

MASTER OF INFORMATION TECHNOLOGY AND MANAGEMENT

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 |
|---|-------|--------------|
| Programming | | (3) |
| Select three credit hours of Programming courses | | 3 |
| Application Development | | (3) |
| Select three credit hours of Application Development courses | | 3 |
| Information Systems Technologies | | (3) |
| Select three credit hours of Information Systems Technologies courses | | 3 |
| Information Technology Architectures | | (3) |
| Select three credit hours of Information Technology Architectures courses | | 3 |
| Design | | (3) |
| Select three credit hours of Design courses | | 3 |
| Management | | (3) |
| Select three credit hours of Management courses | | 3 |
| Innovation | | (3) |
| Select three credit hours of Innovation courses | | 3 |
| Elective Courses | | (9) |
| Select nine credit hours | | 9 |
| Total Credit Hours | | 30 |

Master of Information Technology and Management (with Specialization)

| Code | Title | Credit Hours |
|---|-------|--------------|
| Specialization Courses | | (24) |
| Select 24 credit hours from approved core and specialization courses ¹ | | 24 |
| Elective Courses | | (6) |
| Select six credit hours | | 6 |
| Total Credit Hours | | 30 |

¹ 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 |
|---|--------------------------------|--------------|
| Required Courses | | (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 ¹ | | 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 |

¹ ITMS 579 may only be taken once as part of this requirement

Data Analytics and Management

| Code | Title | Credit Hours |
|---|---|--------------|
| Required Courses | | (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

| Code | Title | Credit Hours |
|---|--------------------------------|--------------|
| Required Courses | | (24) |
| 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

| Code | Title | Credit Hours |
|---|--------------------------------|--------------|
| Required Courses | | (24) |
| 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 |
|---|--------------------------------|--------------|
| Required Courses | | (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 |
|---|--------------------------------|--------------|
| Required Courses | | (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 |
|---|--------------------------------|--------------|
| Required Courses | | (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 |
|---|--------------------------------|--------------|
| Required Courses | | (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 |
|---|--------------------------------|--------------|
| Required Courses | | (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 |