

Information Systems and Operations Management Certificate

This certificate program focuses on developing a technological understanding of the current issues as they relate to information systems/information technology. Over and above technology issues, students also obtain a basic understanding of decision models for managing information systems. Students obtaining such a certificate usually obtain positions in the top management consulting firms or as strategic analysts in the transportation, telecommunications, and financial sector.

Students who earn the certificate will be recognized as having a thorough background in information technology. This intense immersion is geared toward students who are interested in careers in management consultancy, software or database development, enterprise management systems, telecommunication and business analysis.

Requirements for the certificate include completion of 20 credit-hours, 12 of which are derived from a core set of courses in system analysis, telecommunications and software development. Students may then choose eight hours of ISOM elective courses.

Required Courses (12 credits):

ISM 6128 - Advanced Business Systems Design and Development I (2 credits)

Object-oriented analysis and model specification for business software systems. Articulation of key requirements (data, processes, physical components, deployment) using logical modeling methodologies.

Prereq: None

Offered Fall and Spring, Modules 1 & 3

ISM 6129 - Advanced Business Systems Design and Development II (2 credits)

Continuation of ISM 6128. Focus on object-oriented design of systems. How to translate business requirements into specific task and component requirements.

Prereq: C grade or better in ISM 6128

Offered Fall and Spring, Modules 2 & 4

ISM 6222 - Business Telecom Strategy and Applications I (2 credits)

Survey of networking technologies used in WWW and e-commerce. TC/IP networks and related security, networking hardware, and Internet software standards.

Prereq: procedural programming language and microcomputer working knowledge.

Offered Fall and Spring, Modules 1 & 3

ISM 6223 - Business Telecom Strategy and Applications II (2 credits)

Both introduction and traditional telephony and discussion of issues companies face upon consolidation of voice and data networks. Technological developments, product announcements, and market activity, with ultimate focus on strategy of voice/data integration.

Prereq: ISM 6222 or consent of instructor.

Offered Fall and Spring, Modules 2 & 4

ISM 6257 - Intermediate Business Programming (2 credits)

Focus on application in business systems. Concepts such as classes, inheritance, polymorphism, interfaces, error handling, multi-threading, database connectivity, etc., and their use in business information systems.

Prereq: None

Offered Fall and Spring, Modules 1 & 3

ISM 6258 - Advanced Business Programming (2 credits)

Event-driven, component-based programming. GUI components, and client end system design and implementation in distributed systems, as well as database development, networking, security, and object-oriented concepts.

Prereq: C grade or better in ISM 6257
Offered Fall and Spring, Modules 2 & 4

Elective Courses (8 credits, choose any four courses):

ISM 6215 - Business Database Systems I (2 credits)

Fundamentals of data storage and retrieval models for business applications. Data modeling and database design principles. Theoretical foundations and exercises presented for relational data model and SQL.

Prereq: C grade or better in ISM 6129
Offered Fall and Spring, Modules 1 & 3

ISM 6216 - Business Database Systems II (2 credits)

Continuation of ISM 6215. Focus on implementation and programming issues.

Prereq: C grade or better in ISM 6215
Offered Fall and Spring, Modules 2 & 4

ISM 6259 – Business Programming (2 credits)

Prereq: C grade or better in ISM 6222 & ISM 6223
Offered Fall and Spring, Module varies

ISM 6236 – Business Objects I (2 credits)

Overview of main tools for business objects in enterprise programming and illustrated with hands-on experiences. Distributed object models, component architectures, design methodologies and patterns, languages and development environments, and databases and repositories.

Prereq: C grade or better in ISM 6216 & ISM 6223
Offered Fall and Spring, Module varies

ISM 6423 – Data Analysis and Decision Support (2 credits)

Overview of various solution methods for data analysis programs such as clustering, classification, and regression that occur in business decision making. How methods support decision making.

Prereq: None
Offered Fall and Spring, Module varies

ISM 6485 - Electronic Commerce and Logistics (2 credits)

Underlying technologies that herald innovations. How to capitalize on new electronic commerce and logistics in business.

Prereq: None
Offered Fall and Spring, Module varies

MAN 6511 - Production Management Problems (2 credits)

Problems in the management of industrial enterprise; management principles and mathematical analysis applied to manufacturing; product development and production; materials and production control; employee relations.

Prereq: None
Offered Fall and Spring, Module varies

MAN 6528 - Principles of Logistics/Transportation Systems (2 credits)

Logistics management in current business environment.

Prereq: None
Offered Fall and Spring, Module varies

MAN 6573 - Purchasing and Materials Management (2 credits)

Industrial/institutional purchasing cycle for operating supplies, raw materials, components and capital equipment within context of materials management organizational concepts. Basic principles, policies, and procedures involved in requirement determination; procurement

decision process; purchasing function; and materials management concept, organization, and philosophy.

Prereq: None

Offered Fall and Spring, Module varies

MAN 6581 - Project Management (2 credits)

Role of manager in organization and ways of structuring project organizations; fundamentals of scheduling; time/cost tradeoffs, budgeting, and cost estimation; and monitoring.

Prereq: None

Offered Fall and Spring, Module varies

Total Credits: 20