

# University of Arkansas at Monticello

## School of Computer Information Systems

### CIS Course Descriptions

#### **CIS 1013 Introduction to Computer-Based Systems**

3 credits: 3 hours lecture

An overview to the field of computer systems, languages, hardware, and the Internet. Introduction to the use of microcomputer operating systems, email, distance learning software, library utilization, and software packages.

#### **CIS 1193 PC Hardware and Software Maintenance**

3 credits: 3 hours lecture

An introduction to computer maintenance, emphasizing hardware and software management, system maintenance, and troubleshooting in the PC environment.

#### **CIS 198V Special Topics**

Variable Credit (1-3 hours)

Detailed study of one of the specialized areas of computer management, emphasizing basic knowledge and skills application.

#### **CIS 2203 Programming Logic and Design**

3 credits: 3 hours lecture

Corequisite: Enrollment in General Education Mathematics

Emphasis on fundamental problem solving, programming logic, and algorithm specifications using various modeling tools; coding of algorithms applicable to high level programming languages.

#### **CIS 2223 Microcomputer Applications**

ACTS Equivalent Course # CPSI 1003 Introduction to Computers

3 credits: 3 hours lecture

Corequisite: ENGL 1013 and MATH 184 or higher-level mathematics

The study and use of microcomputer-based applications software to increase business and personal productivity. Realistic computing problems will be solved using sophisticated software packages.

#### **CIS 3103 Advanced Microcomputer Applications**

3 credits: 3 hours lecture

Prerequisite: CIS 2223 and Junior standing or instructor's permission

The advanced study, use, and integration of microcomputer-based applications software to increase business and personal productivity.

### **CIS 3123 Linux Operating System**

3 credits: 3 hours lecture

Prerequisite: CIS 2203

Students will learn systems administration and troubleshooting concepts that include account maintenance, operating system security, file system maintenance, usage monitoring, scripting, as well as how the operating system handles processing.

### **CIS 3133 Python Programming**

3 credits: 3 hours lecture

Prerequisite: CIS 2203

Detailed study of the python programming language utilizing basic knowledge and skills application. Common programming concepts such as if statements, loops, functions, and object-oriented programming (OOP) will be covered.

### **CIS 3233 Business Database Management Systems**

3 credits: 3 hours lecture

Prerequisites: General Education Mathematics, Grade of "C" or better in CIS 2223

Essentials of database design, creation and manipulation for business and accounting applications using a microcomputer-based package. Emphasis on advanced queries, reports and macros.

### **CIS 3243 Introduction to Java Programming**

3 credits: 3 hours lecture

Prerequisites: General Education Mathematics, Grade of "C" or better in CIS 2203

Introductory study of the Java programming language, emphasizing assigned readings, individual research and hands-on programming of object-oriented programs using Java classes and Swing components.

### **CIS 3423 COBOL**

3 credits: 3 hours lecture

Prerequisites: General Education Mathematics, Grade of "C" or better in CIS 2203

Techniques essential to problem-solving with the COBOL programming language. Practical application with emphasis on structured approach.

### **CIS 3433 Introduction to C# Programming**

3 credits: 3 hours lecture

Prerequisites: General Education Mathematics, Grade of "C" or better in CIS 2203

Techniques essential to problem-solving with the C# programming language. Practical application with emphasis on structured approach.

### **CIS 3443 Object-Oriented Programming Languages**

3 credits: 3 hours lecture

Prerequisites: General Education Mathematics, Grade of "C" or better in CIS 2203

Provides the student with theory and application of information systems development utilizing object-oriented (OO) technology. Topics include: analysis, design, data modeling, database management systems, and programming.

### **CIS 3453 World Wide Web Programming**

3 credits: 3 hours lecture

Prerequisites: General Education Mathematics, Grade of "C" or better in CIS 2203

Techniques essential to the design and construction of World Wide Web documents using Web programming languages and Web construction applications.

### **CIS 3463 Programming Mobile Applications**

3 credits: 3 hours lecture

Prerequisites: General Education Mathematics, Grade of "C" or better in CIS 2203

Designed to build upon and enhance the previously learned programming skills through the create and deployment of fully-functional mobile applications.

### **CIS 3473 Cyberlaw**

3 credits: 3 hours lecture

Detailed study of cyberlaw dealing with the Internet's relationship to technological and electronic elements, with an emphasis on intellectual property law, cybercrimes, cyberterrorism, and information warfare using computer and computer network technology.

### **CIS 3523 System Analysis and Design**

3 credits: 3 hours lecture

Prerequisite: CIS 3423 or CIS 3443

Application of skills and concepts developed in basic data processing course work to more advanced topics involving design, implementation, evaluation, and documentation of management information systems.

### **CIS 3553 Advanced COBOL**

3 credits: 3 hours lecture

Prerequisite: Grade of "C" or better in CIS 3423

Emphasis on structured methodology of program design, development, testing, implementation, and documentation of business-oriented applications. Includes coverage of sequential and random-access files and processing techniques, and development of programs and systems of programs for batch and interactive environments using COBOL programming language.

**CIS 3623 Computer Forensics**

3 credits: 3 hours lecture

An introduction to computer forensics and current technologies focusing on the analysis of the evidence contains on these devices.

**CIS 370V Computer Information Systems Practicum**

Variable credit

Prerequisite: Completion of 12 hours in Computer Information Systems or permission of School Dean

NOTE: May be repeated for a total of 6 hours credit with permission of the School Dean.

Introduction to research and specialized programming in computer information systems in the context of assisting with faculty research and programming projects.

**CIS 399V Special Topics**

Variable Credit (1-3 hours)

Detailed study of one of the specialized areas of computer information systems, emphasizing advanced knowledge and skills application.

**CIS 4253 Cybersecurity**

3 credits: 3 hours lecture

Prerequisites: Junior standing or instructor's permission

Detailed study of computer and network security, emphasizing practical hands-on exercises and projects to provide a basic understanding and proficiency in the use of network security tools and protocols.

**CIS 4263 Ethics in Information Technology**

3 credits: 3 hours lecture

Extensive and topical coverage of ethical issues associated with file sharing, infringement of intellectual property, security risks, Internet crime, identity theft, employee surveillance, privacy, and compliance.

**CIS 4503 Data Communications and Networking**

3 credits: 3 hours lecture

Prerequisite: CIS 3423 or CIS 3443

To provide a strong introduction to both communications and networking for the computer literate student, focusing on system software.

**CIS 460V Internship in Computer Information Systems**

Variable credit (1-3 hours)

Prerequisite: Advanced standing and permission of instructor and School Dean.

Practical experience in computer programming and database management. Students work in a business setting which allows for application of computer systems knowledge and development of information systems skills.

**CIS 4623 Database Management Systems**

3 credits: 3 hours lecture

Prerequisites: CIS 3423 or CIS 3443

Emphasis on file organization methods, file access methods, data structures for database processing and the process for database design and implementation. The study and use of Structured Query Language to develop database programs.

**CIS 4634 Application Software Development Project**

4 credits: 4 hours seminar

Prerequisites: CIS 3523 and CIS 4623

System simulation techniques; their application to business systems using an appropriate simulation language; systems design and development; extensive use of computers.

**CIS 4723 Seminar in Computer Information Systems**

3 credits: 3 hours lecture

NOTE: May be repeated for a total of nine hours credit with permission of School Dean.

Detailed study of one of the specialized areas of computer information systems, emphasizing assigned readings and individual research.

**CIS 479V Independent Study in Computer Information Systems**

Variable credit

Consult the Independent Study Courses subheading in the Academic Regulations section of this catalog for prerequisites and description.