COVID-19 Disclaimer: Policy, conditions, and practices described here may vary due to contingencies related to the COVID-19 pandemic.

ILLINOIS TECH | College of Computing

ITM Undergraduate Student Information & Departmental Policies Fall 2022
Department of Information Technology & Management Bachelor's Degrees

Contents

Information Technology & Management Mission

Educate and inform students to prepare them to assume technical and managerial leadership in the information technology field and to advance knowledge through research and scholarship.

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 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. Times may vary in response to the COVID-19 pandemic.

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 you practical, hands-on, applied knowledge that can lead to immediate employment in the information technology field. To this end, ITM courses will teach the latest applications and tools used in the field, maximizing your 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 information technology industry a solid grounding in theory is necessary to equip you to cope with the emergence of new technologies and to advance in your career in the field. A good grounding in theory is necessary to meet the goals of a university education, equipping you 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 you to reason out solutions to problems rather than relying on canned solutions and blind adherence to procedure.
- *Accreditation:* Our undergraduate degrees are externally accredited or are planned for accreditation by the Computing Accreditation Commission of ABET.

Program Objectives & 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 secure computer and network-based systems conforming to policy and best practices, and monitor and support continuing development of relevant policy and best practices as appropriate.
- Apply current industry, 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 Bachelor of Science 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 policy, technology, and awareness to implement appropriate controls and technically secure enterprise information assets and resources to deter, detect, and prevent the success of attacks and intrusions.
- Investigate information security incidents and violation of law using computer resources in a manner such that all evidence is usable for fault analysis and, when applicable, admissible in a court of law.
- 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 Information Technology & Management Student Outcomes *(based on ABET Accreditation Criteria)*

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

Bachelor of Science in Applied Cybersecurity and Information Technology Student Outcomes
(based on ABET Accreditation Criteria)

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

Undergraduate and Graduate Bulletins

The specific requirements for completion of your degree are in the applicable university bulletin. In most cases the bulletin in force in the year you entered the program governs your curriculum. Illinois Tech bulletins are published annually online only at **http://bulletin.iit.edu/.** The following links will take you to the section of the *Bulletin* relevant to your degree and situation.

- *Bachelor of Information Technology and Management*
  - Degree requirements: **http://bulletin.iit.edu/undergraduate/colleges/computing/information-technology-management-school-applied-technology/bachelor-information-technology-management/**
  - Sample curriculum: **http://bulletin.iit.edu/undergraduate/colleges/computing/information-technology-management-school-applied-technology/bachelor-information-technology-management/#samplecurriculatext**
- *Bachelor of Information Technology and Management (transfer students)*
  - Degree requirements: **http://bulletin.iit.edu/undergraduate/colleges/computing/information-technology-management-school-applied-technology/bachelor-information-technology-management-transfer/**
  - Sample curriculum: **http://bulletin.iit.edu/undergraduate/colleges/computing/information-technology-management-school-applied-technology/bachelor-information-technology-management-transfer/#samplecurriculumtext**
- *Bachelor of Science in Applied Cybersecurity and Information Technology*
  - Degree requirements: **http://bulletin.iit.edu/undergraduate/colleges/computing/information-technology-management-school-applied-technology/bs-applied-cybersecurity-information-technology/**
  - Sample curriculum: **http://bulletin.iit.edu/undergraduate/colleges/computing/information-technology-management-school-applied-technology/bs-applied-cybersecurity-information-technology/**

More Details: The *Undergraduate Bulletin* lists all of the courses in the university with a brief course description for each. If you want more details for ITM courses, we have now posted a ***Departmental Syllabus*** for every ITM undergraduate course, which offers much more information about what you will study in each course. The *ITM Departmental Syllabi* are available at **http://www.itm.iit.edu/faculty/itmdepartmentalsyllabus.html**.

Graduate Course Differentiation

When courses are offered with both undergraduate and graduate students enrolled in common lecture and/or lab meetings, course 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 3xx or 4XX and a corresponding 5XX section numbers. As an example, ITMO 340 has a corresponding ITMO 540 course offering. Graduate students may not enroll in any course not a 5XX course except as a prerequisite.
- *Syllabus:* Undergraduate and graduate sections shall each have their own syllabus even when taught in common lectures. These will reflect differences in course outcomes, course student outcomes, and assignments.
- *Assignments:* Identical assignments for graduate and undergraduate students in a cross-listed course may be assigned and then may be graded to different standards for graduate students reflecting higher expectations. Undergraduate students enrolled in the undergraduate sections of cross-listed courses are not expected or required to bear a graduate-level assignment workload.

Faculty Office Hours

Faculty members will be available to you outside of class. (During the COVID-19 contingency, this may be online only.)

- *Full-Time Faculty:* Full-time ITM 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. During pandemic contingency operations, faculty members may only be available online.
- *Adjunct Faculty:* In normal circumstances, ITM adjunct faculty members should maintain one to two hours of physical presence office hours if possible, and must be available via email, chat, video conference, 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. 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 hawk.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 requests from you to advisers or faculty members should come from your university email address. If we receive email from you from another address, you can expect that any response will go to your iit.edu email address, or that faculty members may not respond.
- *ITM Weekly 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 week 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/**. Student bloggers are welcome as well; if you would like to blog on *Loopback*, please contact Ray Trygstad, **trygstad@iit.edu** or 630.447.9009.
- *The ITM Facebook Group:* **https://www.facebook.com/ITMatIIT/**.

Academic Honesty

Each student must read and ensure that you understand both the **Code of Academic Honesty** in the *The Illinois Institute of Technology Student Handbook* at **https://web.iit.edu/student-affairs/handbook/fine-print/code-academic-honesty** and the **Information Technology and Management Policy on Academic Honesty Violations** below. By ITM Department Policy, if you commit an Academic Honesty Violation at a minimum you will be assigned a grade of zero for the assignment; if it is a second offense you 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 you 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, Kayla Botica, PH 223, **kbotica1@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 College of Computing and the Provost or the Provost's designated deputy, 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 College of Computing and the Provost or the Provost's designated deputy; 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 College of Computing that this is a third offense. The Dean will then recommend to the Provost or the Provost's designated deputy that the student be expelled from the university.

Program and Course Prerequisites

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

- *Waiver of Prerequisites Based on Certification or Experience:* Program or course prerequisites may be waived based on industry certifications or significant experience. This waiver can be granted for courses by advisers, course instructors of the course the prerequisite is required for, or the ITM Associate Chair, Ray Trygstad. See below for credit by examination information.

Credit by Examination

Credit by examination may be granted for any course as per current university policy as found in the *Undergraduate Bulletin* at **http://bulletin.iit.edu/undergraduate/academic-policies-procedures/credit-by-examination/**. Undergraduates—especially transfer students—should take note that any credit granted by examination must be completed prior to beginning the last 45 hours of coursework for your degree. ITM Department policy on credit by examination is below.

- *Credit by Examination and Industry Certifications:* Industry certifications may be used as the examination for credit by examination, but this credit will not normally be granted after the end of the first semester of studies in a degree. Many industry certifications may fulfill course requirements; while we recognize their value and applaud students who hold them, we cannot at this time grant course credit for Cisco certifications. If you have industry certifications that you believe may fulfill course requirements see page 28 of this publication, or contact the ITM Associate Chair, Ray Trygstad (**trygstad@iit.edu** or 630.447.9009), for evaluation of your 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 by logging into MyIIT to access the form at **https://pws.iit.edu/system/files/registrar/credit-proficiency-exam-form-1622743978.pdf**, make their payment, and bring the form to the instructor for the applicable course. The form states that you should "obtain the signature of the Director of Student Accounting" but if you have paid the fee online, please attach a copy of the receipt reflecting payment. 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 will be assigned*. After assigning the grade and signing the form the instructor must return the form in person to Kayla Botica in the ITM Department office. Once a student hands the instructor the form, the student may not possess or handle the form again.
- *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. Credit by Proficiency cannot be awarded for English as a Second Language courses.

English Proficiency

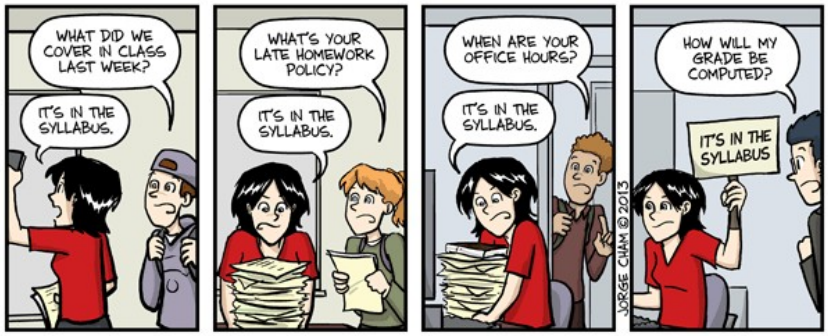
Good written and spoken English skills are essential for students completing our degrees. If you find you are seriously deficient in either area, please seek help, as we have a lot of resources available to assist you. If we were to allow you to complete our degree with unacceptable language skills, we would be doing you a disservice. We have great infrastructure to assist non-native speaking students with their English skills through our English Language Services office (**https://appliedtech.iit.edu/english-language-services**), but we have to know you are having difficulty to help you. Native English speakers with seriously deficient skills are much harder to assist and we need to identify your issues very early on if we are going to help you.

- 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 Illinois Tech Writing Center, located in Siegel Hall, Rooms 232–234. 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 you 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. For more information, please see **https://www.iit.edu/humanities/student-resources/writing-center**.

Syllabus

Instructors must provide a detailed syllabus for students delineating the objectives and outcomes of the course. The content and objectives must substantially match those found in the official course outline or departmental syllabus if one has been provided by the ITM Department. A detailed syllabus with clearly stated student outcomes is a necessity for the ongoing success and academic validity of our program. (Instructors should also detailed specific learning objectives for each lesson.)

- *Syllabus Content:* You can expect a course syllabus will cover expected course and student outcomes for the course; topics covered in the class; homework assignments; projects; exams; grading policies; and a clear policy on handling late assignments/projects and academic irregularities.
  - The syllabus is a *contract* between your instructor and you, and must be treated as such. If your instructor changes the topics in your course, or your assignments, or any other significant facet of the course, they should issue a revised syllabus reflecting these changes. ***You are expected to know and understand what is in the syllabus.***
  - 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 your instructor from ambiguity.
  - All grading in the ITM Department, to the maximum extent possible, must be evidence-based grading. This means wherever possible, you instructor should provide you 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.



Cartoon used by permission from "Piled Higher and Deeper" by Jorge Cham, ***www.phdcomics.com***

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 (Fail)*.....0-59.99%

International students must attain a grade of **B** to pass **ELP** (English Language Program) courses but otherwise are graded as above.

- *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 and assessment 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 the Illinois Tech Office of Digital Learning. 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 you are in an online section, you should schedule exam proctoring with the Office of Digital Learning, but do not expect the exam to be administered before the scheduled time and date.
- *Submission of Grades:* Your instructors will submit grades for all courses online; the exact day and time for grade submission will vary as per the Illinois Tech Academic Calendar. Your grade will normally appear on your unofficial transcript in MyIIT within a few minutes of posting, but should appear no later than 24 hours after posting. At that time, official transcripts including the P(ass)/F(ail) grades which award CEUs may be ordered.
- *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 "not attending." 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 Department 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. You must apply to the instructor in writing for a grade of incomplete, using the request form at **http://www.itm.iit.edu/incomplete/**. **You 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 it, your request will be forwarded to the Registrar's Office for final approval. You must meet the university Academic and Department Regulations requirement that students have "substantial equity" in the course and the written agreement between the you and the instructor 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 you may have fallen behind in course work when neither of these situations exists is NOT adequate cause to award an incomplete. In these cases you can expect to be awarded the grade you have earned in the class. In the case of CEU students, no letter grade will be submitted until the course is completed. Instructors must grant CEU 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 CEU 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 you will be unable to complete a course with a passing grade, it is advisable to withdraw from the course rather than have the failing grade appear on your transcript, and your instructor may advise you to do so. The deadline for withdrawal is normally six weeks prior to the end of the term; consult the academic calendar (**https://web.iit.edu/registrar/academic-calendar**) for the current term for the exact date. A grade of **W** will appear for the course on your transcript. This grade does not apply toward your GPA and no credit is awarded for the course. If you are a part time student, payment is still required for the course. If you are a full-time student and you drop below twelve credit hours for the term by withdrawing, you may be placed on academic probation 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 you have been ill or have other mitigating circumstances that have prevented you from submitting your work in the final few weeks of the course, please discuss this with the instructor before you withdraw; it you present a good case, at the instructor's discretion you may be granted an extension with assignment of a grade of **I** (incomplete) to complete the course (see above).

- *Not Attending:* If you stop attending class, at the mid-term you may be assigned a grade of **NA** (not attending). If you receive a grade of **NA**, you should discuss the situation with your instructor to determine if you can successfully complete the course with a passing grade. If you cannot, you should withdraw from the course (see above). If you continue to fail to attend, at the end of the term you will be assigned a failing grade of **E**.
- *Extra Credit:* If a faculty member desires to allow you to earn extra credit in a course, the extra credit must be applied to your 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 included in the course syllabus, you cannot expect an instructor to grant extra credit.
- *Retention of Graded Examinations:* Faculty members may elect to retain your examinations after they have been submitted and graded, or they may return them to you, but in all cases they must allow you an opportunity to review your graded examination upon request. If faculty members elect to retain graded examinations, they must then retain them 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 you have earned based on your work in a course are final. If the minimum score to earn a grade of **A** in a course is 90% and you have earned a score of 89.97%, your grade is a **B**. If you are unhappy with the grade you have earned at the end of the term, pleading with the instructor will be a waste of both your time and the instructor's time. **You cannot do additional work after a grade has been submitted to change your grade.** University policy on grade appeals is in the *Student Handbook*, section IV. Academic and Department Regulations, paragraph R at **https://web.iit.edu/student-affairs/handbook/fine-print/academic-and-department-regulations**.
  - If you want to appeal a letter grade assigned in a course, you must first confer directly with your course instructor. If you and the instructor cannot come to an agreement, you should contact the appropriate Associate Chair of the Department. If necessary, you can appeal to the Dean of the College of Computing. Appeal of a final course grade should be initiated within two weeks of the end of the term.

Classroom Conduct

You must conduct yourself in a professional manner showing courtesy to the instructor & your fellow students.

- 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 your experience, but also the experience of the entire group. Students refusing to participate in group projects should expect to receive a failing grade for the project.
- Unless required to accommodate a student disability, please turn off cell phone ringers and other distracting electronic devices and leave them off while class is in session. If the instructor requests that you not use notebook PCs, tablets, or smartphones while in class, **you need to respect that request and comply.** Failure to comply may be reflected in your class participation grade.
- You may use voice or video recording devices in lectures as long as their use does not disrupt class proceedings.
- If you are late to class, please enter the classroom and take a seat as quietly as possible
- You 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; please return from the break promptly and be in your seat at the appointed time.
- Please use restraint and good judgment when bringing food and drink items into the classroom.

Course Evaluations

Your 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 your Academics tab in the MyIIT portal. Evaluations are conducted the last two weeks prior to the exam week of each academic semester, and you won't be able to access evaluations after Sunday night prior to exams. Constructive feedback from you is **very** important to us, both positive and negative, and your submission will be *completely anonymous and confidential*. **Please** complete your 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 you with specific instructions as to how to complete and submit your evaluations. If you have questions about course evaluations for CEU students, please contact the Office of Professional Development at 312.567.5282.

Course Assessments

In order to ensure that you, our students, are attaining the outcomes that we have established for our degrees and for each course that we offer towards your 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.

- *Course Assessment Surveys:* These surveys are conducted by ITM Department staff during the final weeks of each course being assessed. The surveys ask you to evaluate how well you have achieved each of the course and program outcomes covered in the course. Please 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 you our students. Please ensure that you are present in class for the surveys.

Student Intellectual Property

The intellectual property discussion here is supplemental to policy in the university *Student Handbook*, Chapter III, Policies and Procedures, paragraph Q at **https://web.iit.edu/student-affairs/handbook/fine-print/policies-regulations-and-procedures**. As a general rule, intellectual property created and submitted in fulfillment of assignments in Information Technology and Management degrees remains the intellectual property of the student; if no license is granted, assignments are copyrighted under the Berne Copyright Convention and distribution is subject to international and national copyright law, and students may patent intellectual property resulting from assignments that falls into the category of inventions. For copyrighted materiel, 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. 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 College of Computing indicating that he or she does not agree to grant such a license by the last regularly scheduled day of any specific 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—i.e. see the *Student Handbook*—but in general the following policies will apply.

- *Requests for Assignments of Rights:* As many student projects are ongoing from term to term, 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/resources/licensing.php**.
- *Software Licensing:* While it is not required, students are strongly encouraged to license academic programming 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/resources/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.* From a legal perspective, in most cases assignment of a **Creative Commons CC0** license would be a better option.
- *Exceptions for University Employment:* Ownership in intellectual property will not belong to students if they are being paid by either a grant or a stipend as a research assistant. If students receive monies from Illinois Tech to perform work, the university owns the intellectual property. Any royalties resulting from patenting and licensing of Illinois Tech-owned intellectual property will be distributed pursuant to the Patent and Copyright Policy in the *Faculty Handbook* Appendix K (**https://web.iit.edu/general-counsel/faculty-handbook**) and in accordance with the relative contribution as documented on the Invention Disclosure submitted to the Office of Technology Development. If the student was working on a grant in which they were paid, Illinois Tech owns any IP resulting from the grant. Other contract agreements may also govern the student intellectual property situation in situations such as corporate sponsored IPROs.
- *Patent Assistance:* Student inventors are encouraged to seek advice and help from the **Chicago-Kent Patent Hub**. This office is set up to provide advice and referral to a multitude of law firms providing pro-bono patenting/IP services to low-income Illinois inventors. Illinois Tech students may be eligible. For more information, visit **https://www.kentlaw.iit.edu/seeking-legal-help/illinois-patent-pro-bono**. The Chicago-Kent Patent Hub is readily available to assist Illinois Tech student entrepreneurs and inventors with their IP questions and needs!

Degree Specializations

The Bachelor of Information Technology and Management offers seven specializations. These specializations are intended to prepare you for particular roles in the IT working world, but there is no requirement that you complete a specialization for graduation. Instead you can elect to tailor a course of study that meets your specific needs. If you do elect to complete a specialization, you must complete a sequence of courses within the specialization as outlined in the *Undergraduate Bulletin* at **http://bulletin.iit.edu/undergraduate/colleges/applied-technology/information-technology-management-school-applied-technology/bachelor-information-technology-management/#specializationstext**. Your adviser will determine if you have 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 your transcript and *upon request* will be recognized by a document issued by the Department of Information Technology and Management. Second and third specializations beyond the required specialization can only be be recognized by a document issued by the Department of Information Technology and Management.

Minors

Undergraduate Bachelor of Information Technology and Management 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; Supply Chain Management, 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 is 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. You will declare your minor using the Minor Request Form at **https://iit.secure.force.com/form?formid=217964**. 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, but it is possible.

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

Accelerated Master's Program (Co-Terminal Degree Program)

Undergraduates in Information Technology and Management degrees can 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 apply for the Accelerated Master's Program—currently in transition from the previous program title of Co-Terminal Degree Program—students must:

- be a full-time Undergraduate student at Illinois Tech.
- 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 Accelerated Master's Program degree combinations which are now possible include:

- B.S. in Applied Cybersecurity & Information Technology → Master of Information Technology and Management
- B.S. in Applied Cybersecurity & Information Technology → Master of Cyber Forensics & Security
- B.S. in Applied Cybersecurity & Information Technology → Master of Science in Applied Cybersecurity & Digital Forensics

A course matrix showing a sample program of study for each option is on pages 20 through 25 of this document. Note that three graduate courses are counted towards both the undergraduate and graduate degrees; these courses double-count as ITM undergraduate electives.

To apply for the program, log in to the **my.iit.edu** portal, select the **Academics** tab and navigate to the **Undergraduate Academic Affairs – Student channel**, then select the "Co-Terminal Degree Program Application" hyperlink. For more details please see the Accelerated Master's Program information page at **https://www.iit.edu/gaa/accelerated-masters-program**. 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 Information* **http://www.itm.iit.edu/data/ITMGraduateStudentInformation.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 Co-Terminal 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. Co-terminal students must complete a Program of Study form for the Office of Financial Aid, and a Shared Course eform in Graduate Degreeworks eForms. You Co-terminal Adviser can assist you in this process and a tutorial for the eForm can be found at **https://webmaster.iit.edu/files/graduate-academic-affairs/co-terminal-shared-credit-non-shared-eforms-guide.pdf**.

Advising and Registration

Each student enrolled in our program is assigned an academic adviser. The role of your adviser is to assist you in monitoring progress toward graduation by fulfilling degree requirements; helping you select courses that meet your individual goals and career objectives; ensuring you 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. Please see your adviser for academic problems you encounter that you don't know how to resolve. See the paragraph above for additional details for advising of students enrolled in the accelerated master's/co-terminal graduate degree programs. Our **Director of Undergraduate Advising** and **primary undergraduate adviser** is Ray Trygstad, **trygstad@iit.edu** or 630.447.9009. The **primary academic adviser for undergraduate transfer students** generally will be Jeremy Hajek, **hajek@iit.edu** or 630.296.4012.

- *Transfer Course Evaluation:* Your undergraduate adviser will evaluate information technology and related courses for transfer as required or elective ITM courses. You 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, you must complete pre-registration advising with your adviser. A face-to-face meeting during office hours or through an appointment at other times is preferred, but if absolutely necessary, advising can be done by Google Meet, phone, or email. This is your adviser's opportunity to monitor your academic progress, discuss with you how you are doing, and ensure you are registering for appropriate courses for the upcoming term. The adviser will then issue you your

registration PIN number which will allow you to register for the term. Your adviser must also enter a permit to allow you to register for courses in any of the following categories:

- ✔ Graduate (500-level) courses
- ✔ Any course for which a prerequisite is waived

- *Course Registration:* You register for your classes by selecting the ***Registration Dashboard*** on the **Welcome** tab of the **my.iit.edu** portal. You must have received your PIN from your ITM Department adviser to register. You must register for your courses yourself; your adviser not able to register you for classes. Full details of how to register are at **https://web.iit.edu/registrar/registration/how-register**. A step-by-step registration tutorial—including how to waitlist—is available at **https://web.iit.edu/sites/web/files/departments/registrar/pdfs/student_registration_guide.pdf**.
  - *Waitlisting:* If a course section is full, the registration interface will still allow you to add the course, and then select the *Waitlist* option from the drop-down menu. You should generally always do that. The ITM Department will make every attempt to clear the waitlist for each course before the term begins, and to inform students if it will not be possible. Please be aware that waitlists for courses such as ITM 301 that require a live lab generally can only be cleared if someone registered for the course drops the course, because enrollment in these these course sections are constrained by the seating capacity of the lab.

Undergraduate Advising Notes

- *Term Planning:*
  - For planning purposes ITM 100, ITMO 444, ITMS 443, & ITMS 483 are normally offered only in the Fall term, and ITMM 485, ITMO 441, ITMO 454, ITMS 438, and ITMT 430 are normally offered only in the Spring term. This is subject to change without notice.
- *Minors:* All students entering the Bachelor of Information Technology and Management degree as first-year students or with less than 30 hours of credit are required to complete a minor; see the paragraph titled **Minors** above for more details. ROTC courses, as long as more than 15 hours are completed, will count as your minor.
- *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 College of Computing via their Undergraduate Adviser. **Note:** ROTC courses do not count toward the maximum of 18 hours.
- *Registration Holds:* Advisers cannot remove registration holds, but they can tell you who placed the hold and possibly who to contact to have it lifted.
- *ITM Undergraduate General Education Notes:*
  - CS115 and CS 116 or CS 201 may be substituted for ITM 311 with permission of your adviser.
  - CS 331 may be substituted for ITM 313 with permission of your adviser.
  - All students entering Information Technology and Management degrees as first-year students 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 first-year students, all ITM undergraduates are still strongly encouraged to take these courses.
  - Illinois Tech's Core Curriculum Requirements summary 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 Illinois Tech. **Note:** Or transfer in an acceptable composition course or an acceptable AP English score.
      - *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, but 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 PSYC 203, MATH 225, or MATH 425. For transfer students, mathematics courses equivalent to MATH 180 or MATH 230 and a statistics course satisfy this requirement. PSYC 203 may be taken as part of a minor in Psychology and will fulfill the mathematics statistics requirement as well.

        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 computer science course to meet this requirement.
    - ✔ Humanities and Social or Behavioral Sciences: 21 credit hours
      - **Note:** Humanities or Social Science courses transferred from community colleges normally 100- or 200-level courses 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.
        - 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 and for all upper-level PS, SOC, or SSCI courses, but not PSYC.

- *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.

  Note: There is no requirement that any of the **(S)** courses be at the 100- or 200-level. PSYC 301, Industrial Psychology, is strongly recommended for ITM undergraduates.
- *Seventh Course in Humanities or Social Science:* Three courses must be completed in humanities and three courses must be completed in social and behavioral science, but the seventh course in the 21-hour Humanities and Social or Behavioral Sciences requirement may be selected from humanities, social or behavioral science, or any COM course except COM 101 or COM 111. This gives you the opportunity to take courses such as Technical Communication, Communication in the Workplace, Document Design, and Verbal and Visual Communication as part of your Core Curriculum requirements

✔ Natural Science or Engineering: 10 credit hours
Courses in engineering, biology, chemistry and physics, or 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 Intro 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. (ITM will not waive this; ITM 100 is essential to our program accreditation.)
  Note: The ITM ITP course is offered in the fall semester of students' second year and requires prior completion of ITM 301 & ITM 311. The ITP requirement will not be waived for students transferring into or changing majors to ITM as this course is a component of our ABET program accreditation.

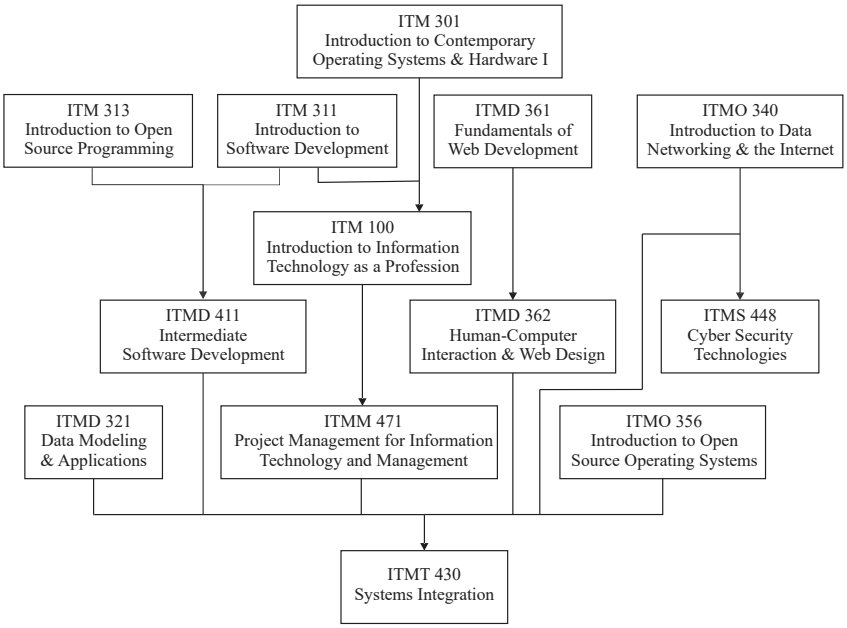
✔ Interprofessional Projects (IPRO): 6 credit hours
- Students will participate in at least two Interprofessional Project experiences
  Note: May be waived for part-time students who are employed full-time. See below for details.

◆ *Advisee Responsibilities:* Your responsibilities as an advisee include:
- *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 *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 ultimately *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 hawk.iit.edu email to communicate with us officially. If you forward your IIT email to a personal email account, 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. **When emailing advisers or faculty always include your Campus-Wide Identification Number or CWID (A#).**
- *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. Although we will recommend courses, it is NOT your adviser's job to tell you what elective 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 studies and we are happy to do this, but some decisions must be yours. 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 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**.

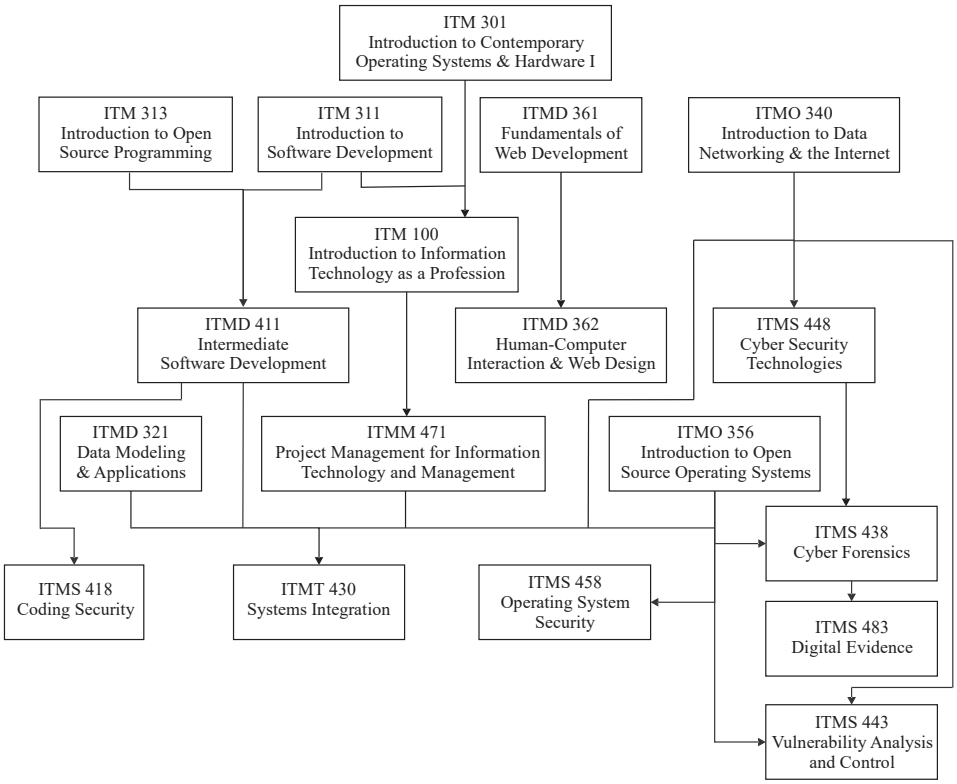
◆ *Adviser Responsibilities:* You can expect that your adviser will:
- Meet or communicate in an appropriate fashion with you on a regular basis and keep records of advising communications.

- Guide you in scheduling/planning your program of study, and in complying with other program requirements.
- Inquire about career interests and guide you on career planning, with the aid of the ITM staff and university Career Services.
- Ensure you take required courses in an expedient fashion, as is optimal to progress through your curriculum.
- Refer you to Illinois Tech's English Language Services if in their judgment your speaking and/or listening abilities in English may not be adequate for college-level work in the U.S.
- Direct you to other resources as necessary including but not limited to ROTC; Financial Aid; Student Health and Wellness; Center for Disability Resources; Public Safety; International Center; Academic Resource Center; the Writing Center; Undergraduate 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 they will not be available for advising.

Bachelor of ITM Required Course Prerequisite Flow



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



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.

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. Each IPRO project has a course number of IPRO 497 and they are differentiated by section number. These courses are an Illinois Tech general education 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 ITM Department and the Provost or the Provost's designated deputy. The department will also determine appropriate course substitutions.

Recognition of Academic Achievement

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 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. Undergraduate awards include outstanding students completing each degree, outstanding graduating Accelerated Master's Program students, and recognition of an outstanding first-year student.

Gamma Nu Eta (ΓΝΗ): 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 may be elected to the Beta Chapter of the National Information Technology Honor Society, Gamma Nu Eta (ΓΝΗ). 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 electing candidates for induction each semester. (When there is no executive board, the chapter will be inactive and no new members will be inducted.) 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 honor ropes and/or stoles in the Society's colors to be worn with the cap and gown at commencement. For more information on Gamma Nu Eta, see the Beta Chapter website at **http://www.itm.iit.edu/gammanueta/** or contact Beta Chapter Adviser Ray Trygstad, **trygstad@hawk.iit.edu**.

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 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/**, **https://upe.cs.iit.edu/** or contact faculty rep Professor Ioan Raicu **iraicu@iit.edu** for more information.

TruAccolades: TruAccolades is a system created by a former 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 conferences. If you complete research that represents new and original thought, please consider preparing a paper for submission to this conference. This research is now a track of the ACM Special Interest Group in I.T. Education (SIGITE) Conference each fall, usually in September or 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.

Chicago Cyber Con / ChiCyberCon (formerly 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 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 *College of Computing White Paper*. CoC 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 (TNH): See "Recognition of Academic Achievement" above.

Information 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**.

Association for Computing Machinery (ACM): ACM is the oldest and best established professional and academic association in the computing disciplines. Illinois Tech ACM values are competition, education, mentorship, collaboration, and recruitment. Many of your ITM faculty are ACM members and some are officers at the National level. For more information on Illinois Tech's ACM chapter email **acm@iit.edu**.

ACM-W: 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. ACM-W also welcomes male allies committed to helping ensure more diverse voices in computing are heard and respected. Illinois Tech has a very active ACM-W chapter; to find out more go to **https://www.facebook.com/acmw.iit/** or email **acmw@iit.edu**.

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 President, Nida Akkiswala at **nakkiswala@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.

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 Illinois Tech's Mies Campus. There is currently no ITM departmental scholarship support available for undergraduate students, but there are 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 for one year for each year of scholarship support received or a member of one of the armed forces for four years. 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.
- *Department of Defense SMART (Science, Mathematics, and Research for Transformation) Scholarship-for-Service:* The SMART scholarship-for-service program provides academic funding in exchange for completing a period of full-time civilian employment with the Department of Defense (DoD). Recipients receive full tuition, books, and a stipend ranging from $25,000 to $38,000 per year depending on degree level. Awards may be made for up to five years of studies. Recipients

are required to serve a period of obligated service in DoD as a civilian employee for one year for each year of scholarship support received. Applicants must be U.S. citizens or permanent residents and must be enrolled in a STEM (science, technology, engineering, math) program. Applications for this grant are online an are open each year from August 1 to December 1 at **https://www.smartscholarship.org**.

- *Foreign Affairs Information Technology Fellowship:* Awarded by the U.S. Department of State, this two-year Fellowship program is a path to a career in the Foreign Service by providing academic funding for an IT-related degree, internships, professional development and mentorship – culminating in an appointment in the Foreign Service as an Information Management Specialist (IMS). Students funded by the program agree to serve a five year commitment with the Foreign Service upon graduation. Foreign Affairs IT Fellows will receive up to $37,500 annually (for two years) in academic funding for tuition, room and board, books, mandatory fees and some travel expense, for the junior and senior years of undergraduate study, OR a two-year master's degree program in an IT-related field, as well as stipends, housing and travel allowances for two summer internships. Applicants must be U.S. citizens or permanent residents and must be enrolled in an information technology curriculum. The number of Fellows is very small, but Illinois Tech has hadmore students selected for this fellowship than any other university. Full details and the application can be found at **https://www.faitfellowship.org/**.
- *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: Illinois Tech 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.

- *Direct Offers to ITM Students:* Occasionally the ITM Department will receive direct solicitations for internships, coops and employment. In most cases, these will be listed in the weekly ITM Newsletter. 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 Career Services. Occasionally, employers ask faculty members to select students to apply for jobs, and those requests are forwarded to faculty members exclusively who will contact students they are recommending individually.
- *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 weekly ITM 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 College of Computing 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 either emailed to students directly, or are featured in the weekly ITM Newsletter.
- *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. Your profile 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!)

ITM Department Student Employment: The following student employment positions in the Office of Technology Services (OTS), the College of Computing (CoC), and the ITM Department are available to ITM undergraduate students:

- *Technical Staff Member*: Students in these positions perform information technology tasks in the Office of Technology Services in support of College of Computing systems on Mies Campus and Rice Campus as well as ITM infrastructure support, and are paid hourly up to 20 hours/week. Most student employment for ITM under-graduates is in these positions.
- *Administrative Staff Member:* Students in these positions perform administrative tasks in the ITM Department office in Perlstein Hall at the Mies Campus and are paid hourly up to 20 hours/week. Contact the ITM Program Manager, Kayla Botica, PH 223, **kbotica1@iit.edu**, 312.567.5927 for information on applying for these positions.
- *ITM Course Laboratory Staff Member:* This is a quarter time (10 hours/week) or half time (20 hours/week) position, reporting to a faculty member to support curriculum-specific laboratories. As most of these duties are normally performed by Graduate Teaching Assistants, course laboratory staff members are normally hired only when specifically requested to fill a position by a faculty member. Consequently there is no formal application process for this position. Processing and hiring for these positions is managed by the ITM Program Manager, Kayla Botica, PH 223, **kbotica1@iit.edu**, 312.567.5927.

University Information Technology Resources

Guides for the use of university-provided information technology resources may be found at **https://ots.iit.edu/getting-started/current-students**.

Google G Suite for Education

Illinois Tech provides you with a **Google G Suite for Education** account. To make optimal use of this asset, you may want to use a Google-provided tool to more easily access your Google Drive storage.

- *Use Google* ***Drive Drive for Desktop***
  - The **Drive for Desktop** (formerly **Drive File Stream**) application, once installed on your Windows PC or Mac, will mount your Illinois Tech Google Drive as a local drive on your system. You can treat it just like any other drive; in Windows it even has a drive letter. And it's fast. You get two directories on the drive: your own Google Drive and your Shared Drives. Log onto your Illinois Tech Google account and go to **https://www.google.com/drive/download/** to download the app and get started. First uninstall the old Google Drive application or Google Drive Backup and Sync app if you have either installed. There is a daily limit of 750 GB of file transfer but this just means you can't upload your terabyte hard drive all in one day. This is a huge HUGE work-flow enhancer that allows you to use your Google Drive as handily as your local hard drive.

Blackboard and Online Courses

All faculty and students are provided with accounts on IIT Blackboard, Illinois Tech's online learning management system. Online resources for all Illinois Tech courses are normally available through Blackboard, and online course lecture content is always on Blackboard. ITM faculty members will use Blackboard for delivery of their syllabus, assignment details and assignment submissions even if the 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 course materials. To learn more about using Blackboard, please see the Blackboard Student Manual which is located under "My Courses" on the initial Blackboard screen. Direct your Blackboard problems to the OTS Support Desk at **supportdesk@iit.edu** or 312.567.DESK (3375); *please be aware that ITM instructors, teaching assistants, and staff* ***cannot*** *assist you with Blackboard issues or problems.*

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 International Students on F1 Visas:*
  - Only one online course may be taken per semester. This is a government requirement & cannot be waived.
  - In their first semester in the program, Fl Visa students cannot enroll in online sections of any course. This is intended to engage the student in 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. This is at the instructor's discretion and may vary.
  - 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.
  - 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.
  - It is not possible to complete the undergraduate degree through distance learning; live course attendance is required.

Computers and Computer Labs

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 College of Computing and by Illinois Tech's Office of Technology Services (OTS). Portal and email accounts are provided for students and faculty by OTS located on our Mies Campus.

The ITM Department does not issue 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 multi-use 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 digital real-time 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 **supportdesk@iit.edu**.
- *Mies Campus Computer Labs:* The College of Computing provides ITM computer labs managed by the Office of Technology Services (OTS) at 3424 South State Street on the second floor of the South Tower, and on the ninth and

fourteenth floors of the IIT Tower. Problems or issues with ITM computing facilities at Mies Campus should be reported via an email trouble ticket to **supportdesk@iit.edu**. The Mies Campus also provides an 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 the Department Office. Problems or issues with ITM servers should be reported via an email trouble ticket to **supportdesk@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 after 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*** on page 19 of this publication.
- *IIT Office of Technology Services (OTS) Accounts:* 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 Illinois Tech Mies Campus, which may be used for teaching courses such as ITM 311 and ITM 313. 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 & Supplemental Educational Material Available for ITM/IT Students

- *Microsoft Software:* The College of Computing is a subscriber to **Microsoft 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 packages 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 Microsoft and $100 credit toward Azure for Students.
- *Microsoft Office:* You can subscribe to Office 365 for Education at **https://www.microsoft.com/en-us/education/products/office**. For College of Computing students the Office 365 A3 level is provided at no cost. This level includes 5 desktop installations of Office. Office 365 and 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**. This publication was prepared using LibreOffice.
- *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 Azure Dev Tools for Teaching 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.
- *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. IBM's Cognitive Class.ai (**https://cognitiveclass.ai**) offers free courses in areas such as Blockchain, Data Science, AI, Cloud, Serverless, Docker, Kubernetes and more. These can be a very valuable supplement to courses in our curriculum. For example, students in ITMD 514 or ITMS 514 or even in ITM 313 may want to look at **Cognitiveclass PY0101EN – v2.0, Python for Data Science**, and students in ITMD 321 may want to check out **IBM GPXX07REN – v1.1 Relational Model Concepts** or **IBM GPXX01RYEN – v1.0 Getting started with MySQL command line**.
- *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: Professor Louis McHugh, IIT Tower room 14C3-2 or **lmchughi@iit.edu**.
- *Autodesk:* Free software for students from Autodesk including *Autocad* and *Maya* is available at **http://www.autodesk.com/education/free-software/featured**
- *Google G Suite for Education*
- *Other Free Widows Software:* We used to maintain a download page with links to recommended software, but instead we recommend that you use **https://ninite.com/**. Ninite will create an installer for all the free and open source software you have selected fron the Ninite website, 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. OTS uses Ninite Pro to configure

College of Computing computer lab systems. Students may also want to consider use of Windows package managers such as Microsoft's **winget** (**https://docs.microsoft.com/en-us/windows/package-manager/winget/**) or **Chocolaty** (**https://chocolatey.org/**) which allow command line software package installations in a manner similar to Linux.

- *IIT Licensed Software:* Commercial software licensed for Illinois Tech use may be available under the Training and Support tab in MyIIT but there is none there at this time.

Writing Research Papers

The ability to write cogently, concisely and clearly in an acceptable academic format and to present the results of your research orally are skills you must develop to be a success in your studies in the Department of Information Technology and Management. At the same time, you will be learning skills essential to success in your working life after graduation, as the ability to communicate clearly in written and spoken English is one the most important elements to success in business. You will regularly be expected to submit research papers and project reports as you progress through our program. Specific ITM Department guidance for the preparation of research papers is available at **http://itm.iit.edu/data/ITMResearchPaperGuidelinesAndPolicies.pdf**. Please consult and follow these guidelines in the event that more specific guidance is not provided by your professor. This publication also provides additional information about the **IIT Writing Center** and optimal use of **Illinois Tech's Galvin Library**.

Accessing IIT Rice Campus

Courses in our programs are offered at two physical locations:

The Illinois Tech Mies Campus along State Street between 31st and 35th Streets in Chicago, Illinois
The Daniel F. and Ada L. Rice Campus at 201 East Loop Road in Wheaton, Illinois

Mies Campus to Rice Campus Public Transportation: Mies Campus students can take a train from the Ogilvie Transportation Center (commonly known as Northwestern Station) on the Metra Union Pacific West Line to Wheaton or College Avenue, and from Wheaton or College Avenue back to Chicago. To get to the Ogilvie Transportation Center, take the CTA Green Line train to Clinton and walk two blocks south. Metra round-trip train fare to Wheaton/College Avenue is $13.50. The Pace Bus system, which provides bus transportation for suburban Chicago, operates Pace Bus Route #714 from the Metra Stations at Wheaton and College Avenue to the Rice Campus. Your Student Ventra Card is accepted on Pace Buses, and Pace Bus #714 to the Rice Campus runs Monday through Friday, 6:30am to 6pm. Pace Bus fare in cash is $2.25. A shared Lyft or Uber ride from the Rice Campus to either Wheaton Metra station after evening classes should be $8-10 per person. We *strongly* suggest you use the public transportation option in Google Maps to map out any travel by public transportation in the Chicago metropolitan area. Please note that bus and train schedules are subject to change without notice, and that Illinois Tech has no control and very little influence over Chicago Transit Authority, Metra or Pace transportation services.

Important **Illinois Tech** Student Resources

- *Student Handbook:* **http://www.iit.edu/student_affairs/handbook/**
- *Graduate Bulletin:* **http://bulletin.iit.edu/graduate/**
- *Undergraduate Bulletin:* **http://bulletin.iit.edu/undergraduate/**
- *Academic Calendar:* **https://web.iit.edu/registrar/academic-calendar**
- *Information Technology Resources:* **https://ots.iit.edu/getting-started/current-students**
- *Late Registration:* **https://web.iit.edu/registrar/registration/late-registration-request**
- *Bookstore Online:* **http://iit.bncollege.com/**
- *IPRO Course Listing:* **https://ipro.iit.edu/courses/**.

Important **Information Technology and Management** Student Resources

- *ITM Student Resource Page:* **https://www.iit.edu/itm/student-resources**
  (Includes links to ITM Undergraduate and Graduate Student Information)
- *ITM Loopback (ITM Department blog):* **http://blogs.iit.edu/itm_loopback/**
- *ITM Research Paper Guidelines and Policies:* **http://itm.iit.edu/data/ITMResearchPaperGuidelinesAndPolicies.pdf**
- *Link to software provided under Microsoft Azure Dev Tools for Teaching and the VMware Academic Program:* **http://www.itm.iit.edu/software/**
- *ITM Departmental Syllabi for undergraduate courses:* **http://www.itm.iit.edu/faculty/itmdepartmentalsyllabus.html**
- *ITM Graduate Job Roles:* Possible job titles for program graduates at **http://www.itm.iit.edu/data/itjobroles.html**

Information Technology & Management Notebook Computer Specifications

Students enrolled in Information Technology & Management (ITM) degrees after Spring 2016 are required to own a notebook computer. The standards below reflect specifications for notebook computers for use by ITM students; each category is broken down into recommended, minimum and, where applicable, optional specifications. Your system may run **any** operating system but must be able to run Microsoft Windows 10 Professional as the primary operating system or as a secondary (dual-boot) operating system or as a virtual machine using virtualization software. These are specifications you must meet if you are purchasing a notebook computer for use in our program. If you have questions about these specifications, please contact Ray Trygstad, trygstad@iit.edu or 630.447.9009.

ITEM	RECOMMENDED	MINIMUM	OPTIONAL/OPTIMAL
Processor (CPU)	Intel Core i7 AMD Ryzen 5 or later	7th Gen or later Intel Core i5 AMD A8	Intel Core i9 or 12th Gen i7 AMD Ryzen 6000 series
◆ *You may not be able to run virtualization software adequately without VT or AMD-V technology, not found in older CPUs.* ◆ *New 2020 **MacBooks** with the **Apple-designed M-1 chip** must have Parallels Desktop to allow Microsoft operating systems to run.*			
RAM Memory	8GB or greater	8GB	16GB RAM optimal to run Windows 10/11 & virtualization
◆ *16GB or more of RAM is highly desirable.*			
Operating System	Microsoft Windows 10 Education (64 bit)	Microsoft Windows 10 Professional (64 bit)	Linux or BSD Unix version Macintosh OS/X / MacOS
◆ *Intel-based MacBooks must have BootCamp, Oracle VirtualBox, Parallels Desktop or Vmware Fusion installed allowing running of Microsoft operating systems as virtual machines. 2020 or later **MacBooks** with the **Apple-designed M1** processor must have Parallels Desktop installed. M1 MacBooks can run Canonical Multipass or Universal Turing Machine (UTM) to allow Linux virtual machine installation.* ◆ *Linux or Solaris notebooks must have Oracle VirtualBox, Xen, KVM, or VMware Workstation installed allowing running of Microsoft operating systems.* ◆ *Oracle VirtualBox, our **recommended** desktop virtualization solution, is available for free at http://www.virtualbox.org/. Depending on your course you may also be able to run **Microsoft Hyper-V**, which is why Windows Professional or Education is required.* ◆ *Microsoft and Linux software is available at no cost to all ITM students but you should purchase a system that will support Windows 10 Professional as a minimum standard. Windows 10 Education and Windows 11 Education is available free to all ITM students and is the most complete version of Windows. Windows **Home** versions will not support all software or OS functions you will need in our curriculum.* ◆ *Ubuntu and Ubuntu varients Kubuntu, Linux Mint, and Pinguy, as well as OpenSUSE are recommended Linux distributions.*			
Hard Drive	1TB	500GB	SSD – 512GB or 1TB 7200 RPM hard drive(s)
Optical drive (May be external)	24-48x CD-RW/DVD-RW	24x CD-RW/DVD-R	Blu-Ray / Blu-Ray-R External drive for Surface or Air
Floppy drive	Neither required or expected		3.5 inch 1.44MB
Graphics card	1GB or greater, 24-bit color	256MB 24-bit color	
Display resolution	1600x1200 UXGA or greater	1280x1024 XGA	1440x900 WXGA+
Wireless Network	IEEE 802.11ac (Wi-Fi 5) (WPA2-Enterprise support **required**)	IEEE 802.11g/n (WPA2-Enterprise support **required**)	Integral 4G or 5g Wireless 802.11ax (Wi-Fi 6)/802.11be (Wi-Fi 7)
Network Port	1000Base-T (gigabit) ethernet	100Base-T ethernet	(USB Ethernet adapter is OK)
◆ *Virtually all notebook PCs sold today include a gigabit (1000Base-T) ethernet port as standard items.*			
Peripheral Ports	2 USB-3 / 1 USB-2 or USB-C; HDMI video connector or Display Port video connector or USB-C video connector	1 USB-2; RGB video connector	IEEE 1394 (FireWire) 3 USB-3 / USB-3.1 / USB-3.2 eSATA
Office Software	LibreOffice	LibreOffice	Microsoft Office 2010 or newer
◆ *LibreOffice is available for free at http://www.libreoffice.org/ or (preferred) http://www.ninite.com.* ◆ *A subscription to Microsoft Office 365 which includes Microsoft Office for Windows or OSX may be available to our students with an iit.edu email address at https://www.microsoft.com/en-us/education/products/office. It is **not supported** by Illinois Tech OTS.*			
Anti-Virus Software	including all current updates		Optional on Mac/Linux
◆ *Microsoft Defender, which is free from Microsoft, is recommended as a minimum. You may not operate any version of Microsoft Windows on Illinois Tech networks without installed anti-virus software.*			

Convertible or "2-in-1" systems such as the Microsoft Surface, Dell Inspiron or Dell Latitude, Lenovo Thinkpad Yoga or Lenova Yoga, Acer Aspire, or Toshiba Satellite Radius that comply with these specifications are acceptable. Students should have a flash/thumb drive for lab use; 64GB minimum is recommended. See the ITM Student Information publication or https://blogs.iit.edu/itm_loopback/software/ for software available at no cost to ITM students.

Links to special pricing on Dell and Apple computer hardware is available to Illinois Tech students at https://ots.iit.edu/pc-mac/student-pcs-macs.

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
Total Hours		**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
Total Hours	**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.

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Department of Information Technology and Management

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
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 Electives		3	0
Total Hours		**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 Hour		**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
Total Hours		**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.

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
Total Hours		**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
Total Hours		**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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Department of Information Technology and Management

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
Total Hours		**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
Total Hours		**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.

IIT Undergraduate Bulletin 2022-2023 ITM Departmental Supplement

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
Total Hours		**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
Total Hours	**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.

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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 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
Total Hours		**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
Total Hours	**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.

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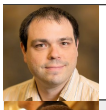
Information Technology & Management (ITM) Faculty & Staff Directory

The first location given is the primary office location. The number given is the office room number. Location addresses are:

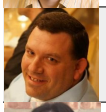
Rice: Daniel F. and Ada L. Rice Campus, 201 East Loop Road, Wheaton, Illinois 60189 Phone Prefix: 630.682

Perlstein: Illinois Tech Mies Campus, Perlstein Hall, 10 West 33rd Street, Chicago, Illinois 60616 Phone Prefix: 312.567

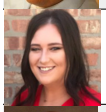
Phone numbers not starting with the prefixes above are mobile, personal or multi-location numbers. Adjunct faculty may provide additional information to their students & their phone numbers may be available upon request from the ITM Program Manager, Kayla Botica.



Brian Bailey Adjunct Industry Associate Professor
Director, Web Development & Services,
Illinois Tech Communications and Marketing
312.567.6937 / IIT Tower 4D7-1 bbailey4@iit.edu



Chuck Beck Adjunct Industry Professor
cbeck3@iit.edu



Kayla Botica ITM Department Manager
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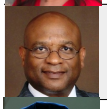

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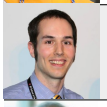

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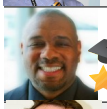

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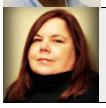

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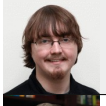

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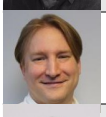

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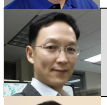

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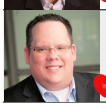

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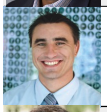

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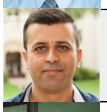

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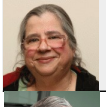

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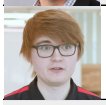

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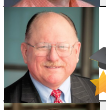

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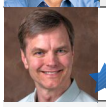

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Key to awards:
= Educational Excellence Award (School of Applied Technology Dean's Award)
= Jeffrey Kimont Memorial Teaching Award (ITM Department Outstanding Adjunct Faculty)
= The Angela Jarka Service Award (ITM Department Service)
= Excellence in Teaching Award (School of Applied Technology or College of Computing University Award)

Information Technology and Management Course to Industry Certification Mapping

Many courses in information technology relate either directly or indirectly to industry certifications. Following is a list of industry certifications that relate to courses offered by the Department of Information Technology and Management at Illinois Tech. Each course shows the level of relationship of the course content to the examination criteria of the certification(s) listed. This is indicated by the **Degree of Mapping**, in three levels: **Tight**, **Loose**, and **Very Loose**. Some courses offered by the ITM Department have no related industry certifications. These courses are not included on this list. This list is updated on an ongoing basis based on faculty input and the certification landscape; the date of this revision is **July 13, 2022**.

- **Degree of Mapping** = **Tight**: These courses have content directly mapped to certification examination criteria, but generally will include content extending beyond the criteria. In most cases students may still want to complete additional study to be prepared to pass the indicated certification examination, particularly if their grade in the course was less than an A or significant time has passed since completion of the course.
- **Degree of Mapping** = **Loose**: These courses cover a significant portion of the material found in relevant certifications, but while some reference may have been made to relevant certification criteria in the creation of the courses, these courses are not designed or intended to specifically cover the certification examination criteria. Students completing these courses will require additional study to be prepared to pass the indicated certification examination.
- **Degree of Mapping** = **Very Loose:** These courses have industry certifications related to the course content, but no reference was necessarily made to these certifications in the creation of the courses, and these courses are neither intended or expected to cover the certification examination criteria. While these courses will give students a foundation in the area of the certification, students completing these courses will require additional study and may require significant additional study to be prepared to pass the indicated certification examination.

Course	Industry Certification / Degree of Mapping
ITM 301 Introduction to Contemporary Operating Systems and Hardware I	CompTIA A+ - Exam Core 1 220-1001 / Tight
ITM 311 Introduction to Software Development	Oracle Java SE 8 Oracle Certified Associate (OCA) / Loose
ITM 312 Introduction to Systems Software Programming	C++ Institute CPA (C++ Certified Associate Programmer Certification) / Loose
ITM 313 Introduction to Open Source Application Development	Python Institute PCEP™ – Certified Entry-Level Python Programmer / Loose
ITM 401 Introduction to Advanced Studies I	CompTIA A+ - Exam Core 1 220-1001 / Tight
	and Python Institute PCEP™ – Certified Entry-Level Python Programmer / Tight
ITM 402 Introduction to Advanced Studies II	CIW Site Development Associate / Loose
	and Oracle Certified Professional, MySQL 5.7 Database Administrator / Very Loose
ITMD 321 Data Modeling and Applications	Oracle Certified Professional, MySQL 5.7 Database Administrator / Very Loose
ITMD 361 Fundamentals of Web Development	CIW Site Development Associate / Loose
ITMD 362 Human-Computer Interaction and Web Design	CIW Advanced HTML5 & CSS3 Specialist / Loose
	and CIW User Interface Designer / Loose
ITMD 411 Intermediate Software Development	Oracle Certified Professional, Java SE 8 Programmer / Loose
ITMD 412 Advanced Structured and Systems Programming	C++ Institute CPP (C++ Certified Professional Programmer) / Loose
ITMD 413 Open Source Programming	Python Institute PCAP™ – Certified Associate in Python Programming / Loose
ITMD 415 Advanced Software Development	Oracle Certified Professional, Java EE 7 Application Developer Certification / Loose
ITMD 441 Web Application Foundations	CIW Advanced HTML5 & CSS3 Specialist / Loose
	and CIW JavaScript Specialist / Loose
	and Linux Foundation Node.js Application Developer (JSNAD) / Loose
ITMD 444 Back-End Development	CIW Web Development Professional / Loose
ITMD 454 Mass-Market Intelligent Device Applications	Apple App Development with Swift / Loose
ITMD 455 Open-Source Intelligent Device Applications	Google Associate Android Developer Certification / Loose
ITMD 466 Service-Oriented Architecture	Architura Certified SOA Professional / Loose
ITMM 471 Project Management for Information Technology and Management	CompTIA Project + / Loose
	or Project Management Institute Project Management Associate / Loose
ITMO 340 Introduction to Data Networks and the Internet	CompTIA Network+ / Tight
ITMO 356 Introduction to Open Source Operating Systems	CompTIA Linux+ / Tight
	or Linux Professional Institute - LPIC-1 Linux Certification / Loose
	or Red Hat Certified System Administrator / Very Loose
ITMO 433 Enterprise Server Administration + ITMO 450 Enterprise End-User System Administration	Microsoft Azure Administrator / Very Loose
ITMO 444 Cloud Computing Technologies	AWS Certified Cloud Practitioner / Loose
ITMS 418 Coding Security	ISC^2 Certified Secure Software Lifecycle Professional / Very Loose
ITMS 438 Cyber Forensics	EC-Council CHFI (Computer Hacking Forensic Investigator) / Very Loose
ITMS 443 Vulnerability Analysis and Control	EC-Council CEH (Certified Ethical Hacker) / Loose
ITMS 446 Active Cyber Defense	CompTIA CySA+ (Cybersecurity Analyst) / Tight
ITMS 448 Cyber Security Technologies	CompTIA Security + (with ITMS 478) / Loose
	or ISC^2 CISSP – Certified Information Systems Security Professional / Loose
ITMS 458 Operating System Security	EITCI EITC/IS/OS Operating Systems Security / Loose
ITMS 478 Cyber Security Management	CompTIA Security + (with ITMS 448) / Loose
ITMS 484 Governance, Risk, and Compliance	ISACA Certified in Risk and Information Systems Control (CRISC) / Very Loose
	or ISACA Certified in the Governance of Enterprise IT (CGEIT) / Very Loose
	or OCEG GRC Professional (GRCP) / Loose
ITMT 492 Introduction to Smart Technologies	CompTIA IoT Fundamentals / Loose
	Arduino Education Arduino Certification / Loose
ITMD 510 Object-Oriented Application Development	Oracle Certified Professional, Java SE 8 Programmer / Loose
ITMD 511 Application Development Methodologies	IEEE Certified Software Development Professional / Loose
ITMD 512 Structured and Systems Programming	C++ Institute CPP (C++ Certified Professional Programmer) / Loose
ITMD 513 Open Source Programming	Python Institute PCAP™ – Certified Associate in Python Programming / Loose
ITMD 515 Advanced Software Programming	Oracle Certified Professional, Java EE 7 Application Developer Certification / Loose
ITMD 522 Data Mining and Machine Learning	CompTIA Data+ (Data Analytics Plus) / Loose

Course	Industry Certification / Degree of Mapping
ITMD-526 Data Warehousing	Hitachi Pentaho Data Integration Implementation HCE-5920 Exam / Loose
	Microsoft Certified: Azure Data Engineer Associate / Loose
ITMD 532 UML-Based Software Development	Object Management Group UML 2 Foundation / Loose
ITMD 536 Software Testing and Maintenance	ISTQB Foundation Level software testing certification (CTFL) / Loose
	or Quality Assurance Institute Certified Associate in Software Testing (CAST) / Loose
	or Global Association for Quality Management Certified Software Tester - Foundation Level (CSTFL) / Loose
ITMD 541 Web Application Foundations	CIW Advanced HTML5 & CSS3 Specialist / Loose
	and CIW JavaScript Specialist / Loose
	and Linux Foundation Node.js Application Developer (JSNAD) / Loose
ITMD 544 Back-End Development	CIW Web Development Professional / Loose
ITMD 554 Mass-Market Intelligent Device Applications	Apple App Development with Swift / Loose
ITMD 555 Open-Source Intelligent Device Applications	Google Associate Android Developer Certification / Loose
ITMD 566 Service-Oriented Architecture	Architura Certified SOA Professional / Loose
ITMM 571 Project Management for Information Technology and Management	CompTIA Project + / Loose
	or Project Management Institute Project Management Associate / Loose
ITMM 572 Process Engineering for Information Technology Managers	ABPMP Certified Business Process Professional (CBPP) / Very Loose
	BPM Institute Business Process Management Certification / Very Loose
ITMM 574 Information Technology Management Frameworks	ITIL 3 / ITIL 4 Certification / Loose
ITMM 586 Information Technology Auditing	PCI Security Standards Council Payment Card Industry Professional (PCIP) / Tight
	ISACA Certified Information Systems Auditor (CISA) / Loose
ITMO 533 Enterprise Server Administration + ITMO 450 Enterprise End-User System Administration	Microsoft Azure Administrator / Very Loose
ITMO 540 Introduction to Data Networks and the Internet	CompTIA Network+ / Tight
ITMO 544 Cloud Computing Technologies	AWS Certified Cloud Practitioner / Loose
ITMO 556 Introduction to Open Source Operating Systems	CompTIA Linux+ / Tight
	or Linux Professional Institute - LPIC-1 Linux Certification / Loose
	or Red Hat Certified System Administrator / Very Loose
ITMO 557 Storage Technologies	Dell EMC Information Storage Associate (EMCISA) / Loose
ITMS 518 Coding Security	ISC^2 Certified Secure Software Lifecycle Professional / Very Loose
ITMS 538 Cyber Forensics	EC-Council CHFI (Computer Hacking Forensic Investigator) / Very Loose
ITMS 543 Vulnerability Analysis and Control	EC-Council CEH (Certified Ethical Hacker) / Loose
ITMS 546 Active Cyber Defense	CompTIA CySA+ (Cybersecurity Analyst) / Tight
ITMS 548 Cyber Security Technologies	CompTIA Security + (with ITMS 478) / Loose
	or ISC^2 CISSP – Certified Information Systems Security Professional / Loose
ITMS 558 Operating System Security	EITCI EITC/IS/OS Operating Systems Security / Loose
ITMS 578 Cyber Security Management	CompTIA Security + (with ITMS 448) / Loose
ITMS 584 Governance, Risk, and Compliance	ISACA Certified in Risk and Information Systems Control (CRISC) / Very Loose
	or ISACA Certified in the Governance of Enterprise IT (CGEIT) / Very Loose
	or OCEG GRC Professional (GRCP) / Loose
ITMT 593 Embedded Systems	CompTIA IoT Fundamentals / Loose
	Arduino Education Arduino Certification / Loose

Application of Certifications to Degree Requirement through Credit by Proficiency Examination: Students who hold indicated certifications may be able to apply them to their degree through the Credit by Proficiency Examination process, with the certification examination results applied as their grade for the course associated with that certification. There may be additional certifications not listed here or higher-level versions of the listed certifications that will be accepted for Credit by Proficiency Examination. Determination of the applicability of any industry certification for credit through Credit by Proficiency Examination will be made by an Associate Chair of the Department. The Credit by Proficiency Examination Form may be obtained in the Office of the Registrar and a per-credit-hour fee is charged for each examination. For undergraduates, this process must be completed before a student's final 45 credit hours of enrollment at the university.

Course Mapping by Industry Certification

Industry Certification	Course	Degree of Mapping
ABPMP Certified Business Process Professional (CBPP)	ITMM 572 Process Engineering for Information Technology Managers	Very Loose
Apple App Development with Swift	ITMD 454 Mass-Market Intelligent Device Applications	Loose
Apple App Development with Swift	ITMD 554 Mass-Market Intelligent Device Applications	Loose
Architura Certified SOA Professional	ITMD 466 Service-Oriented Architecture	Loose
Architura Certified SOA Professional	ITMD 566 Service-Oriented Architecture	Loose
Arduino Education Arduino Certification	ITMT 492 Introduction to Smart Technologies	Loose
Arduino Education Arduino Certification	ITMT 593 Embedded Systems	Loose
AWS Certified Cloud Practitioner	ITMO 444 Cloud Computing Technologies	Loose
AWS Certified Cloud Practitioner	ITMO 544 Cloud Computing Technologies	Loose
BPM Institute Business Process Management Certification	ITMM 572 Process Engineering for Information Technology Managers	Very Loose
C++ Institute CPA (C++ Certified Associate Programmer Certification)	ITM 312 Introduction to Systems Software Programming	Loose
C++ Institute CPP (C++ Certified Professional Programmer)	ITMD 412 Advanced Structured and Systems Programming	Loose
C++ Institute CPP (C++ Certified Professional Programmer)	ITMD 512 Structured and Systems Programming	Loose
CIW Advanced HTML5 & CSS3 Specialist + CIW User Interface Designer	ITMD 362 Human-Computer Interaction and Web Design	Loose
CIW Advanced HTML5 & CSS3 Specialist + CIW JavaScript Specialist	ITMD 441 Web Application Foundations	Loose
CIW Advanced HTML5 & CSS3 Specialist + CIW JavaScript Specialist	ITMD 541 Web Application Foundations	Loose
CIW Site Development Associate	ITMD 361 Fundamentals of Web Development	Loose
CIW Site Development Associate + Oracle MySQL 5.7 Database Admin	ITM 402 Introduction to Advanced Studies II	Loose
CIW Web Development Professional	ITMD 444 Back-End Development	Loose
CompTIA A+ - Exam Core 1 220-1001	ITM 301 Introduction to Contemporary Operating Systems and Hardware I	Tight
CompTIA A+ - Exam Core 1 220-1001	ITM 401 Introduction to Advanced Studies I	Tight

Industry Certification	Course	Degree of Mapping
CompTIA CySA+ (Cybersecurity Analyst)	ITMS 446 Active Cyber Defense	Tight
CompTIA CySA+ (Cybersecurity Analyst)	ITMS 546 Active Cyber Defense	Tight
CompTIA Data+ (Data Analytics Plus)	ITMD 522 Data Mining and Machine Learning	Loose
CompTIA IoT Fundamentals	ITMT 492 Introduction to Smart Technologies	Loose
CompTIA IoT Fundamentals	ITMT 593 Embedded Systems	Loose
CompTIA Network+	ITMO 340 Introduction to Data Networks and the Internet	Loose
CompTIA Network+	ITMO 540 Introduction to Data Networks and the Internet	Loose
CompTIA Project+	ITMM 471 Project Management for Information Technology and Management	Loose
CompTIA Project+	ITMM 571 Project Management for Information Technology and Management	Loose
CompTIA Security+	ITMS 478 Cyber Security Management (with ITMS 448)	Loose
CompTIA Security+	ITMS 578 Cyber Security Management (with ITMS 548)	Loose
CompTIA Security+	ITMS 448 Cyber Security Technologies (with ITMS 478)	Loose
CompTIA Security+	ITMS 548 Cyber Security Technologies (with ITMS 578)	Loose
Dell EMC Information Storage Associate (EMCISA)	ITMO 557 Storage Technologies	Loose
EC-Council CEH (Certified Ethical Hacker)	ITMS 443 Vulnerability Analysis and Control	Loose
EC-Council CEH (Certified Ethical Hacker)	ITMS 543 Vulnerability Analysis and Control	Loose
EC-Council CHFI (Computer Hacking Forensic Investigator)	ITMS 438 Cyber Forensics	Very Loose
EC-Council CHFI (Computer Hacking Forensic Investigator)	ITMS 538 Cyber Forensics	Very Loose
EITCI EITC/IS/OS Operating Systems Security	ITMS 458 Operating System Security	Loose
EITCI EITC/IS/OS Operating Systems Security	ITMS 558 Operating System Security	Loose
GAQM Certified Software Tester - Foundation Level (CSTFL)	ITMD 536 Software Testing and Maintenance	Loose
Google Associate Android Developer Certification	ITMD 455 Open-Source Intelligent Device Applications	Loose
Google Associate Android Developer Certification	ITMD 555 Open-Source Intelligent Device Applications	Loose
Hitachi Pentaho Data Integration Implementation HCE-5920 Exam	ITMD-526 Data Warehousing	Loose
IEEE Certified Software Development Professional	ITMD 511 Application Development Methodologies	Loose
ISACA Certified in Risk and Information Systems Control (CRISC)	ITMS 484 Governance, Risk, and Compliance	Very Loose
ISACA Certified in Risk and Information Systems Control (CRISC)	ITMS 584 Governance, Risk, and Compliance	Very Loose
ISACA Certified in the Governance of Enterprise IT (CGEIT)	ITMS 484 Governance, Risk, and Compliance	Very Loose
ISACA Certified in the Governance of Enterprise IT (CGEIT)	ITMS 584 Governance, Risk, and Compliance	Very Loose
ISACA Certified Information Systems Auditor (CISA)	ITMM 586 Information Technology Auditing	Loose
ISC^2 Certified Secure Software Lifecycle Professional	ITMS 418 Coding Security	Loose
ISC^2 Certified Secure Software Lifecycle Professional	ITMS 518 Coding Security	Loose
ISC^2 CISSP – Certified Information Systems Security Professional	ITMS 448 Cyber Security Technologies	Loose
ISC^2 CISSP – Certified Information Systems Security Professional	ITMS 548 Cyber Security Technologies	Loose
ISTQB Foundation Level software testing certification (CTFL)	ITMD 536 Software Testing and Maintenance	Loose
ITIL 3 / ITIL 4 Certification	ITMM 574 Information Technology Management Frameworks	Loose
Linux Professional Institute - LPIC-1 Linux Certification	ITMO 356 Introduction to Open Source Operating Systems	Loose
Linux Professional Institute - LPIC-1 Linux Certification	ITMO 556 Introduction to Open Source Operating Systems	Loose
Microsoft Azure Administrator	ITMO 433 Ent Server Admin + ITMO 450 Ent End-User System Admin	Very Loose
Microsoft Azure Administrator	ITMO 533 Ent Server Admin + ITMO 550 Ent End-User System Admin	Very Loose
Microsoft Certified: Azure Data Engineer Associate	ITMD-526 Data Warehousing	Loose
Object Management Group UML 2 Foundation	ITMD 532 UML-Based Software Development	Loose
OCEG GRC Professional (GRCP)	ITMS 484 Governance, Risk, and Compliance	Loose
OCEG GRC Professional (GRCP)	ITMS 584 Governance, Risk, and Compliance	Loose
Oracle Certified Professional, Java EE 7 App Developer Certification	ITMD 415 Advanced Software Development	Loose
Oracle Certified Professional, Java EE 7 App Developer Certification	ITMD 515 Advanced Software Programming	Loose
Oracle Certified Professional, Java SE 8 Programmer	ITMD 411 Intermediate Software Development	Loose
Oracle Certified Professional, Java SE 8 Programmer	ITMD 510 Object-Oriented Application Development	Loose
Oracle Certified Professional, MySQL 5.7 Database Administrator	ITMD 321 Data Modeling and Applications	Very Loose
Oracle Java SE 8 Oracle Certified Associate (OCA)	ITM 311 Introduction to Software Development	Loose
Payment Card Industry Security Standards Council PCI Professional	ITMM 586 Information Technology Auditing	Tight
Project Management Institute Project Management Associate	ITMM 471 Project Management for Information Technology and Management	Loose
Project Management Institute Project Management Associate	ITMM 571 Project Management for Information Technology and Management	Loose
Python Institute PCAP™ – Certified Associate in Python Programming	ITMD 413 Open Source Programming	Loose
Python Institute PCAP™ – Certified Associate in Python Programming	ITMD 513 Open Source Programming	Loose
Python Institute PCEP™ – Certified Entry-Level Python Programmer	ITM 313 Introduction to Open Source Application Development	Loose
Python Institute PCEP™ – Certified Entry-Level Python Programmer	ITM 401 Introduction to Advanced Studies I	Tight
Quality Assurance Institute Certified Associate in Software Testing (CAST)	ITMD 536 Software Testing and Maintenance	Loose
Red Hat Certified System Administrator	ITMO 356 Introduction to Open Source Operating Systems	Very Loose
Red Hat Certified System Administrator	ITMO 556 Introduction to Open Source Operating Systems	Very Loose