

2.9.17

Proposed Changes to the Bachelor of Information Technology and Management

The Faculty of the Department of Information Technology and Management has approved the following modifications to the Bachelor of Information Technology and Management (BITM) degree which are now presented to the Undergraduate Studies Committee for approval. The impact of these modifications to curriculum is reflected in attached Undergraduate Bulletin pages showing the changes in red. These modifications do not constitute a “Curriculum Change” as defined in Appendix P of the *Faculty Handbook*.

1. Expand *ITM 100 Introduction to Information Technology as a Profession* to 3 credit hours and move it to the third semester of the ITM program for students entering as first year students. Content currently covered in *ITMT 440 System Integration* regarding legal, ethical, social, and professional issues will be moved to ITM 100 as these topics clearly align with the published ITP outcomes.
 - a) In the curriculum shown in the bulletin, ITMO 440 is moved to first year Spring semester to replace ITM 100, and the number of required natural science/ engineering hours is reduced to 10 as is allowed by the current Core Curriculum when 6 hours of mathematics are required. This offsets the additional hour added to the ITM course requirements by changing a two-hour course to a three-hour course, resulting in **no change** to the hours required to complete the degree.
 - b) As it meets critical accreditation requirements, this course will no longer be waived for transfer students. In order to allow transfer students the prospect of completing in two years, transfer course information will recommend that students include at least 9 credit hours of courses transferable as required or elective ITM courses among their free or technical electives, keeping the hours to be completed at IIT after transfer at 66.
2. The ITM Transfer Student Curriculum page from the *Undergraduate Bulletin* has been revised to reflect full-time rather than part-time completion of the degree after transfer. This is purely an administrative change in how the curriculum is displayed and represents no change to the degree program.
3. *ITMM 482 Business Innovation* is added as a required course in the **IT Entrepreneurship and Management** specialization, as it is now the prerequisite for *ITMM 481 IT Entrepreneurship*, which was already a required course in the specialization. This will reduce the electives included in this specialization to 1. BUS 100 and ECON 151 are removed from this specialization as Undergraduate Business has advised us that these are not appropriate courses for the specialization.
4. *ITMO 446 Telecommunications Over Data Networks* is added as a required course in the **Networking and Communications** specialization. This is a new undergraduate version of the existing ITMO 546 course of the same title. This will add an actual communications component, which was not a part of the specialization despite the specialization’s title. This will reduce the electives in this specialization to 1.

Changes to the curricula, specializations, and course descriptions for new courses are attached. All changes are indicated in red.


Ray Trygstad
Associate Chair

BACHELOR OF INFORMATION TECHNOLOGY AND MANAGEMENT

Program for First-Year Students

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

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

A maximum of 9 credit hours of ITM graduate courses taken as an undergraduate may be applied to the Master of Information Technology and Management degree, and any graduate courses taken to fulfill undergraduate degree requirements may not also be applied to a graduate degree unless the student is enrolled in a co-terminal master's degree program.

Required Courses

ITM Requirements		(39)
ITM 100	Introduction to Information Technology as a Profession	3
ITM 301	Introduction to Contemporary Operating Systems and Hardware	3
ITM 311	Introduction to Software Development	3
ITM 312	Introduction to Systems Software Programming	3
ITMD 361	Fundamentals of Web Development	3
ITMD 362	Human-Computer Interaction and Web Design	3
ITMD 411	Intermediate Software Development	3
ITMD 421	Data Modeling and Applications	3
ITMM 471	Project Management for Information Technology and Management	3
ITMO 440	Introduction to Data Networks and the Internet	3
ITMO 456	Introduction to Open Source Operating Systems	3
ITMS 448	Cyber Security Technologies	3
ITMT 430	System Integration	3
ITM Electives		(18)
Select 18 credit hours from ITM, ITMD, ITMM, ITMO, ITMS, ITMT, and TECH		18
Mathematics Requirements		(6)
MATH 230	Introduction to Discrete Math	3
Select one course from the following:		3
BUS 221	Analytics for Informed Decision-Making	3
PSYC 203	Undergraduate Statistics for the Behavioral Sciences	4
MATH 425	Statistical Methods	3
Natural Science and Engineering Requirements		(10)
EG 225 is recommended		
See IIT Core Curriculum, section D		10
Humanities and Social Sciences Requirements		(21)
PSYC 301 is recommended		
See IIT Core Curriculum, sections B and C		21
Interprofessional Projects (IPRO)		(6)
See IIT Core Curriculum, section E		6
Minor Electives		(15)
Select 15 credit hours		15
Free Electives		(12)
Select 12 credit hours		12
Total Credit Hours		127

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

Students should be aware that students not completing 30 credit 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.

Semester 1		Credit Hours	Semester 2	Credit Hours	Year 1
ITM 301		3	ITM 311		3
ITMD 421		3	ITMO 440		3
Natural Science or Engineering Elective		4	MATH 230		3
Humanities 200-level Elective		3	Social Sciences Elective		3
			Natural Science or Engineering Elective		3
		13			15
Semester 1		Credit Hours	Semester 2	Credit Hours	Year 2
ITM 100		3	ITMD 362		3
ITM 312		3	ITMD 411		3
ITMD 361		3	ITMO 456		3
Natural Science or Engineering Elective		3	ITM Elective		3
Social Sciences Elective (300+)		3	Statistics Elective (MATH 425, BUS 221, PSYC 203)		3
			Minor Elective		3
		15			18
Semester 1		Credit Hours	Semester 2	Credit Hours	Year 3
ITMM 471		3	ITM Elective		3
ITM Elective		3	ITM Elective		3
Minor Elective		3	IPRO Elective I		3
Humanities Elective (300+)		3	Social Sciences Elective (300+)		3
Free Elective		3	Minor Elective		3
Free Elective		3	Free Elective		3
		18			18
Semester 1		Credit Hours	Semester 2	Credit Hours	Year 4
ITMS 448		3	ITMT 430		3
ITM Elective		3	ITM Elective		3
Minor Elective		3	IPRO Elective II		3
Humanities Elective (300+)		3	Minor Elective		3
Free Elective		3	Humanities or Social Sciences Elective		3
		15			15

Total Credit Hours: 127

Information Technology Curriculum Specializations

The ITM electives may be chosen from one or more of the following course specializations. ITM required courses may not be counted toward completion of elective requirements for specializations. With the permission of the adviser, other undergraduate or graduate courses in the same area may be substituted for courses in a specialization.

Data Management

Focuses on the design, development, and administration of traditional and Internet-based data management.

Code	Title	Credit Hours
ITMD 422	Advanced Database Management	3
ITMS 428	Database Security	3
Select two courses from the following:		6
ITMO 444	Cloud Computing Technologies	3
or any ITMD elective(s)		

IT Entrepreneurship and Management

Focuses on the managerial and entrepreneurial skills needed to launch a new enterprise.

Code	Title	Credit Hours
ITMM 470	Fundamentals of Management for Technology Professionals	3
ITMM 481	Information Technology Entrepreneurship	3
ITMM 482	Business Innovation	3
Select one course from ITMM or the following:		3
any BUS electives at the 200-level or above		3
or any INTM electives selected with adviser's approval		3

Networking and Communications

Focuses on network applications and management.

Code	Title	Credit Hours
ITMO 441	Network Administration and Operations	3
ITMO 446	Telecommunications Over Data Networks	3
Select one course from the following:		3
ITMO 433	Enterprise Server Administration	3
ITMO 453	Open Source Server Administration	3
Select any one course from ITMO, ITMT, or the following:		3
ITMD 465	Rich Internet Applications	3
ITMS 443	Vulnerability Analysis and Control	3
ITMS 478	Cyber Security Management	3

Systems Security

Focuses on application, data, and network security and the management of information technology security.

Code	Title	Credit Hours
ITMS 478	Cyber Security Management	3
Select one course from the following:		3
ITMO 433	Enterprise Server Administration	3
ITMO 441	Network Administration and Operations	3
ITMO 450	Enterprise End-User System Administration	3
ITMO 453	Open Source Server Administration	3
Select two ITMS electives		6

Software Development

Focuses on programming and the development of sophisticated applications.

Code	Title	Credit Hours
ITMD 415	Advanced Software Development	3
ITMD 462	Web Site Application Development	3
Select two courses from the following:		6
ITMD 412	Advanced Structured and Systems Programming	3
ITMD 413	Open Source Programming	3
ITMD 419	Topics in Software Development	3
ITMD 453	Enterprise Intelligent Device Applications	3
ITMD 454	Mass-Market Intelligent Device Applications	3
ITMD 455	Open-Source Intelligent Device Applications	3
or any ITMD elective		

System Administration

Focuses on the administration and the management of servers.

Code	Title	Credit Hours
ITMO 441	Network Administration and Operations	3
Select two courses from the following:		6
ITMO 433	Enterprise Server Administration	3
ITMO 450	Enterprise End-User System Administration	3
ITMO 453	Open Source Server Administration	3
Select one course from the following:		3
ITMO 417	Shell Scripting for System Administration	3
ITMO 444	Cloud Computing Technologies	3
ITMO 454	Operating System Virtualization	3
ITMS 458	Operating System Security	3

Web Design and Application Development

Focuses on the design and development of fully-interactive websites and applications for Internet deployment.

Code	Title	Credit Hours
ITMO 441	Network Administration and Operations	3
ITMD 462	Web Site Application Development	3
Select two courses from the following:		6
ITMO 444	Cloud Computing Technologies	3
ITMD 453	Enterprise Intelligent Device Applications	3
ITMD 454	Mass-Market Intelligent Device Applications	3
ITMD 455	Open-Source Intelligent Device Applications	3
ITMD 463	Intermediate Web Application Development	3
ITMD 464	Advanced Web Application Development	3
ITMD 465	Rich Internet Applications	3
ITMD 466	Service-Oriented Architecture	3
ITMD 467	Web Systems Integration	3
ITMD 469	Topics in Application Development	3

BACHELOR OF INFORMATION TECHNOLOGY AND MANAGEMENT: TRANSFER PROGRAM

Transfer Admission Requirements

Admitted transfer students are expected to have satisfied the following Illinois Institute of Technology Core Curriculum requirements prior to admission. If not, the student must complete them while working on the ITM degree. The degree requires a minimum of 127 credit hours including transfer and coursework completed at IIT. A maximum of 68 applicable credit hours of transfer credit is permitted from a two-year college.

Basic Writing Proficiency Requirement

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

Computer Science

2 credit hours of computer programming; may be satisfied by taking ITM 311.

Humanities and Social Sciences

9 credit hours. Humanities include literature, philosophy (except logic), and history. Social or behavioral sciences typically include anthropology, geography, political science, psychology, sociology, and economics. Studies must include a minimum of 3 credit hours in humanities and 3 credit hours in the social sciences.

Free or Technical Electives

28 credit hours of approved courses. Students should contact the Office of Undergraduate Academic Affairs for additional information.

Mathematics

5-6 credit hours of mathematics including a **discrete math course and a statistics course**.

Natural Science or Engineering

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

Program Requirements

Transfer students are **expected** to take 75 credit hours at Illinois Institute of Technology and transfer 52 credit hours to complete the bachelor's degree for a total of 127 credit hours. This includes 19 information technology courses for a total of 57 credit hours in the major. An additional 18 credit hours outside the major must be taken at Illinois Institute of Technology in order to satisfy the remaining Core Curriculum requirements. These include four 300/400-level humanities and social or behavioral science electives and two IPRO courses. Two social or behavioral science electives must be from the same field and one must be from a different field; lower level social or behavioral science electives count towards this requirement. The computer science general education requirement may be satisfied by completion of ITM 311. **Students who wish to complete their undergraduate studies in less than five semesters of full-time study at Illinois Institute of Technology are strongly urged to include at least 9 credit hours of courses transferable as required or elective ITM courses among their free or technical electives.**

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

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

A maximum of 9 credit hours of ITM graduate courses taken as an undergraduate may be applied to the Master of Information Technology and Management degree, and any graduate courses taken to fulfill undergraduate degree requirements may not also be applied to a graduate degree unless the student is enrolled in a co-terminal master's degree program.

Required Courses

Courses Transferred		(52)
(or taken at IIT)		52
Humanities Electives		(6)
300/400-level courses		6
Social Sciences Electives		(6)
300/400 level courses		6
PSYC 301 is recommended		
Interprofessional Projects		(6)
See IIT Core Curriculum, section E		6
ITM Requirements		(39)
ITM 100	Introduction to Information Technology as a Profession	3
ITM 301	Introduction to Contemporary Operating Systems and Hardware	3
ITM 311	Introduction to Software Development	3
ITM 312	Introduction to Systems Software Programming	3
ITMD 361	Fundamentals of Web Development	3
ITMD 362	Human-Computer Interaction and Web Design	3
ITMD 411	Intermediate Software Development	3
ITMD 421	Data Modeling and Applications	3
ITMM 471	Project Management for Information Technology and Management	3
ITMO 440	Introduction to Data Networks and the Internet	3
ITMO 456	Introduction to Open Source Operating Systems	3
ITMS 448	Cyber Security Technologies	3
ITMT 430	System Integration	3
ITM Electives		(18)
Select 18 credit hours from ITM, ITMD, ITMM, ITMO, ITMS, ITMT, and TECH		18
Total Credit Hours		127

Bachelor of Information Technology and Management: Transfer Curriculum

Year 1

Semester 1	Credit Hours	Semester 2	Credit Hours
ITM 301	3	ITM 312	3
ITM 311	3	ITMD 362	3
ITMO 456	3	ITMM 471	3
Humanities Elective (300+)	3	ITMO 440	3
ITMD 361	3	ITM Elective	3
	15		15

Year 2

Semester 1	Credit Hours	Semester 2	Credit Hours
ITM 100	3	ITM Elective	3
ITMD 411	3	ITM Elective	3
ITMD 421	3	ITM Elective	3
ITMS 448	3	I PRO Elective I	3
Social Sciences Elective (300+)	3	ITMT 430	3
	15		15

Year 3

Semester 1	Credit Hours
Social Sciences Elective (300+)	3
Humanities Elective (300+)	3
I PRO Elective II	3
ITM Elective	3
ITM Elective	3
	15

Total Credit Hours: 75