

# MASTER OF INFORMATION TECHNOLOGY AND MANAGEMENT

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

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

All students are required to complete a minimum of three core courses which are included as a part of each program specialization. These core courses will ensure an ability to develop software applications at a competent level using a contemporary programming language, the capability to employ and deploy appropriate system technologies, and a grasp of business development knowledge appropriate to the discipline. Students electing not to complete a specialization must complete at least one course from each of the seven core subject topic areas. Advisers will assist students in the selection of core courses most relevant to their interests and career goals.

The specializations are meant to guide students in their course selection, allowing them to focus on a particular area of information technology, depending on their interests, background, and career goals. Alternative courses in each specialization may be available at the discretion of the student's adviser.

## Curriculum

### Master of Information Technology and Management (without Specialization)

Code	Title	Credit Hours
<b>Programming</b>		(3)
Select three credit hours of Programming courses (p. 2)		3
<b>Application Development</b>		(3)
Select three credit hours of Application Development courses (p. 2)		3
<b>Information Systems Technologies</b>		(3)
Select three credit hours of Information Systems Technologies courses (p. 2)		3
<b>Information Technology Architectures</b>		(3)
Select three credit hours of Information Technology Architectures courses (p. 2)		3
<b>Design</b>		(3)
Select three credit hours of Design courses (p. 2)		3
<b>Management</b>		(3)
Select three credit hours of Management courses (p. 2)		3
<b>Innovation</b>		(3)
Select three credit hours of Innovation courses (p. 3)		3
<b>Elective Courses</b>		(9)
Select nine credit hours		9
Total Credit Hours		30

### Master of Information Technology and Management (with Specialization)

Code	Title	Credit Hours
<b>Specialization Courses</b>		(24)
Select 24 credit hours from approved core and specialization courses <sup>1</sup>		24
<b>Elective Courses</b>		(6)
Select six credit hours		6
Total Credit Hours		30

<sup>1</sup> Students may select courses in order to fulfill a desired specialization. See Specializations tab on this page for more details. The three required core courses are included in each program specialization.

## Graduate Core Courses by Subject and Topic

The following courses comprise the graduate core courses:

### Subject: Software Development

#### Topic: Programming

Code	Title	Credit Hours
ITMD 510	Object-Oriented App Develop	3
ITMD 512	Structured/Systems Programming	3
ITMD 514	Programming for Data Analytics	3
ITMD 515	Advanced Software Programming	3
ITMS 514	Prgmring for Cyber Analytics	3

### Subject: System Technologies

#### Topic: Application Development

Code	Title	Credit Hours
ITMD 553	Enterprise Intelligent Device	3
ITMD 554	Mass-Market Intelligent Device	3
ITMD 555	Open-Source Intelligent Device	3
ITMD 565	Rich Internet Applications	3
ITMD 566	Service-Oriented Architectures	3
ITMT 593	Embedded Systems	3

#### Topic: Information Systems Technologies

Code	Title	Credit Hours
ITMO 533	Enterprise Server Admin	3
ITMO 553	Open Source System Admin	3
ITMO 556	Intro to Open Source Software	3
ITMS 558	Operating Systems Security	3

#### Topic: Information Technology Architectures

Code	Title	Credit Hours
ITMO 540	Intro Data Networks & Internet	3
ITMO 554	Operating Sys Virtualization	3
ITMS 548	Cyber Security Technologies	3
ITMT 535	Data Center Architecture	3

### Subject: Business Development

#### Topic: Design

Code	Title	Credit Hours
ITMD 511	Application Dev Methodologies	3
ITMD 532	UML-Based Software Development	3
ITMD 534	Human/Computer Interaction	3
ITMT 531	OO Syst Anlys Mod & Des	3

#### Topic: Management

Code	Title	Credit Hours
ITMM 537	Vendor Mgmt/Service Lvl Agrmts	3
ITMM 570	Fund of Mgmt for Tech Prof	3
ITMM 571	Project Management for ITM	3
ITMM 574	ITM Frameworks	3
ITMM 575	Networking/Telecom Management	3
ITMS 578	Cyber Security Mgmt	3

**Topic: Innovation**

Code	Title	Credit Hours
ITMM 581	IT Entrepreneurship	3
ITMM 582	Business Innovation	3
ITMD 535	Human-Computer Interaction Des	3

**Specializations****Computer and Information Security**

Code	Title	Credit Hours
<b>Required Courses</b>		(24)
ITMO 540	Intro Data Networks & Internet	3
ITMO 556	Intro to Open Source Software	3
ITMS 514	Prgmring for Cyber Analytics	3
ITMS 548	Cyber Security Technologies	3
ITMS 578	Cyber Security Mgmt	3
Select six credit hours from the following:		6
Any 500-level ITMS elective <sup>1</sup>		6
Select three credit hours from the following:		3
Any 500-level ITMO elective		3
Any 500-level ITMS elective		3
ITMM 586	IT Auditing	3
Total Credit Hours		24

<sup>1</sup> ITMS 579 may only be taken once as part of this requirement

**Data Analytics and Management**

Code	Title	Credit Hours
<b>Required Courses</b>		(24)
ITMD 514	Programming for Data Analytics (Programming for Data Analytics)	3
ITMD 523	Adv Topics in Data Management	3
ITMD 526	Data Warehousing	3
ITMD 527	Data Analytics	3
ITMS 528	Database Security	3
ITMT 531	OO Syst Anlys Mod & Des	3
Select three credit hours from the following:		3
ITMD 553	Enterprise Intelligent Device	3
ITMD 554	Mass-Market Intelligent Device	3
ITMD 555	Open-Source Intelligent Device	3
ITMD 565	Rich Internet Applications	3
ITMD 566	Service-Oriented Architectures	3
ITMT 593	Embedded Systems	3
Select three credit hours from the following:		3
ITMD 515	Advanced Software Programming	3
ITMD 521	Client/Server Techngs & Applct	3
ITMD 525	Topics in Data Science & Mgmt	3
ITMD 529	Advanced Data Analytics	3
ITMD 566	Service-Oriented Architectures	3
ITMM 537	Vendor Mgmt/Service Lvl Agrmts	3
ITMM 574	ITM Frameworks	3
ITMO 557	Storage Technologies	3
ITMS 578	Cyber Security Mgmt	3
Total Credit Hours		24

**Information Technology Infrastructure**

<b>Code</b>	<b>Title</b>	<b>Credit Hours</b>
<b>Required Courses</b>		<b>(24)</b>
ITMD 510	Object-Oriented App Develop	3
ITMO 540	Intro Data Networks & Internet	3
ITMO 556	Intro to Open Source Software	3
Select three credit hours from the following:		3
ITMM 537	Vendor Mgmt/Service Lvl Agrmts	3
ITMM 571	Project Management for ITM	3
ITMM 574	ITM Frameworks	3
ITMM 575	Networking/Telecom Management	3
ITMS 578	Cyber Security Mgmt	3
Select 12 credit hours from the following:		12
ITMD 545	Web Real-Time Communications	3
ITMD 565	Rich Internet Applications	3
ITMM 576	Data Center Management	3
ITMO 517	Shell Scripting for Sys Admin	3
ITMO 533	Enterprise Server Admin	3
ITMO 541	Network Admin & Operations	3
ITMO 542	Wireless Technologies & Apps	3
ITMO 544	Cloud Computing Technologies	3
ITMO 546	Telecomm Over Data Networks	3
ITMO 547	Projects & Advanced Methods	3
ITMO 550	Enterprise End-User Sys Admin	3
ITMO 553	Open Source System Admin	3
ITMO 554	Operating Sys Virtualization	3
ITMO 557	Storage Technologies	3
ITMS 558	Operating Systems Security	3
ITMS 588	Incdnt Rspnse Disaster Rcvry	3
ITMT 535	Data Center Architecture	3
Total Credit Hours		24

**IT Management and Entrepreneurship**

<b>Code</b>	<b>Title</b>	<b>Credit Hours</b>
<b>Required Courses</b>		<b>(24)</b>
ITMD 510	Object-Oriented App Develop	3
ITMD 534	Human/Computer Interaction	3
ITMM 570	Fund of Mgmt for Tech Prof	3
ITMM 581	IT Entrepreneurship	3
ITMM 582	Business Innovation	3
Select three credit hours from the following:		3
ITMD 553	Enterprise Intelligent Device	3
ITMD 554	Mass-Market Intelligent Device	3
ITMD 555	Open-Source Intelligent Device	3
Select six credit hours from the following:		6
Any 500-level ITMM elective		
ITMD 556	Intelligent Device Projects	3
ITMS 578	Cyber Security Mgmt	3
TECH 565	Intro to Social Commerce	3
TECH 581	Consulting for Technical Prof	3
Total Credit Hours		24

## Management Information Systems

Code	Title	Credit Hours
<b>Required Courses</b>		(24)
ITMD 510	Object-Oriented App Develop	3
ITMD 521	Client/Server Techngs & Applct	3
ITMD 523	Adv Topics in Data Management	3
ITMD 566	Service-Oriented Architectures	3
ITMM 574	ITM Frameworks	3
Select six credit hours from the following:		6
ITMM 537	Vendor Mgmt/Service Lvl Agrmts	3
ITMM 572	Process Engrng for IT Managers	3
ITMM 586	IT Auditing	3
ITMO 554	Operating Sys Virtualization	3
ITMT 531	OO Syst Anlys Mod & Des	3
Select three credit hours from the following:		3
INTM 522	Modeling for Decision-Making	3
ITMD 515	Advanced Software Programming	3
ITMD 525	Topics in Data Science & Mgmt	3
ITMD 526	Data Warehousing	3
ITMD 527	Data Analytics	3
ITMD 529	Advanced Data Analytics	3
ITMD 532	UML-Based Software Development	3
ITMM 537	Vendor Mgmt/Service Lvl Agrmts	3
ITMO 544	Cloud Computing Technologies	3
ITMO 557	Storage Technologies	3
ITMS 528	Database Security	3
TECH 565	Intro to Social Commerce	3
TECH 581	Consulting for Technical Prof	3
Total Credit Hours		24

## Smart Technology and Innovation

Code	Title	Credit Hours
<b>Required Courses</b>		(24)
ITMD 510	Object-Oriented App Develop	3
ITMD 556	Intelligent Device Projects	3
ITMM 582	Business Innovation	3
ITMO 556	Intro to Open Source Software	3
ITMT 593	Embedded Systems	3
Select three credit hours from the following:		3
ITMD 553	Enterprise Intelligent Device	3
ITMD 554	Mass-Market Intelligent Device	3
ITMD 555	Open-Source Intelligent Device	3
Select three credit hours from the following:		3
ITMD 511	Application Dev Methodologies	3
ITMD 556	Intelligent Device Projects	3
ITMO 542	Wireless Technologies & Apps	3
ITMO 544	Cloud Computing Technologies	3
Select three credit hours from the following:		3
ITMD 545	Web Real-Time Communications	3
ITMD 553	Enterprise Intelligent Device	3
ITMD 554	Mass-Market Intelligent Device	3
ITMD 555	Open-Source Intelligent Device	3

ITMD 556	Intelligent Device Projects	3
ITMD 565	Rich Internet Applications	3
ITMO 540	Intro Data Networks & Internet	3
ITMO 541	Network Admin & Operations	3
ITMO 546	Telecomm Over Data Networks	3
INTM 522	Modeling for Decision-Making	3
TECH 565	Intro to Social Commerce	3
Total Credit Hours		24

## Software Development

Code	Title	Credit Hours
<b>Required Courses</b>		(24)
ITMD 510	Object-Oriented App Develop	3
ITMD 515	Advanced Software Programming	3
ITMD 536	Software Testing & Maintenance	3
ITMD 565	Rich Internet Applications	3
ITMM 571	Project Management for ITM	3
Select three credit hours from the following:		3
ITMD 511	Application Dev Methodologies	3
ITMD 513	Open Source Programming	3
ITMD 532	UML-Based Software Development	3
Select six credit hours from the following:		6
ITMD 511	Application Dev Methodologies	3
ITMD 512	Structured/Systems Programming	3
ITMD 513	Open Source Programming	3
ITMD 519	Topics in Software Development	3
ITMD 532	UML-Based Software Development	3
ITMD 534	Human/Computer Interaction	3
ITMD 553	Enterprise Intelligent Device	3
ITMD 554	Mass-Market Intelligent Device	3
ITMD 555	Open-Source Intelligent Device	3
ITMD 556	Intelligent Device Projects	3
ITMD 565	Rich Internet Applications	3
ITMM 572	Process Engrng for IT Managers	3
ITMS 518	Coding Security	3
ITMT 531	OO Syst Anlys Mod & Des	3
TECH 565	Intro to Social Commerce	3
Total Credit Hours		24

## Systems Analysis

Code	Title	Credit Hours
<b>Required Courses</b>		(24)
ITMD 510	Object-Oriented App Develop	3
ITMD 511	Application Dev Methodologies	3
ITMD 534	Human/Computer Interaction	3
ITMD 536	Software Testing & Maintenance	3
ITMM 572	Process Engrng for IT Managers	3
ITMT 531	OO Syst Anlys Mod & Des	3
Select three credit hours from the following:		3
ITMD 553	Enterprise Intelligent Device	3
ITMD 554	Mass-Market Intelligent Device	3
ITMD 555	Open-Source Intelligent Device	3

ITMD 565	Rich Internet Applications	3
Select three credit hours from the following:		3
INTM 522	Modeling for Decision-Making	3
ITMD 532	UML-Based Software Development	3
ITMM 574	ITM Frameworks	3
ITMM 575	Networking/Telecom Management	3
ITMM 586	IT Auditing	3
ITMS 578	Cyber Security Mgmt	3
TECH 581	Consulting for Technical Prof	3
Total Credit Hours		24

## Web Design and Application Development

Code	Title	Credit Hours
<b>Required Courses</b>		(24)
ITMD 510	Object-Oriented App Develop	3
ITMD 534	Human/Computer Interaction	3
ITMD 562	Web Site App Development	3
ITMD 565	Rich Internet Applications	3
ITMD 567	Web Systems Integration	3
ITMM 582	Business Innovation	3
Select six credit hours from the following:		6
COM 525	User Experience Research/Eval	3
ITMD 511	Application Dev Methodologies	3
ITMD 513	Open Source Programming	3
ITMD 515	Advanced Software Programming	3
ITMD 519	Topics in Software Development	3
ITMD 545	Web Real-Time Communications	3
ITMD 553	Enterprise Intelligent Device	3
ITMD 554	Mass-Market Intelligent Device	3
ITMD 555	Open-Source Intelligent Device	3
ITMD 563	Intermediate Web App Dev	3
ITMD 564	Adv Web Site App Development	3
ITMD 566	Service-Oriented Architectures	3
ITMD 569	Topics in Application DevImpnt	3
TECH 565	Intro to Social Commerce	3
Total Credit Hours		24