Computer Information Systems (CINS)

Courses

**CINS 5003 Research Methods and Graduate Seminar: 3 semester hours.**
Series of lectures given by faculty and by visiting computer and information scientists and information technologists.

**CINS 5013 Information Resources Management: 3 semester hours.**
Topics include information systems analysis, design, application, operation, management, and methods for integrating information resources into a decision support framework.

**CINS 5033 Database Management Systems: 3 semester hours.**
Fundamentals of database management systems, techniques for the design of databases, and principles of database administration. The course emphasizes theories of data modeling, database design, database application development, and database management. Topics include conceptual models, query languages, and centralized, distributed, and client/server architectures. Special importance is assigned to the design of databases and the development of client/server architectures. Other topics include database integrity, security, error recovery, and concurrency control.

**CINS 5043 Data Communications and Computer Networks: 3 semester hours.**
A broad introduction to network technologies, architectures, services, and management necessary to meet business needs, including network and internet designs, applications, and an overview of the telecommunications industry.

**CINS 5063 Data Structures and Algorithms: 3 semester hours.**
Advanced course in data structures with an emphasis on common applications such as pattern matching, data compression, and spell checking. The goals are to provide an insight into data structures, to show how to evaluate data structures, and to provide a basis for making wise choices of data structures in the development of software application systems. The course relates the principles of data structures to the implementation of commercial applications and widely used utilities such as diff (for finding the string edit distance), grep (for pattern matching), and compress (for data compression).

**CINS 5073 Information Technology: 3 semester hours.**
Introductory graduate-level course for CIS majors. This course explores the "information technology (IT) infrastructure," that is, the complex system of computers, networks, software, and delivery goals which collectively form the platform for assimilating and delivering information products and services to an organization and its customers, clients, and suppliers.

**CINS 5103 Decision Support Systems: 3 semester hours.**
Use of decision support systems in business-related decision-making, an overview of the business environment, use models, user interfaces for decision support systems, and decision support systems examples.

**CINS 5153 Object-Oriented Analysis and Design: 3 semester hours.**
An introduction to object-oriented software development using an object-oriented programming language such as C++. Emphasis is placed on both object-oriented design and efficient implementation of the design. Topics include principles of software engineering, management issues, prototyping, development, testing, debugging, and maintenance of software systems. The central theme is to build quality software through reuse.

**CINS 5173 Information Storage and Retrieval: 3 semester hours.**
Comprehensive coverage of components, applications, and issues of global information technology management for worldwide organizations.

**CINS 5183 Software Engineering: 3 semester hours.**
Specifying software requirements and an overview of analysis and design techniques that can be used to structure applications. Topics in software requirements include interacting with end-users to determine needs and expectations, identifying functional requirements, and identifying performance requirements. Analysis techniques include prototyping, modeling, and simulation. Design topics include the system lifecycle, hardware and software trade-offs, subsystem subsystem definition and design, abstraction, information hiding, modularity, and reuse.

**CINS 5193 Enterprise Information Systems: 3 semester hours.**
Introduce Business Processes used in common information systems such as Human Resources, Customer Relationship Management, Supply Chain Management, Enterprise Resource Planning, and Knowledge Management Systems. Students learn the development of modules using open source systems.
Prerequisites: CINS 5063 (http://catalog.pvamu.edu/search/?P=CINS%205063) and CINS 5033 (http://catalog.pvamu.edu/search/?P=CINS%205033).

**CINS 5203 Web Application Dev I: 3 semester hours.**
Course focuses on the design and development of "client-side" web applications. Topics include Web 2.0. web application development methods, client-side scripting, session management, Ajax-enabled Rich Internet Applications, and reusable web application components. Technologies such as JavaScript, applets, Dreamweaver, Flash, XML, XHTML and Cascading Style Sheets are explored. The course includes an emphasis on the principles of good software engineering.
Prerequisites: CINS 5063 (http://catalog.pvamu.edu/search/?P=CINS%205063).

**CINS 5243 Web Application Development II: 3 semester hours.**
Course covers server-side web programming of Internet applications. This course will concentrate on the principles of good software engineering and teach Web programming by example. It builds on the foundation of client-side technologies.
Prerequisites: CINS 5203 (http://catalog.pvamu.edu/search/?P=CINS%205203).
CINS 5303 E-Commerce: 3 semester hours.
The evolution of electronic commerce, where business is conducted between organizations and individuals relying primarily on digital media and transmission. Participants will investigate the opportunities and challenges of exchanging goods and services over communications networks as well as the manner in which business relationships are being reshaped. Course activities are designed to provide both managerial and entrepreneurial assessments of anticipated advances in information technology with respect to business systems and electronic markets.

CINS 5313 Information Assurance: 3 semester hours.
Topics include information security engineering, introduction to various information and Internet attack, defense technologies, operating system vulnerabilities and safeguards, and cryptography. Prerequisites: CINS 5043 and CINS 5063.

CINS 5323 Multimedia Applications: 3 semester hours.
The background needed for the design and development of computer-based business systems that combine text, still images, sound, animation, and full-motion video. The course will examine hardware characteristics necessary for the development and execution of such systems, design methodologies used in planning these systems, and authoring languages used to create such systems. Students will be required to design, create, and present at least one multimedia system for evaluation by the class.

CINS 5343 Mobile & Wireless Info Systems: 3 semester hours.
Course provides coverage of current and emerging applications including wireless and mobile infrastructure, devices, middleware, and network access issues. Topics include applications of mobile and wireless information systems, mobile and wireless data communication and information exchange, mobile and wireless information system security, hardware and software. Prerequisites: CINS 5043.

CINS 5383 Software Project Management: 3 semester hours.
The course provides an in depth examination of software project management principles and activities. Methods for managing and optimizing software development process are discussed, along with techniques for managing software products from concept through development. Prerequisites: CINS 5183.

CINS 5893 Applied Research: 3 semester hours.
Research under the supervision of a thesis advisor; can not be used as a technical elective.

CINS 5906 Masters Thesis: 6 semester hours.
A candidate for the Master of Science in Computer Information Systems with thesis option is required to perform a study, a design or investigation, under the direction of a faculty advisory committee. A written thesis is required to be presented, defended orally and submitted to the faculty advisory committee for approval.

CINS 5913 Masters Project: 3 semester hours.
A candidate for the Master of Science in Computer Information Systems with project option is required to perform a study, design, or investigation, under the direction of a graduate faculty advisor. An oral presentation and a written report are required. Prerequisite: candidacy for the Non-Thesis-Option of the Master of Science in Computer Information Systems.

CINS 5983 Special Topics in Computer Information Systems: 3 semester hours.
Special topics in computer information systems or a special interest subject that is offered infrequently. Several different topics may be taught in one semester, such as Information Security or Data Warehousing.

CINS 5993 Independent Study: 3 semester hours.
Individual studies in advanced computer science and technology.