
ITMS 438	Cyber Forensics	3	0
ITMS 458	Operating System Security	3	0
ITMS 443	Vulnerability Analysis and Control*	3	0
MATH 474	Probability and Statistics	3	0
IPRO Elective I		3	0
Total Hours		**15**	**0**

Semester 7		Undergrad Credits	Grad Credits
ITMS 483	Digital Evidence	3	0
ITMS 448	Cyber Security Technologies	3	0
ITM 5XX Course		3	3
Humanities Elective (300+)		3	0
IPRO Elective II		3	0
Total Hours		**12**	**3**

Semester 8		Undergrad Credits	Grad Credits
ITMT 430	System Integration	3	0
ITMM 485	Legal and Ethical Issues in IT	3	0
ITMT 591 ITMT 594 or ITMT 597		0	3
ITM 5XX Course		3	3
Social Sciences Elective (300+)		3	0
		12	**6**

Semester 9	Undergrad Credits	Grad Credits
ITMT 591 or ITMT 594 or ITMT 597	0	3
ITM 5XX Course	0	3
ITM 5XX Course	0	3
Free Elective	3	0
Total Hours	**3**	**9**

Semester 10	Undergrad Credits	Grad Credits
ITMT 591 or ITMT 594 or ITMT 597	0	2
ITMS 5XX Course	0	3
ITMS 5XX Course	0	3
Humanities or Social Sciences Elective	3	0
	3	**8**

Total Undergraduate Credit Hours	**129**
Total Graduate Credit Hours	**32**

* Co-terminal students enrolled in the Master of Science in Information Technology and Management will substitute ITMS 578 for ITMS 478.

IIT Undergraduate Bulletin 2019-2020 ITM Departmental Supplement

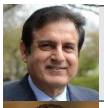
Information Technology & Management (ITM) Faculty & Staff Directory

The first location given is the primary office location. The number given is the office room number. Location addresses are:

Rice: Daniel F. and Ada L. Rice Campus, 201 East Loop Road, Wheaton, Illinois 60189 Phone Prefix: 630.682

Perlstein: Illinois Tech Mies Campus, Perlstein Hall, 10 West 33rd Street, Chicago, Illinois 60616 Phone Prefix: 312.567

Phone numbers not starting with the prefixes above are mobile, personal or multi-location numbers. Adjunct faculty may provide additional information to their students & their phone numbers may be available upon request from the ITM Program Manager, Angie Jarka.



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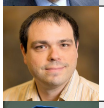

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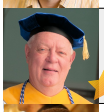

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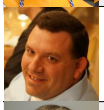

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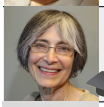

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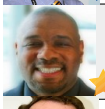

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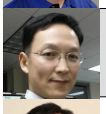

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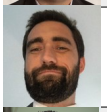

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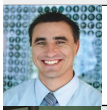

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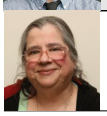

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Information Technology & Management (ITM) Faculty & Staff Directory (continued)

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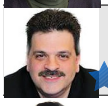

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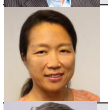

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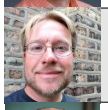

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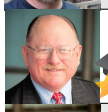

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Key to awards: = Educational Excellence Award (School of Applied Technology)
= Jeffrey Kimont Memorial Teaching Award (ITM Department Adjunct Faculty)
= Excellence in Teaching Award (School of Applied Technology)

Office of Professional Development Staff Directory

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ILLINOIS INSTITUTE OF TECHNOLOGY *School of Applied Technology*

Information Technology & Management Academic Honesty Violation Report

Date of Violation: Date of Report:

Faculty Member Information
Name:

Phone Number:

Email Address:

Student Information
Name(s) of student(s) involved:

☐ Undergraduate student
☐ Graduate student

CWID(s):

Email Address(es):

Has/have the student/students been notified of the submission of this report?: ☐ Yes ☐ No

Course Information
Course Number: ITM

Semester: ☐ Fall ☐ Spring ☐ Summer Year:

TA Involved?: ☐ No ☐ Yes: Name:

Witnesses?: ☐ No ☐ Yes: Name:

Has the witness been notified that his/her name has been included in this report? ☐ Yes ☐ No

Violation Information
Please check appropriate form of academic dishonesty; short examples are included but not limited to:

- ☐ **Plagiarism** – Published and unpublished works, print media, graphics, and music, including the internet and other students' work
- ☐ **Unauthorized Collaboration** – Giving or receiving answers or questions for tests, quizzes, homework, etc.
- ☐ **Unauthorized Aid** – Consultation of textbooks, notes, electronic devices, etc when such aid was not specifically granted/allowed
- ☐ **Falsification** – Deliberate concealment of true origin of data; forgery of signature on documents; submitting assignments, tests, quizzes, etc under false pretenses
- ☐ **Other**: (Please clarify)
  Bribery, theft of documents including bluebooks, exams, quizzes, homework, etc.

Please provide a brief description of circumstances of violation of the Code of Academic Honesty (e.g., facts leading to suspicion of violation, syllabus information, copy of student work showing violation)
ATTACH ADDITIONAL PAGES AS NEEDED

_____

_____

_____

Faculty Member Signature
I ☐ have / ☐ have not discussed this violation with the student(s).
I ☐ have / ☐ have not assigned a grade/grades of zero for this assignment or examination.

Signature: Date:

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IIT School of Applied Technology
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3.30.10

Standards for Appointment and Retention for Faculty in Information Technology and Management

Industry Professor of Information Technology and Management (Category II Faculty)

Appointment: Individuals appointed as Industry Professor of Information Technology and Management should have a minimum of twelve (12) years of industry experience in information technology with significant management experience and/or other positions, publications or certifications reflecting wide industry recognition of expertise. Industry Professors must hold a post-graduate degree at the Masters level or higher. While a degree in information technology is desirable, given the newness of the field it is recognized that many will hold a degree in a related field which may include computer science, engineering, technical or systems management, technical communication, design, or business administration. Demonstrated instructional experience is required.

Renewal: Individuals renewed as Industry Professor of Information Technology and Management should have positive student evaluations over the period of their previous appointment. They must have a recommendation for renewal from the Dean and must have approval of a majority of a majority of the Academic Unit Committee on Appointments and Retention. Participation in and direction of research, while not required as a Category II faculty member, is highly desirable.

Industry Associate Professor of Information Technology and Management (Category II Faculty)

Appointment: Individuals appointed as Industry Associate Professor of Information Technology and Management should have a minimum of six (6) years of industry experience in information technology with positions, publications or certifications reflecting industry recognition of expertise. Industry Associate Professors must hold a post-graduate degree at the Masters level or higher. While a degree in information technology is desirable, given the newness of the field it is recognized that many will hold a degree in a related field which may include computer science, engineering, technical or systems management, technical communication, design, or business administration. Demonstrated instructional experience is highly desired but not required.

Renewal: Individuals renewed as Industry Associate Professor of Information Technology and Management should have positive student evaluations over the period of their previous appointment. They must have a recommendation for renewal from the Dean and must have approval of a majority of the Academic Unit Committee on Appointments and Retention.

Senior Lecturer in Information Technology and Management (Category II Faculty)

Appointment: Individuals appointed as Senior Lecturer in Information Technology and Management must hold a degree of Doctor of Philosophy or equivalent. While a degree in information technology is desirable, given the newness of the field it is recognized that most will hold a degree in a related field which may include computer science, engineering, technical or systems management, technical communication, design, or business administration. Demonstrated instructional experience is required.

Renewal: Individuals renewed as Senior Lecturer in Information Technology and Management should have positive student evaluations over the period of their previous appointment. They must have a recommendation for renewal from the Dean and must have approval of a majority of the Academic Unit Committee on Appointments and Retention.

Lecturer in Information Technology and Management
(Category III Faculty)
Appointment: Individuals appointed as Lecturer in Information Technology and Management must hold a post-graduate degree at the Masters level or higher. While a degree in information technology is desirable, given the newness of the field it is recognized that many will hold a degree in a related field which may include computer science, engineering, technical or systems management, technical communication, design, or business administration. If no degree in information technology is held, Lecturers must have significant industry experience in information technology with positions, publications or certifications reflecting industry recognition of expertise. Demonstrated instructional experience is required.
Renewal: Individuals renewed as Lecturer in Information Technology and Management should have positive student evaluations over the period of their previous appointment. They must have a recommendation for renewal from the Dean and must have approval of a majority of the Academic Unit Committee on Appointments and Retention.

Adjunct Assistant Professor of Information Technology and Management
(Other Academic Appointments)
Appointment: Individuals appointed as Adjunct Assistant Professor of Information Technology and Management must hold a degree of Doctor of Philosophy or equivalent. While a degree in information technology is desirable, given the newness of the field it is recognized that many will hold a degree in a related field which may include computer science, engineering, technical or systems management, technical communication, design, or business administration. Demonstrated instructional experience is required.
Renewal: Adjunct appointments are not permanent and carry no implication of continuing connection with the university. Renewal is at the discretion of the Dean.

Adjunct Industry Professor of Information Technology and Management
(Other Academic Appointments)
Appointment: Individuals appointed as Industry Professor of Information Technology and Management must meet the standards prescribed for an Industry Professor of Information Technology and Management above and are appointed on a semester-by-semester basis.
Renewal: Adjunct appointments are not permanent and carry no implication of continuing connection with the university. Renewal is at the discretion of the Dean.

Adjunct Industry Associate Professor of Information Technology and Management
(Other Academic Appointments)
Appointment: Individuals appointed as Industry Associate Professor of Information Technology and Management must meet the standards prescribed for an Industry Associate Professor of Information Technology and Management above and are appointed on a semester-by-semester basis.
Renewal: Adjunct appointments are not permanent and carry no implication of continuing connection with the university. Renewal is at the discretion of the Dean.

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5.16.13

Promotion and Tenure for the IIT School of Applied Technology (SAT)

The School of Applied Technology follows the procedures set forth in the IIT Faculty Handbook (Appendix C) for promotion and tenure. In view of the school's mission, the standards for promotion, tenure and the rank of professor described below follow the general categories of academic merit outlined in the Faculty Handbook:

- Research, scholarly contributions and their real world application
- Teaching and educational accomplishments
- Service to SAT, the university, the appropriate professions, and the community

1. Scholarship contributions and their real world application are demonstrated by, but are not limited to, research funding, patents, published books, referred journal papers, conference articles, and reports; evidence of the impact of this scholarship in real world applications; invited presentations at international and national conferences; lectures and seminars for universities, professional groups, and the public; citations to published research; organization of research centers; reviewer for professional journals, conferences and research proposals; prizes and awards for scholarly contributions; and evaluation of a candidate's scholarship by professional peers outside of HT who have well established and substantial professional reputations.
2. Accomplishments in teaching are demonstrated by evidence such as teaching evaluations by students and written evaluations by faculty; evidence of student learning; effective participation in student advising; course and program development and initiation; development and participation in inter-professional projects (IPROs); authorship of course lecture materials including textbooks and distance learning materials; development of innovative and collaborative teaching techniques and learning laboratories; and authorship of educational articles
3. Service to IIT is demonstrated by such activities as significant participation in program, college, and university committees; involvement with student organizations and other student activities, advising of student branches of professional societies, student clubs, fraternities and sororities; professional society involvement; development of interdisciplinary programs and centers; organization of continuing education courses; participation in student recruitment and other IIT events; and performance of public service functions..

Candidates for promotion and tenure are evaluated on the aggregate of their professional achievements, not merely an inventory of individual accomplishments for each of the specific evaluation criteria described above. The key question for promotion and tenure is "Has the candidate demonstrated the promise of prominence and impact through his/her (1) teaching, (2) research and scholarship, and (3) university service and outreach and shown the promise of continued professional growth and recognition?" Promotion to Full Professor is based on the same performance categories with the expectation that he/she has achieved a high level of prominence and impact through his/her scholarship, teaching and service.

The academic unit Tenure and Promotion Committee will take a formal vote for promotion and tenure by secret ballot in the categories **"Not Recommended"**, **"Recommended"** and prepare a written justification.

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C. Robert Carlson

ITM FACULTY RESOURCES

HANDBOOKS | OPEN POSITIONS | BULLETINS | CURRICULA | ASSESSMENT | GRADING | GOVERNANCE | OPTIONAL | ADVISING
PROMOTIONAL MATERIALS | DRAFT DOCUMENTS | WORKING PAPERS | INFORMATIONAL/HISTORICAL | EXTERNAL DOCUMENTS

Active Documents

All documents are in Adobe Acrobat format; while there may be revisions for some of them in work, these documents are all active and in effect at this time.

- Handbooks
  - *ITM Faculty Handbook*
    http://www.itm.iit.edu/data/ITMFacultyHandbook.pdf
  - *ITM Undergraduate Student Handbook Fall 2019*
    http://www.itm.iit.edu/data/ITMUndergraduateStudentHandbookFall2019.pdf
  - *ITM Graduate Student Handbook Fall 2019*
    http://www.itm.iit.edu/data/ITMGraduateStudentHandbookFall2019.pdf
- Open Positions
  - *Tenure-Track Faculty Appointments*
    http://www.itm.iit.edu/faculty/ITMTenure-TrackFacultyJobPostingSpring19.pdf
  - *Adjunct Faculty Appointments in Cybersecurity and Digital Forensics*
    http://www.itm.iit.edu/faculty/CybersecurityAdjunctFacultyJobPostingSpring19.pdf
  - *Adjunct Faculty Appointments in Information Technology and Management*
    http://www.itm.iit.edu/faculty/ITMAdjunctFacultyJobPostingSpring19.pdf
  - *Fall 2018 Information Technology and Management Faculty Search Committee*
    http://www.itm.iit.edu/faculty/Fall2018ITMFacultySearchCommitteeAppointment.pdf
- Bulletins
  - *IIT Undergraduate Bulletin*
    http://bulletin.iit.edu/undergraduate/
  - *ITM Undergraduate Bulletin Content*
    http://bulletin.iit.edu/undergraduate/colleges/applied-technology/information-technology-management-school-applied-technology/
  - *ITM Undergraduate Bulletin Content: Bachelor of Science in Applied Cybersecurity and Information Technology* (**NEW** Effective Fall 2018)
    http://itm.iit.edu/data/BS_in_Applied_Cybersecurity_and_IT_Degree_Bulletin_Pages.pdf
  - *Full IIT Undergraduate Bulletin 2010-Present*
    https://web.iit.edu/academic-affairs/undergraduate-bulletin
  - *Archived IIT Undergraduate Bulletins (1993-2018)*
    http://www.itm.iit.edu/faculty/undergraduatebulletins.php
  - *Archived IIT Graduate Bulletins (2008-2018)*
    https://web.iit.edu/academic-affairs/graduate-bulletin/previous-graduate-bulletins
  - *IIT Graduate Bulletin*
    http://bulletin.iit.edu/graduate/
  - *ITM Graduate Bulletin Content*
    http://bulletin.iit.edu/graduate/colleges/applied-technology/department-information-technology-management/
  - *Master of Science in Applied Cybersecurity and Digital Forensics in one page*
    http://itm.iit.edu/cyberdegrees/MSACDF-One_Page.pdf
- Curricula and Curricular Materials
  - ITM Syllabus Templates
    http://www.itm.iit.edu/faculty/syllabus/

- Minor Changes to ITM Undergraduate Curriculum 3/22/19
  http://www.itm.iit.edu/faculty/MinorChangesToITMUndergraduateCurriculum3-22-19.pdf
- Changes to ITM Graduate Curricula 3/22/19
  http://www.itm.iit.edu/faculty/ChangesToITMGraduateCurricula3-22-19.pdf
- The Tapestry of Information Technology at Illinois Institute of Technology
  http://www.itm.iit.edu/faculty/IT2017Tapestry-ITM.pdf
  (ITM version of *Figure 6.3: Modern illustration depicting the field of IT* from *2017 Curriculum Guidelines for Undergraduate Degree Programs in Information Technology (IT 2017)*
- *ITM Co-Terminal Degree Programs*
  http://www.itm.iit.edu/data/ITM_Co-TerminalDegreePrograms_2017.pdf

- Assessment & Quality Improvement
  - Reports
    - *ITM Undergraduate Assessment Report Spring 2016*
      http://www.itm.iit.edu/faculty/ITM Assessment Report Spring 2016 (final).pdf
    - *ITM Undergraduate Assessment Report Fall 2016*
      http://www.itm.iit.edu/faculty/ITM Assessment Report Fall 2016.pdf
    - *ITM Undergraduate Assessment Report Spring 2017*
      http://www.itm.iit.edu/faculty/ITM Assessment Report Spring 2017.pdf
    - *ITM Undergraduate Assessment Report Fall 2017*
      http://www.itm.iit.edu/faculty/ITMUndergraduateAssessmentReportFall2017.pdf
    - *ITM Undergraduate Assessment Report Spring 2018*
      http://www.itm.iit.edu/faculty/ITMUndergraduateAssessmentReportSpring2018.pdf
    - *ITM Graduate Assessment Report 2017-2018*
      http://www.itm.iit.edu/faculty/ITMGraduateAssessmentReport2017-2018.pdf
  - Plans
    - *2019-2021 ITM Undergraduate Assessment Plan*
      http://www.itm.iit.edu/faculty/2019-2021ITMUndergraduateAssessmentPlan.pdf
    - *2019-2021 ITM Graduate Program Assessment Plan*
      http://www.itm.iit.edu/faculty/2019-2021ITMGraduateProgramAssessmentPlan.pdf
    - *2018-2019 B.S. in Applied Cybersecurity and Information Technology Assessment Plan (Revision 1)*
      http://www.itm.iit.edu/faculty/2018-20198BSACITAssessmentPlanRev1.pdf
      (This has been superceded by the *2019-2021 ITM Undergraduate Assessment Plan* above.
    - *2016-2018 ITM Undergraduate Assessment Plan (Revision 4)*
      http://www.itm.iit.edu/faculty/2016-2018ITMUndergraduateAssessmentPlan(Rev4).pdf
    - *2016-2018 ITM Graduate Program Assessment Plan (Revision 2)*
      http://www.itm.iit.edu/faculty/2016-2018ITMGraduateProgramAssessmentPlan(Rev.2).pdf
    - *Fall 2018 ITM Assessment Plan*
      http://www.itm.iit.edu/faculty/Fall2018ITMAssessmentPlan.pdf
    - *Spring 2018 ITM Assessment Plan*
      http://www.itm.iit.edu/faculty/Spring2018ITMAssessmentPlan.pdf
    - *Fall 2017 ITM Assessment Plan*
      http://www.itm.iit.edu/faculty/Fall2017AssessmentPlan.pdf

- Grading
  - *IIT Official Grade Legend*
    http://web.iit.edu/sites/web/files/departments/registrar/pdfs/iit_grade_legend_official.pdf
  - ITM Academic Honesty Violation Report
    http://www.itm.iit.edu/faculty/ITM_Academic_Honesty_Violation_Report.pdf
  - IIT Change of Grade Request
    http://www.itm.iit.edu/faculty/gradechange/ (link)
    The actual change is entered through MyIIT. Go to the *Teaching* tab, and in the center section under *Office of the Registrar - Faculty & Staff* select *Change of Grade Request Form*.
    Information necessary to make a grade change: Faculty Name, Subject (ITMD, ITMM, etc.), Course Number, Course Section, CRN, Term (Fall/Spring/Summmer & year), Student ID (A#), Student Name, Reason(s) for Grade Change (select

from menu), Current Final Grade (select from drop-down), New Final Grade (select from drop-down)
(Course section and CRN can be found at https://wildfly-prd.iit.edu/coursestatusreport/)

- IIT Incomplete 'I' Grade Grade Request
  https://my105.iit.edu/registrar/forms/view.php?id=30257 (link)
  Students must complete and submit this form after the last day to withdraw and before the first day of final exam week.

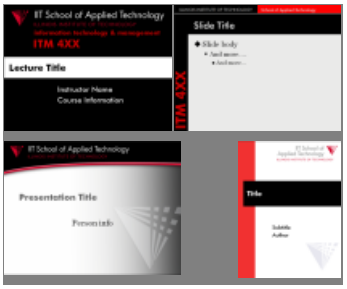
- Faculty Governance
  - *Appointment of Faculty Members of the Information Technology and Management Curriculum Committee, Fall 2018 - Spring 2020*
    http://www.itm.iit.edu/faculty/ITMCurriculumCommitteeFacultyAppointment2018.pdf
  - *Appointment of Faculty Members of the Information Technology and Management Curriculum Committee, Fall 2016 - Spring 2018*
    http://www.itm.iit.edu/faculty/CurriculumCommitteeFacultyAppointment2016.pdf
  - *Standards for Appointment and Retention for ITM Faculty*
    http://www.itm.iit.edu/faculty/StandardsForITMfacultyAppointment.pdf
  - *Promotion and Tenure in the School of Applied Technology*
    http://www.itm.iit.edu/faculty/PromotionAndTenureForSAT.pdf
- Faculty Awards
  - *School of Applied Technology Educational Excellence Award - Criteria*
    http://www.itm.iit.edu/faculty/SAT_Educational_Excellence_Award.pdf
  - *Jeffrey Kimont Memorial Teaching Award Recipients*
    http://www.itm.iit.edu/faculty/JeffreyKimontMemorialTeachingAwardRecipients.pdf
    - This award is given annually to the outstanding adjunct faculty member for that academic year. It is named in honor of Industry Professor of Information Technology and Management Jeff Kimont, who was the first full-time faculty member in Information Technology and Management. He loved jazz, Java, and his family, and we miss him.
- *Guidelines for C-Course Instructors*
  http://www.itm.iit.edu/faculty/Guidelines_for_C-Course_Instructors.pdf
- *Fall 2018 ITM Faculty Meeting Notes*
  http://www.itm.iit.edu/faculty/Fall2018FacultyMeetingNotes.pdf
- *New Faculty Orientation 8/16/18 Faculty Policies*
  http://www.itm.iit.edu/faculty/NewFacultyOrientation8-16-18FacultyPolicies.pdf
- *SAT Computer & Digital Technology Laboratory Policies*
  http://www.itm.iit.edu/data/SAT_Lab_Policies.pdf
- *ITM Accreditation Press Release*
  http://www.itm.iit.edu/faculty/ITM_Department_Accreditation_Release.pdf
- *IT-ITM Course Numbering Scheme*
  http://www.itm.iit.edu/data/IT-ITMCourseNumbering.pdf
- *IT-ITM Subject Designation Changes*
  http://www.itm.iit.edu/data/ITMsubjectDesignationChanges.pdf
- *ITM Notebook Computer Specification*
  http://www.itm.iit.edu/data/ITMNotebookSpecs.pdf
- *Rice Campus/ITM Green Computing Initiative*
  http://www.itm.iit.edu/data/CPDGreenComputing.pdf
- *ITM Student Intellectual Property*
  http://www.itm.iit.edu/faculty/licensing.php
- *SAT Guidelines for Learning Objective Development*
  http://www.itm.iit.edu/data/SATLearningObjectiveGuidelines.pdf

Optional Documents

These documents are provided for your use but are not required or mandatory.

- *SAT Guidelines for preparation of scholarly papers and papers for publication*
  http://www.itm.iit.edu/data/SATPaperGuidelines.pdf

- *ACM SIG Proceedings template* (Use for SIGITE and RIIT paper submissions. If templated paper does not perfectly match this template, it will be rejected.)
  - *ACM SIG Proceedings template for paper publication*
    http://www.itm.iit.edu/data/ACM_SIG_Proceedings_Publication_Format.pdf
  - *ACM SIG Proceedings template for paper publication (MS Word template)*
    http://www.itm.iit.edu/data/ACM_SIG_Proceedings_Publication_Format.dot
  - *ACM SIG Proceedings template for paper publication (MS Word format)*
    http://www.itm.iit.edu/data/ACM_SIG_Proceedings_Publication_Format.doc
- *IIT School Of Applied Technology Research Paper Grading Criteria*
  http://www.itm.iit.edu/data/ITMResearchPGradingCriteria.pdf
  (This is a fillable form intended as a guideline for the evaluation and grading of graduate research papers. It automatically calculates the grade based on the points assigned for each criteria area, and can be saved with the data entered to return to students via Blackboard or email.)
- Google Voice Tutorial for ITM Faculty
  http://www.itm.iit.edu/faculty/GoogleVoiceTutorialForITMFaculty.pdf
- Getting Started with IIT Online and Blackboard - IIT Online
  http://www.itm.iit.edu/faculty/get_started_with_bb_and_iit_online.pdf
- Best Practices for Teaching on Camera - IIT Online Technical Services
  http://www.itm.iit.edu/faculty/best_practices_for_teaching_on_camera_updated.pdf
- ITM Powerpoint Template wide 16:9
  http://www.itm.iit.edu/faculty/ITM_wide_template.potx
- IIT SAT Powerpoint Template wide 16:9
  http://www.itm.iit.edu/faculty/SAT_wide_template.potx
- ITM Powerpoint Template
  http://www.itm.iit.edu/faculty/ITMtemplate.potx
- IIT SAT Powerpoint Template
  http://www.itm.iit.edu/faculty/SAT_Template.potx
- IIT SAT Vertical Sign and Document Cover Powerpoint Template
  http://www.itm.iit.edu/data/ITMsign.potx
- Download Official IIT Fonts to support these templates.
  http://www.itm.iit.edu/faculty/syllabus/IIT_fonts.zip



Advising Documents

These documents are provided for use by advisors.

- *Fall 2019 ITM Undergraduate Advising Notes*
  http://www.itm.iit.edu/data/Fall2019ITMUndergraduateAdvisingNotes.pdf
- ITM Undergraduate Advising Best Practices
  http://www.itm.iit.edu/faculty/ITMUndergraduateAdvisingBestPractices.pdf
- Course Schedule (searchable, filterable, downloadable as xls)
  https://wildfly-prd.iit.edu/coursestatusreport/
- **Pop:** Easy Student Course Schedule Maker, by ITM alum Eric Tendian
  https://pop.weclarify.com/fall2019.html
- *Information for College of DuPage CIT and CIS Students*
  http://www.itm.iit.edu/info/COD_Computing_to_IIT_ITM.pdf
- *COD IIT Guaranteed Admissions Agreement 12/20/18*
  http://www.itm.iit.edu/data/COD_IIT_Guaranteed_Admissions_Agreement.pdf
- *ITM - COD Course Equivalents*
  http://www.itm.iit.edu/data/COD-ITMTransferEvaluation2019.pdf
- *ITM - COD CIS Articulation Agreement 12/20/18*
  http://www.itm.iit.edu/data/IIT_COD_CIS_SAT.pdf
- *ITM - COD CIT Articulation Agreement 12/20/18*
  http://www.itm.iit.edu/data/IIT_COD_CIT_SAT.pdf

- *Illinois Tech Computer Science to ITM Course Conversion 2/20/19*
  http://www.itm.iit.edu/faculty/CS--ITM_Course_Translation.pdf
- *IIT Undergraduate Academic Affairs Transfer Guidelines for the Bachelor of Information Technology and Management*
  - Chicago City Colleges
  - College of Dupage
  - College of Lake County
  - Elgin Community College
  - Harper College
  - Joliet Junior College
  - Kankakee Community College
  - McHenry County Community College
  - Moraine Valley Community College
  - Morton College
  - Oakton Community College
  - Prairie State College
  - South Suburban College
  - Triton College
  - Waubonsee Community College
- *IIT Undergraduate Academic Affairs Transfer Guidelines for the Bachelor of Science in Applied Cybersecurity and Information Technology*
  - Chicago City Colleges
  - College of Dupage
  - College of Lake County
  - Elgin Community College
  - Harper College
  - Joliet Junior College
  - Kankakee Community College
  - McHenry County Community College
  - Moraine Valley Community College
  - Morton College
  - Oakton Community College
  - Prairie State College
  - South Suburban College
  - Triton College
  - Waubonsee Community College

Promotional Materials

- *2019 ITM and Cybersecurity Brochure*
  http://www.itm.iit.edu/info/UGA_6145_ITMBrochure_Web.pdf
- *ITM by the Numbers*
  http://www.itm.iit.edu/info/CyberSecurity_ITM_ByTheNumbersSheet_SAT_6357_Final_02-14-19.pdf
- *Information for College of DuPage CIT and CIS Students*
  http://www.itm.iit.edu/info/COD_Computing_to_IIT_ITM.pdf
- *COD IIT Guaranteed Admissions Agreement 12/20/18*
  http://www.itm.iit.edu/data/COD_IIT_Guaranteed_Admissions_Agreement.pdf

Draft Documents

These documents are currently in draft which means final approval has not been given; they should nevertheless be considered active guidance and should be followed in the absence of other guidelines covering the same material. Some documents may have been recently approved and if so, are being maintained here for continuity purposes for one additional semester.

- Bachelor of Science in Information Technology (BSIT)
  - This degree has been withdrawn from consideration and information moved to Informational and Historical Documents below.
- Master of Science in Information Technology and Management (MSITM)
  - **NOTE:** This program was approved by the Graduate Studies Committee, 2/21/19.
  - New Program Proposal - Master of Science in Information Technology and Management http://www.itm.iit.edu/faculty/NewProgramProposal-MS-ITM.pdf
  - ITM *Graduate Bulletin* pages with the MSITM included (draft) http://www.itm.iit.edu/faculty/department-information-technology-management_Fall2019
  - ITM *Graduate Bulletin* Master of Science in Information Technology and Management pages http://www.itm.iit.edu/faculty/master-of-science-information-technology-management-draft.pdf

Working Papers

These documents are in work or preliminary drafts but are not yet in the draft stage. They are provided purely for information or comments and internal IIT working documents do not represent active policy or curricula.

- Summary of the ITM Data Management and MIS Specializations (for departmental Data Summit) http://www.itm.iit.edu/faculty/Summary of the ITM Data Management and MIS Specializations.pdf
- *ITM Certification Mapping 3/28/08* http://www.itm.iit.edu/faculty/ITMCertificationMapping-3-28-08.pdf
- IIT MITM Technology Innovation Specialization http://www.itm.iit.edu/faculty/IIT-MITM-TechnologyInnovationSpecialization.pdf
- IIT MITM Executive Masters Program http://www.itm.iit.edu/faculty/ITMExecutiveSpecialization_v3.pdf

Informational and Historical Documents

These documents are purely informational or historical in nature. They are provided for information or record purposes and historical IIT documents, drafts, and working documents do not represent active policy or curricula.

- Bachelor of Science in Information Technology (BSIT)
  - New Program Proposal - Bachelor of Science in Information Technology http://www.itm.iit.edu/faculty/BSITProposal.pdf
  - ITM *Undergraduate Bulletin* pages with the BSIT included (draft) http://www.itm.iit.edu/faculty/information-technology-management-school-applied-technology-with-BSIT.pdf
  - ITM *Undergraduate Bulletin* Bachelor of Science in Information Technology pages http://www.itm.iit.edu/faculty/bachelor-of-science-information-technology-draft.pdf
- Computing Disciplines at IIT (Informational chart) http://www.itm.iit.edu/faculty/IITComputingDisciplines.pdf
  - Major Computing Disciplines (adds Information Systems and Software Engineering to the chart above) http://www.itm.iit.edu/faculty/MajorComputingDisciplines.pdf
- The Information Technology Discipline at IIT (Informational chart) http://www.itm.iit.edu/faculty/TheInformationTechnologyDisciplineAtIIT.pdf
- School of Applied Technology Fact Sheet http://www.itm.iit.edu/faculty/SATFactSheet.pdf
- Bachelor of Science in Applied Cybersecurity and Information Technology (BSACIT) Proposal (Approved) Includes revisions from ITM Curriculum Committee and the Undergraduate Studies Committee; approved by the Committee (as revised) on 9/21/17, by the UGSC on 11/14/17, by the UFC on 1/12/18, and by the Board of Trustees on 2/15/18. http://www.itm.iit.edu/data/BS_in_Applied_Cybersecurity_and_IT_Proposal_2017.pdf
  - Supporting Powerpoint for new Bachelor's degree (pdf) http://www.itm.iit.edu/faculty/UFC-BSACIT2018S.pdf

- Master of Science in Applied Cybersecurity and Digital Forensics (MSCDF) new degree
  http://www.itm.iit.edu//data/800new_MSACDF_2017.pdf
- Master of Cyber Forensics and Security revision
  http://www.itm.iit.edu/data/801revised_MCYF_2017.pdf
  - Supporting Powerpoint for new and revised cybersecurity Master's degrees (pdf)
    http://www.itm.iit.edu/faculty/GSC-MSACDF2018S.pdf
- *Master of Information Security Technologies & Management degree program proposal*
  http://www.itm.iit.edu/faculty/MISTM_Proposal_8-28-05.pdf
  - *MITM/MISTM Bulletin Revision* http://www.itm.iit.edu/faculty/MITM&MISTM-Bulletin-08-28-05.pdf
    This update reflects a proposed revision of the Graduate Bulletin to incorporate the Master of Information Security Technologies & Management degree.

External Resources and Links

These documents from external organizations are relevent and important to our department and the academic discipline of information technology. These are tools essential in the development of course learning objectives/student outcomes. When possible excerpts are provided in editable format.

- *2017 Curriculum Guidelines for Undergraduate Degree Programs in Information Technology (IT 2017)* - ACM/IEEE Computer Society (current)
  http://www.itm.iit.edu/faculty/it2017.pdf
  - Excerpt from IT 2017 addressing Cybersecurity Principles
    http://www.itm.iit.edu/faculty/IT2017CybersecurityV2.pdf
    http://www.itm.iit.edu/faculty/IT2017CybersecurityV2.odt
  - Excerpt from IT 2017 addressing Global Professional Practice
    http://www.itm.iit.edu/faculty/IT2017GlobalProfessionalPractice.pdf
    http://www.itm.iit.edu/faculty/IT2017GlobalProfessionalPractice.odt
  - Excerpt from IT 2017 addressing Information Management
    http://www.itm.iit.edu/faculty/IT2017InformationManagement.pdf
    http://www.itm.iit.edu/faculty/IT2017InformationManagement.odt
  - Excerpt from IT 2017 addressing Integrated Systems Technology
    http://www.itm.iit.edu/faculty/IT2017IntegratedSystemsTechnology.pdf
    http://www.itm.iit.edu/faculty/IT2017IntegratedSystemsTechnology.odt
  - Excerpt from IT 2017 addressing Networking
    http://www.itm.iit.edu/faculty/IT2017NetworkingV2.pdf
    http://www.itm.iit.edu/faculty/IT2017NetworkingV2.odt
  - Excerpt from IT 2017 addressing Platform Technologies
    http://www.itm.iit.edu/faculty/IT2017PlatformTechnologies.pdf
    http://www.itm.iit.edu/faculty/IT2017PlatformTechnologies.odt
  - Excerpt from IT 2017 addressing Software Fundamentals
    http://www.itm.iit.edu/faculty/IT2017SoftwareFundamentals.pdf
    http://www.itm.iit.edu/faculty/IT2017SoftwareFundamentals.odt
  - Excerpt from IT 2017 addressing System Paradigms
    http://www.itm.iit.edu/faculty/IT2017SystemParadigms.pdf
    http://www.itm.iit.edu/faculty/IT2017SystemParadigms.odt
  - Excerpt from IT 2017 addressing User Experience Design
    http://www.itm.iit.edu/faculty/IT2017UserExperienceDesign.pdf
    http://www.itm.iit.edu/faculty/IT2017UserExperienceDesign.odt
  - Excerpt from IT 2017 addressing Web and Mobile Systems
    http://www.itm.iit.edu/faculty/IT2017WebAndMobileSystems.pdf
    http://www.itm.iit.edu/faculty/IT2017WebAndMobileSystems.odt
- *2017 Curriculum Guidelines for Post-Secondary Degree Programs in Cybersecurity (CSEC 2017)* - ACM/IEEE Computer Society/AIS/ifip (current)
  http://www.itm.iit.edu/faculty/newcover_csec2017.pdf

    - CSEC 2017 Knowledge Area 4.1: Data Security
      http://www.itm.iit.edu/faculty/4.1-KnowledgeArea-DataSecurity_CSEC2017.pdf
      http://www.itm.iit.edu/faculty/4.1-KnowledgeArea-DataSecurity_CSEC2017.docx (Word)
    - CSEC 2017 Knowledge Area 4.2: Software Security
      http://www.itm.iit.edu/faculty/4.2-KnowledgeArea-SoftwareSecurity_CSEC2017.pdf
      http://www.itm.iit.edu/faculty/4.2-KnowledgeArea-SoftwareSecurity_CSEC2017.docx (Word)
    - CSEC 2017 Knowledge Area 4.3: Component Security
      http://www.itm.iit.edu/faculty/4.3-KnowledgeArea-ComponentSecurity_CSEC2017.pdf
    - CSEC 2017 Knowledge Area 4.4: Connection Security
      http://www.itm.iit.edu/faculty/4.4-KnowledgeArea-ConnectionSecurity_CSEC2017.pdf
    - CSEC 2017 Knowledge Area 4.5: System Security
      http://www.itm.iit.edu/faculty/4.5-KnowledgeArea-SystemSecurity_CSEC2017.pdf
    - CSEC 2017 Knowledge Area 4.6: Human Security
      http://www.itm.iit.edu/faculty/4.6-KnowledgeArea-HumanSecurity_CSEC2017.pdf
    - CSEC 2017 Knowledge Area 4.7: Organizational Security
      http://www.itm.iit.edu/faculty/4.7-KnowledgeArea-OrganizationalSecurity_CSEC2017.pdf
    - CSEC 2017 Knowledge Area 4.8: Societal Security
      http://www.itm.iit.edu/faculty/4.8-KnowledgeArea-SocietalSecurity_CSEC2017.pdf
- *2008 Curriculum Guidelines for Undergraduate Degree Programs in Information Technology* - ACM/IEEE Computer Society (previous)
  http://www.itm.iit.edu/faculty/IT2008 Curriculum.pdf
- *2012 Information Technology Competency Model* - Employment and Training Administration, United States Department of Labor
  http://www.itm.iit.edu/faculty/InformationTechnologyCompetencyModel.pdf
    - Excerpt from 2012 ITCM addressing Databases
      http://www.itm.iit.edu/faculty/ITCM2012-Databases.txt (text)
    - Excerpt from 2012 ITCM addressing Risk Management, Security, and Information Assurance
      http://www.itm.iit.edu/faculty/ITCM2012-Cybersecurity.txt (text)
    - Excerpt from 2012 ITCM addressing Networking
      http://www.itm.iit.edu/faculty/ITCM2012-Networks.txt (text)
    - Excerpt from 2012 ITCM addressing Software Development and Management
      http://www.itm.iit.edu/faculty/InformationTechnologyCompetencyModel-SoftwareDevelopmentAndManagement.pdf
    - Excerpt from 2012 ITCM addressing Communication, Teamwork, and Planning & Organizing (ITM 100 / ITMM 471 focused)
      http://www.itm.iit.edu/faculty/InformationTechnologyCompetencyModel-CommunicationTeamworkPlanningAndOrganizing.pdf
- *Guide to the Enterprise Information Technology Body of Knowledge (EITBOK) Draft* - IEEE Computer Society
  http://eitbokwiki.org/Background (link)
- *Guide to the Systems Engineering Body of Knowledge (SEBOK)* - IEEE Computer Society
  https://www.sebokwiki.org/wiki/Guide_to_the_Systems_Engineering_Body_of_Knowledge_(SEBoK) (link)
- *National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework NIST SP 800-181* - NICE/NIST
  http://www.itm.iit.edu/faculty/NIST.SP.800-181.pdf
- National Center of Academic Excellence in Cyber Defense Education - National IA Education and Training Programs of the Information Assurance Directorate of the National Security Agency
    - National NSA/DHS Centers of Academic Excellence in Cyber Defense Education Knowledge Units 2019
      http://www.itm.iit.edu/faculty/CAE-CD_2019_Knowledge_Units.pdf
    - National NSA/DHS Centers of Academic Excellence in Cyber Defense Education Knowledge Unit Code 2019
      http://www.itm.iit.edu/faculty/CAE-CD_2019_Knowledge_Unit_Code.pdf
    - National NSA/DHS Centers of Academic Excellence in Cyber Defense Education Specializations 2019
      http://www.itm.iit.edu/faculty/CAE-CD_2019_Specializations.pdf

  - National Centers of Academic Excellence in Cyber Defense Education (CAE-CDE) Program Criteria for Measurement 2018
    http://www.itm.iit.edu/faculty/CAE_CDE_criteria.pdf
  - National Centers of Academic Excellence in Cyber Defense Education (CAE-CDE) Designation Program Guidance 2018
    http://www.itm.iit.edu/faculty/CAE_Program_Guidance.pdf
  - NSA/DHS Centers of Academic Excellence in Information Assurance/Cyber Defense Knowledge Unit Mapping to the National Cybersecurity Workforce Framework
    http://www.itm.iit.edu/faculty/NSA_DHS_CAE_KU_Mapping_to_NICE_FW_2.0.pdf
- ABET Accreditation
  - ABET Criteria for Accrediting Computing Programs 2019-2020
    http://www.itm.iit.edu/faculty/C001-19-20-CAC-Criteria-11-24-18.pdf
  - ABET Criteria for Accrediting Information Technology Programs (Draft)
    http://www.itm.iit.edu/faculty/ITProgramCriteria_1stReading.pdf
  - ABET CAC Self-Study Questionnaire 2019-2020
    http://www.itm.iit.edu/faculty/C002B-CAC-Self-Study-Questionnaire-2019-20-08-29-18.docx
  - ABET Accreditation Policy and Procedure Manual 2019-2020
    http://www.itm.iit.edu/faculty/A001-19-20-Accreditation-Policy-and-Procedure-Manual-11-23-18.pdf

Please submit additional faculty resources to Ray Trygstad (trygstad@iit.edu) or Angie Jarka (ajarka1@iit.edu).