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Information Technology Management

ITM100 Introduction to Information Technology **4 Credit Hours**

Explores fundamental technical issues pertaining to computers and information technology. Introduces hardware and software components of an information system, their mutual relationship, dependency, and historical evolution.

ITM200 Introduction to Networking **4 Credit Hours**

Introduces underlying concepts of data communications, telecommunications, and networking. Emphasizes terminology and technologies in networking environments, and provides a general overview of the field of networking.

ITM210 Introduction to Database Management **4 Credit Hours**

Provides an overview of the skills and knowledge necessary for the development and management of relational database systems. Topics include database creation, modeling structures, physical and logical components, accessing techniques, and SQL. Concepts are explored through the use of MS Access.

ITM220 Introduction to Web Design and Graphics **4 Credit Hours**

Introduces students to concepts of website structure, basic web page layout using text and multimedia, content management, and user experience. Essentials of conceptual design of web pages and basic Internet topics are explored.

ITM230 Fundamentals of Object Oriented Programming **4 Credit Hours**

Provides an introduction to the principles of computer programming using a current programming language, such as Visual Basic, .NET, C++, or Java. Intended to be a beginning programming course, focusing on basic principles of object-oriented design.

ITM240 Information Systems Analysis and Design **4 Credit Hours**

Covers the analysis, planning, and development of information systems. Explores the different phases and related activities of the system development life cycle, and how system components should be implemented in solving business problems.

ITM250 Information Technology and Law **4 Credit Hours**

Explores legal and ethical issues that pertain to information technology management, such as digital property rights, data protection, identity protection, individual privacy, and systems integrity.

ITM300 Fundamentals of Network Security Management **4 Credit Hours**

Provides network administrators with the knowledge to design and implement an effective security strategy for networking environments. Covers network security design concepts utilizing anti-virus tools, security policies and practices, and setting up and securing a VPN. Examines network configurations, password management, security through hardware, software, firewalls, and packet filtering.

Prerequisite: ITM200

ITM301 Network Protocols and Techniques **4 Credit Hours**

Explores communications protocols used to connect the Internet and Intranet systems, such as TCP/IP, and other Internet protocols. Addresses concepts such as link layers, logical addressing (IP), physical Address Resolution Protocol

(ARP), Reverse Address Resolution Protocol (RARP), Internet Control Message Protocol (ICMP), and Domain Name System (DNS), and topics related to transition, implementation, security, and mobility.

Prerequisite: ITM200

ITM302 Disaster Prevention and Recovery

4 Credit Hours

Covers the analysis of computer incidents from an investigative standpoint. Applied topics include how to isolate systems, recover key files, conduct a live analysis, and address operating system specific issues and the logistics of recovery from data catastrophes or malware infection. This course also examines methods for digital forensic investigation.

Prerequisite: ITM301

ITM310 Principles of Database Management

4 Credit Hours

Explores database terminology and concepts, logical system organization, data models, entity concepts, and data manipulation through SQL. Students are introduced to concepts of database security, networking, and database access.

Prerequisite: ITM210

ITM311 Database Analysis and Design

4 Credit Hours

Explores the process and methodology for database analysis and design. Topics include relational and hierarchical development, use of various database models, indexing, and database integrity. Through hands-on assignments and team projects, students understand how to translate business data requirements into database systems.

Prerequisite: ITM210

ITM312 Database Programming

4 Credit Hours

Covers the principles of relational database programming using a case-based, problem-solving approach. The use of tables, queries, forms, reports, embedded SQL, dynamic SQL, and ODBC interfaces will be studied. Students learn the essentials of developing database applications, including the design, creation, and maintenance of databases.

Prerequisite: ITM311

ITM320 Fundamentals of Website Management

4 Credit Hours

Introduces students to principles of website management, including techniques, strategies, hardware, and software necessary to operate and maintain a successful and secure website.

Prerequisite: ITM220

ITM321 Web Graphic Development

4 Credit Hours

Explores web graphic development techniques including simple image conversions, creating and editing, layers, splash screens, transparent GIFs, adding text to images, image adjustment, and 3D effects and surfaces.

Prerequisite: ITM220

ITM322 Web Development and Animation

4 Credit Hours

Explores creating dynamic websites. Students will be introduced to techniques such as working with tables and frames; objects and images; symbols and instances; and adding animation image maps, rollovers, and animated GIFs. Character design, creation and motion, tweening, effects, and storyboarding will also be explored.

Prerequisite: ITM321

ITM400 Intrusion Detection and Management**4 Credit Hours**

Explores standard intrusion methodologies and forensics, such as discovery, foot-printing, targeting, penetration, escalation of privileges, and maintaining access. Concepts concerning means for countering and prevention are investigated.

Prerequisite: ITM301

ITM401 Network Monitoring and Documentation**4 Credit Hours**

Examines standard intrusion detection models and collects the full spectrum of data types needed to identify and validate intrusions on network infrastructures. Investigates typical network security monitoring hardware, tools, design, and deployment. Standard vulnerability packet analysis scenarios will provide an in-depth appreciation of monitoring networking environments at the corporate level.

Prerequisite: ITM400

ITM410 Database Information Security and Privacy**4 Credit Hours**

Develops the issues and challenges related to database and content security, and identifies possible solutions. Examines database security methodologies for the control, protection, and access to the contents of a database, as well as the preservation of the integrity of the data.

Prerequisite: ITM311

ITM411 Data Mining Techniques and Applications**4 Credit Hours**

Covers the principles, processes, and techniques employed by data mining for discovering the underlying relationships in large amounts of data. Topics covered include the data mining process, data preparation, and model development/validation, as well as a number of pattern recognition techniques. Techniques covered include the statistical pattern recognition and decision trees.

Prerequisites: ITM312, MAT216

ITM420 Web Technologies**4 Credit Hours**

Covers applications for creating web pages using scripting language. Basic hypertext elements, including headings, titles, document body, paragraphs, lists, anchors, links, and meta tags, and graphic design enable students to work with documents and images for the creation of a website.

Prerequisite: ITM321

ITM421 Web Services and Enterprise Application Integration**4 Credit Hours**

Covers web services and enterprise application technology. Topics include various approaches and architecture. Other technologies involve using web services as part of service-oriented architecture as a means of integration or using HTTP as a complete application protocol that defines the semantics for service behavior.

Prerequisite: ITM320

ITM498 Capstone: Senior Project**6 Credit Hours**

Integrates the course work in the student's major to assist in learning the process and challenges of implementing a professional information technology project. Students will follow a structured project design process to plan, complete, document, and present their senior project. Students from different tracks meet in groups to implement a business plan. Upon completion of this course, the entire project will serve as part of each student's professional portfolio.

Prerequisite: Departmental approval

