Summary of the ITM Data Management and MIS Specializations as of 7/12/16

**Data Management (undergraduate)**
Focuses on the design, development and administration of traditional and Internet-based data management.

- **ITMD 421** Data Modeling and Applications (required of all undergrads)
- **ITMD 422** Advanced Database Management
- **ITMS 428** Database Security
  AND any two of the following:
- **ITMO 444** Cloud Computing Technologies
- OR any ITMD elective(s)

**Data Management (21 hours) (graduate)**
Required courses (15 hours)

- **ITMD 523** Advanced Topics in Data Management
- **ITMD 526** Data Warehousing
- **ITMD 527** Data Analytics
- **ITMS 528** Database Security
- **ITMT 531** Object Oriented System Analysis, Modeling and Design
  AND 6 hours from the following:
- **ITMD 521** Client Server Technologies & Applications
- **ITMD 525** Topics in Data Science and Management
- **ITMD 529** Advanced Data Analytics
- **ITMD 566** Service-Oriented Architectures
- **ITMO 557** Storage Technologies
- **ITMM 574** Information Technology Management Frameworks
- **ITMS 578** Cyber Security Management

**Management Information Systems (21 hours) (graduate)**
Required courses (12 hours)

- **ITMD 521** Client Server Technologies & Applications
- **ITMD 523** Advanced Topics in Data Management
- **ITMD 566** Service-Oriented Architectures
- **ITMM 574** Information Technology Management Frameworks
  AND 6 hours from the following:
- **ITMT 531** Object Oriented System Analysis, Modeling and Design
- **ITMM 572** Process Engineering for Information Technology Managers
- **ITMM 586** Information Technology Auditing
- **ITMO 554** Operating System Virtualization
  AND 3 hours from the following:
- **ITMD 525** Topics in Data Science and Management
- **ITMD 526** Data Warehousing
- **ITMD 527** Data Analytics
- **ITMD 529** Advanced Data Analytics
- **ITMD 532** UML Based Software Development
- **ITMO 544** Cloud Computing Technologies
- **ITMO 557** Storage Technologies
- **ITMM 537** Service Level Agreements
- **ITMS 528** Database Security
- **INTM 522** Computers in Industry
- **TECH 565** Introduction to Social Commerce
- **TECH 581** Consulting for Technical Professionals