DEPARTMENT OF INFORMATION AND OPERATIONS MANAGEMENT

http://mays.tamu.edu/info

Head: R. Metters

Graduate Advisor: André Araujo

The Department of Information and Operations Management offers a Master of Science in Management Information Systems (MS-MIS) and a PhD in Supply Chain Management. In addition, the department offers coursework supporting Mays Business School’s MBA degrees and the Professional Program.

Students enrolled in the Mays MBA program may opt to pursue a certificate in Supply Chain Management or a combined MBA/MS-MIS degree. Students admitted to the Professional Program offered by the Department of Accounting may elect to participate in the five-year integrated MS-MIS program. Graduates of this program receive a Bachelor of Business Administration degree in Accounting and a Master of Science degree in Management Information Systems.

Masters Program

The MS-MIS degree program prepares students to enter this exciting and dynamic career field. It provides students with a solid technical information systems foundation and appropriate business skills that enables graduates to immediately contribute to solving business problems. Graduates are highly valued and respected in the workforce and are sought by first class employers.

The program is equally beneficial for students with an information systems background as well as those wishing to leverage and enhance their undergraduate degree from another field. The MS-MIS degree is an ideal complement for any undergraduate student with a degree in business, engineering, science, math or other analytically-oriented majors. The MS-MIS degree can jump start your career and provide fast-track opportunities not available to those with only an undergraduate degree.

The 21-month MS-MIS degree program requires 36 credit hours and produces graduates who are both business analysts (i.e., professionals who understand business) and information system specialists (i.e., professionals who can implement information systems strategies). Graduates of the program possess the skills to meet challenges and opportunities created by rapidly evolving information technology. Our graduates make business better.

Prerequisites for the MS-MIS degree include a course in each of the following:

- Computer Programming (any language)
- Databases
- Systems Analysis and Design
- Business Data Communications

Doctoral Program

The doctoral program in operations and supply chain management is strongly research oriented and has a systems point of view. It stresses the relationships among the functional business areas and the importance of effective decision making with the goal of developing professionals who are well grounded in underlying theory in their disciplines and who have refined problem-solving capabilities.

The program has three primary objectives:

1. Provide comprehensive knowledge of business concepts and practices in functional business areas to support teaching and research interests;
2. Develop advanced competencies for conducting quality research, directing research of others, and communicating research findings through teaching and writing; and
3. Prepare candidates for the varied responsibilities of academic careers or for positions requiring similar research and analytical skills.

Additional information, including specific departmental requirements, may be obtained by contacting the department graduate advisors or the Office of the Dean, Graduate School of Business.

Faculty

Abbey, James D, Assistant Professor
Information & Operations Mgmt
PHD, The Pennsylvania State University, 2013

Agrawal, Anupam, Associate Professor
Information & Operations Mgmt
PHD, INSEAD France, 2008

Alexandar Angelus, Assistant Professor
Information & Operations Mgmt
PHD, Stanford University, 1997

Arreola-Risa, Antonio, Associate Professor
Information & Operations Mgmt
PHD, Stanford University, 1989

Becker, Aaron C, Clinical Assistant Professor
Information & Operations Mgmt
PHD, University of Oklahoma, 2009

Curtsinger, Wanda F, Lecturer
Information & Operations Mgmt
PHD, Morehead State University, 2007

Darcey, Louise W, Senior Lecturer
Information & Operations Mgmt
PHD, Texas A&M University, 1974

David Gomillion, Clinical Assistant Professor
Information & Operations Mgmt
PHD, Florida State University, 2013

Geismar, Harry N, Associate Professor
Information & Operations Mgmt
PHD, The University of Texas at Dallas, 2003
Heim, Gregory R, Associate Professor  
Information & Operations Mgmt  
PHD, University of Minnesota, Twin Cities, 2000

Jamieson, Thomas V, Executive Professor  
Information & Operations Mgmt  
PHD, Texas A&M University, 1978

Jasperson, Jon L, Clinical Professor  
Information & Operations Mgmt  
PHD, Florida State University, 1999

Johnson, Robert E, Clinical Associate Professor  
Information & Operations Mgmt  
PHD, University of Rochester, 1989

Ketzenberg, Michael E, Associate Professor  
Information & Operations Mgmt  
PHD, University of North Carolina at Chapel Hill, 2000

Koufteros, Xenophon, Professor  
Information & Operations Mgmt  
PHD, University of Toledo, 1995

Kumar, Subodha, Professor  
Information & Operations Mgmt  
PHD, The University of Texas at Dallas, 2001

Li, Ying, Clinical Assistant Professor  
Information & Operations Mgmt  
PHD, University of Michigan, 2005

Manley, Matthew T, Clinical Assistant Professor  
Information & Operations Mgmt  
PHD, Utah State University, 2012

Metters, Richard D, Professor  
Information & Operations Mgmt  
PHD, University of North Carolina at Chapel Hill, 1993

Oliva, Rogelio, Professor  
Information & Operations Mgmt  
PHD, Massachusetts Institute of Technology, 1996

Pappu, Madhav, Clinical Assistant Professor  
Information & Operations Mgmt  
PHD, University of Tennessee, 1999

Rangan, Sudarsan, Clinical Assistant Professor  
Information & Operations Mgmt  
PHD, The University of Alabama, 2008

Sen, Arun, Professor  
Information & Operations Mgmt  
PHD, The Pennsylvania State University, 1979

Sen, Ravi, Associate Professor  
Information & Operations Mgmt  
PHD, University of Illinois at Urbana-Champaign, 2003

Shetty, Bala, Professor  
Information & Operations Mgmt  
PHD, Southern Methodist University, 1985

Sriskandarajah, Chelliah, Professor  
Information & Operations Mgmt  
PHD, L’Institut National Polytechnique de Grenoble, 1986

Stauffer, Jon M, Assistant Professor  
Information & Operations Mgmt  
PHD, Indiana University, Kelley School of Business, 2016

Toso De Araujo, Andre Luis, Clinical Assistant Professor  
Information & Operations Mgmt  
PHD, The University of Oklahoma, 2004

Whitten, Gary D, Clinical Professor  
Information & Operations Mgmt  
DBA, Louisiana Tech University, 2004

Masters
- Master of Science in Management Information Systems (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/business/information-operations-management/ms)

Certificates
- Business Intelligence and Analytics Certificate
- Supply Chain Management (Mays MBA and MS Students Only) Certificate (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/business/information-operations-management/supply-chain-management-certificate)

Courses

ISTM 601 Fundamentals of Business Programming
Credits 3. 3 Lecture Hours.
Business Application Development using both procedural and object-oriented programming techniques; use of component based software design and development for distributed business software systems.  
Prerequisite: Graduate business classification or approval of instructor.

ISTM 610 Business Data Communications
Credits 3. 3 Lecture Hours.
Concepts and technology of on-line and network-based systems in business; analysis of data communication requirements, design, selection and application of network technologies including wide and local area networks, distributed processing, network architecture, and systems management and control; software simulation projects emphasized. Classification 6 students may not enroll in this course.  
Prerequisites: Graduate classification.

ISTM 612 Management Information Systems
Credits 1 to 3. 1 to 3 Lecture Hours.
Concepts, theories, and the strategic role of information systems as applied to business organizations; highly integrative/cross functional in nature. Classification 6 students may not enroll in this course.  
Prerequisite: Enrollment is limited to MBA students.

ISTM 615 Business Database Systems
Credits 3. 3 Lecture Hours.
Information processing and management involving applications and user orientation in a business environment using commercially available database management systems.  
Prerequisite: Knowledge of one programming language.
**ISTM 620 Systems Analysis and Design**
Credits 3. 3 Lecture Hours.
Methodologies, techniques, and tools for information systems analysis and design; the analysis and logical design of business processes and management information systems focusing on the systems development life cycle; techniques for logical system design.
**Prerequisite:** ISTM 615 or concurrent enrollment.

**ISTM 622 Advanced Data Management**
Credits 3. 3 Lecture Hours.
Data/database management and advanced SQL techniques; issues of data security, backup and recovery, large scale databases, master data management, concurrent user data access, scalability, and policies.
**Prerequisites:** ISTM 615 or equivalent; graduate classification in business.

**ISTM 624 Advanced Systems Analysis and Design**
Credits 3. 3 Lecture Hours.
Advanced topics in business systems analysis and design; alternative methodologies such as agile development, extreme programming, Rational Unified Process; Unified Modeling Language; bench marking and best practices for systems development; cost/benefit analysis, estimation and budgeting for business information systems; testing; patterns, domain-driven design; process modeling; service-oriented architecture and cloud computing.
**Prerequisite:** ISTM 620 or equivalent; graduate classification in business.

**ISTM 630 MIS Project Management and Implementation**
Credits 3. 3 Lecture Hours.
Advanced coverage of systems development topics with emphasis on the management and implementation of business computing systems; group project orientation to include feasibility analysis, alternative evaluation and selection, and management approval; use of software engineering tools where appropriate. Classification 6 students may not enroll in this class.
**Prerequisite:** ISTM 620.

**ISTM 631 Information Systems Design and Development Project**
Credits 3. 3 Lecture Hours.
Design and delivery of functional, multi-platform application system using current technologies; user interface design emphasized; issues of mobile device forms, software delivery, and development.
**Prerequisites:** Graduation classification; ISTM 622; ISTM 630.

**ISTM 635 Business Information Security**
Credits 3. 3 Lecture Hours.
Explores the business, managerial, and technological aspects of information security; analysis, design, and implementation issues surrounding effective information security; authentication, authorization, availability, business continuity planning, confidentiality, disaster recovery, encryption, firewalls, fraud protection, security policy development, integrity, risk management, virus protection, VPNs and wireless security. Classification 6 students may not enroll in this course.
**Prerequisite:** ISTM 610.

**ISTM 637 Data Warehousing**
Credits 3. 3 Lecture Hours.
Provides an understanding of the process by which a data warehouse system is designed and developed along with the underlying concepts and software systems; includes OLAP models and their differences with standard OLTP models.
**Prerequisite:** ISTM 615 or approval of instructor.

**ISTM 640 Information Systems Sourcing**
Credits 3. 3 Lecture Hours.
Identify the challenges of information systems sourcing, as well as the costs, risks, rewards, and strategies involved in sourcing situations; focus on global sourcing of professional services, including IT, business process, and knowledge process outsourcing; issues such as vendor management, legal issues, distributed work teams, and comparing alternative sourcing strategies.
**Prerequisites:** ISTM 624 or equivalent or approval of instructor; graduate classification in business.

**ISTM 643 Corporate Information Planning**
Credits 3. 3 Lecture Hours.
Concepts regarding the design and use of computer-based management information and decision support systems; combinations of computing hardware and software and design concepts evaluated to meet managers' information needs. Classification 6 students may not enroll in this course.
**Prerequisites:** ISTM 615 or equivalent or approval of instructor.

**ISTM 645 IT Security Controls**
Credits 3. 3 Lecture Hours.
Familiarization with planning, design, and implementation of controls to minimize risks to business information; focus on the importance of managing business information security; introduction to the tools, concepts and theories to safeguard an organization's information systems and IT assets; understanding of cryptography and application, operations, and physical security.
**Prerequisite:** ISTM 635.

**ISTM 646 E-Services**
Credits 3. 3 Lecture Hours.
Examines the deployment and utilization of information technologies by businesses, governments and not-for-profit organizations to deliver services, with applications in banking and financial advisory services, healthcare, and federal, state and local governments.
**Prerequisite:** ISTM 620.

**ISTM 650 Business Data Mining**
Credits 3. 3 Lecture Hours.
Rationale for business Data Mining through case studies of business applications; process of data mining by using commercial Data Mining software on very large data sets; half of the course devoted to lab training in the use of Data Mining software including SAS Enterprise Miner and SPSS Clementine.
**Prerequisite:** STAT 652 or approval of instructor.

**ISTM 652 Customer Relationship Management and Technologies**
Credits 3. 3 Lecture Hours.
Theory and application of information technology in customer relationship management, construction of CRM infrastructures in organizations.
**Prerequisite:** ISTM 615.

**ISTM 654 E-Commerce Technologies**
Credits 3. 3 Lecture Hours.
Theory and application of constructing E-Commerce sites, including n-tier architecture and technologies, web servers, server interactions with databases, and transaction managers.
**Prerequisite:** ISTM 615 or equivalent.
ISTM 655 Security Management and Compliance
Credits 3. 3 Lecture Hours.
Familiarization with managerial and legal aspects of business information security; focus on importance of managing business information security and theories to help safeguard an organization’s information systems and IT assets; understanding of Security Architecture and Design, Business Continuity and Disaster Recovery Planning, Laws Investigation and Ethics.
Prerequisite: ISTM 635.

ISTM 656 Global Information Systems
Credits 3. 3 Lecture Hours.
Impact and the central role of Information Systems (IS) on globalization of business; issues of deployment of information systems and technology in international commerce, global IS environmental variables such as technology, legal, political, economic, social and cultural. Classification 6 students may not enroll in this course.
Prerequisite: ISTM 610 or equivalent, or approval of instructor.

ISTM 670 IT Consulting
Credits 3. 3 Lecture Hours.
Concerns with the practice of IT consulting; and develops an understanding of consulting practices, business development and revenue management, client relationships, team-based knowledge, knowledge services, technology evaluation, selection and integration, collaboration tools, business process and organizational change, and large application implementations; involves a full semester client-based project.
Prerequisites: ISTM 615, ISTM 620, and SCMT 660, and approval of instructor.

ISTM 684 Professional Internship
Credits 1 to 6. 1 to 6 Other Hours.
A directed internship in an organization to provide students with on-the-job training with professionals in organizational settings appropriate to the student's professional objectives. May be repeated for credit. Classification 6 students may not enroll in this course.
Prerequisite: Approval of committee chair and department head.

ISTM 685 Directed Studies
Credits 1 to 4. 1 to 4 Other Hours.
Directed study on selected problems using recent developments in business research methods. Classification 6 students may not enroll in this course.
Prerequisite: Approval of instructor and graduate advisor.

ISTM 686 Theory and Research in Management Information Systems
Credits 3. 3 Lecture Hours.
Theory, applications and human and organizational issues of Management Information Systems (MIS); current academic research into the analysis, design and implementation of computer information systems. Classification 6 students may not enroll in this course.
Prerequisites: Doctoral classification and approval of instructor.

ISTM 689 Special Topics in...
Credits 1 to 4. 1 to 4 Other Hours.
Selected topics in identified area of information systems, operations management or management science. Classification 6 students may not enroll in this course. May be repeated for credit.

ISYS 705 Information Management for Decision Making
Credits 1 to 4. 1 to 4 Lecture Hours.
Policies, practices and procedures for management corporation information; relational database theory and relationship database management systems; data modeling; structured and unstructured data management; structured query language; secure data practices; information management for managerial decision making.
Prerequisite: For Master of Science in Business students only.

SCMT 610 Business Analytics
Credits 1 to 3. 1 to 3 Lecture Hours.
Utilization of quantitative tools such as forecasting, optimization and Monte Carlo simulation in order to deal with uncertainties in business and to assist in making better business decisions. May be repeated up to 3 hours credit. Classification 6 students may not enroll in this course.
Prerequisite: Enrollment is limited to MBA students.

SCMT 614 Operations Management
Credits 1 to 3. 1 to 3 Lecture Hours.
Theory and applications of designing, analyzing and controlling productive systems in the allocation and use of resources to produce goods and services. May be repeated for up to 3 hours credit. Classification 6 students may not enroll in this course.
Prerequisites: SCMT 610 or equivalent; enrollment is limited to MBA students.

SCMT 616 Supply Chain Management
Credits 1 to 3. 1 to 3 Lecture Hours.
Focus on the integrated management of the total product delivery system; purchasing, inventory management and distribution functions with emphasis on physical and information flows.
Prerequisites: SCMT 614; MBA classification.

SCMT 636 Decision Support Systems
Credits 3. 3 Lecture Hours.
Use of decision support systems in business-related decision making, business environment, use of models, user interface with decision support systems and decision support systems examples. Classification 6 students may not enroll in this course.
Prerequisite: SCMT 303 or equivalent.

SCMT 638 Information Technology in Supply Chain Management
Credits 3. 3 Lecture Hours.
Review, evaluate, and contribute to the existing knowledge base regarding the management of information flows from automatic identification systems such as RFID.
Prerequisites: ISEN 615 and PhD students or Masters students with a thesis degree plan or approval of instructor.

SCMT 645 Business Process Design
Credits 3. 3 Lecture Hours.
Introduction to business process design and analysis; tools and techniques to document, analyze and improve business processes; Six Sigma process design and improvement; process metrics; computer simulation of processes; aligning business process with organizational goals and objectives; and case study of real world business problems.
Prerequisites: Graduate classification or approval of instructor; SCMT 614, SCMT 660 or approval of instructor.

SCMT 650 Applied Predictive Analytics for Business
Credits 3. 3 Lecture Hours.
Develop an understanding of the role of predictive analytics in shaping business outcomes; provide hands-on, practical approach to implementing predictive analytics tools for gaining competitive advantage in business.
Prerequisite: Graduate classification.
SCMT 667 Logistics and Distribution Management  
Credits 3. 3 Lecture Hours.  
Contemporary logistics activities including inbound and outbound materials and service flows, with special emphasis on their relationships to the firm's manufacturing function. Classification 6 students may not enroll in this course.  
Prerequisite: SCMT 614 or SCMT 660 or equivalent.

SCMT 685 Directed Studies  
Credits 1 to 4. 1 to 4 Other Hours.  
Directed study on selected problems using recent developments in business research methods.  
Prerequisites: Approval of instructor and graduate advisor.

SCMT 688 Doctoral Seminar in...  
Credits 3. 3 Lecture Hours.  
Evaluation of current research and controversial issues in management information systems, production/operations management or management science. May be repeated for credit five times as content varies. For doctoral students only.  
Prerequisite: Approval of department head.

SCMT 689 Special Topics in...  
Credits 1 to 4. 1 to 4 Lecture Hours. 0 to 4 Lab Hours.  
Selected topics in identified areas of operations and supply chain management.

SCMT 690 Theory of Research in Information and Operations Management  
Credits 3. 3 Lecture Hours.  
Design of research and the evaluation of research results using examples from the current research literature. Classification 6 students may not enroll in this course.  
Prerequisite: Approval of instructor.

SCMT 691 Research  
Credits 1 to 23. 1 to 23 Other Hours.  
Research for thesis or dissertation. Classification 6 students may not enroll in this course.

SCMT 705 Global Operations  
Credits 1 to 4. 1 to 4 Lecture Hours.  
Concepts, techniques and tools to design, analyze and improve core operational capabilities; production control; inventory management; quality management; process design; forecasting; product design; facility layout; capacity planning.  
Prerequisite: For Master of Science in Business students only.