

Course Descriptions**COMPUTER INFORMATION SYSTEMS****CISY 155****INTRODUCTION TO INFORMATION SYSTEMS - 3 semester hours****F, Sp, Su**

This course is designed to introduce the student to the use of application software packages.

It provides a hands-on experience on four specific computer application packages; word-processing, spreadsheets, database, and presentation using Microsoft Office suite.

Prerequisite: High school algebra or equivalent

CISY 201**MICROCOMPUTER CONCEPTS I - 3 semester hours****F, Sp, Su**

This course provides a hands-on computer experience through the use of microcomputers with an emphasis on a microcomputer operating system and an in-depth coverage of various computer application packages, such as, but not limited to, word processing, data base, spreadsheet software, and presentation graphics.

CISY 260**BUSINESS STATISTICS - 3 semester hours****F, Sp, Su**

Introduction to the use of statistical methods as a scientific tool in the analysis of problems in business and economics. Coverage will include probability, probability distributions, measures of central tendency and dispersions, sampling distributions, and estimation. Methods include hypothesis testing, regression and correlation, ANOVA and Chi square tests.

Prerequisite: MATH 121 or its equivalent

CISY 300**COMPUTER INTERNSHIP - 3 semester hours****F, Sp, Su**

Off campus (approved by the Department). Broad spectrum of "hands-on" work experience as an apprentice programmer/analyst in a computer environment for not less than 120 clock hours.

Prerequisites: CISY 155, CISY 358, CISY 362 or permission of department chair.

CISY 302**INTRODUCTION TO DECISION MAKING - 3 semester hours****F, Sp**

A study of rational decision making in the face of risk and uncertainty for an organization. Quantitative methods and techniques from optimization, probability, statistics, and discrete mathematics are discussed. A variety of business applications are considered.

Prerequisites: MATH 121

CISY 305**PROGRAMMING/LOGIC AND DESIGN - 3 semester hours****F, Sp**

This course teaches skills for development of algorithms for problem-solving. Students are taught how to use structured and other approaches to analyze problems and express their solutions. Through the introduction of programming concepts, this course enforces good style and outlines logical thinking.

Prerequisite: CISY 155

CISY 311**SYSTEMS ARCHITECTURE AND DESIGN - 3 semester hours****F**

This course is designed to introduce the student to the hardware components and architecture of general purpose computers. Topics include: data representation, data manipulation and storage technologies, data communication technology, mass storage and input/output technology, machine-level programming, application development, operating systems, mass storage access & management, application support and control, computer networks and distributed systems, advanced computer architecture, and evaluation and acquisition of computer systems.

Prerequisites: CISY 350 and a programming language

CISY 330**INTRODUCTION TO JAVA PROGRAMMING - 3 semester hours****Sp**

This course provides an introduction to JAVA and its environment. Students will learn how to develop small to medium-sized JAVA applications and JAVA applets. Special topics include JAVA programming concepts, Object-Oriented design, JAVA Application Programming Interface (API), Graphical User Interface(GUI) components, event handling, exceptions, graphics, input/output, and inheritance.

Prerequisite: CISY 155

CISY 344**INTRODUCTION TO PROGRAMMING USING VISUAL BASIC - 3 semester hours****Sp**

The course introduces the student to visual programming using Visual Basic. The course focuses on the principles of user interface design, general software engineering principles and application development using Visual Basic.

Prerequisites: CISY 350. May be taken concurrently.

CISY 350**MANAGEMENT INFORMATION SYSTEMS - 3 semester hours****F, Sp, Su**

An informative course designed to provide students with an understanding of the importance and the role of Business Information Systems in making decisions affecting the success of an organization, and the types of information systems that support business functions. Emphasis will be placed on the planning, development, installation and maintenance of business computer applications that are utilized in the typical business environment.

Prerequisite: CISY 155 or equivalent.

CISY 358**STRUCTURED COBOL PROGRAMMING - 3 semester hours****F**

A first course in business computer COBOL programming that emphasizes the structured methodology. Topics include arithmetic operations, conditional statements, editing printed output, headings, and debugging.

Prerequisite: MATH 121, CISY 350. May be taken concurrently with CISY 350.

CISY 359**ADVANCED STRUCTURED COBOL - 3 semester hours****Sp**

This course is the second part of a two-semester sequence. It introduces the student to the more advanced and sophisticated features of computer programming using ANSI COBOL.

Prerequisite: CISY 358 or equivalent

CISY 360**BUSINESS STATISTICS II - 3 semester hours****F, Sp, Su**

This course is a continuation of CISY 260. The course will cover several of the more advanced statistical methodologies of importance in analyzing business problems. Coverage includes experimental design, multiple regression, and correlation and non-parametric tests. Real world examples and realistic problems related to business and economics will be used.

Prerequisite: CISY 260 or equivalent.

CISY 362**SYSTEMS ANALYSIS AND DESIGN - 3 semester hours****F, Sp**

This course focuses on the application of information technologies (IT) to systems analysis, systems design, and systems implementation practices. Methodologies related to identification of information requirements function, feasibility (economic, legal and contractual, operational, political, technical and schedule) and related issues are covered. Development of data dictionary and the application of computer-aided system engineering (CASE) tools for diagramming information flow and procedures in system development process are covered.

Prerequisite: CISY 350, MGMT 300 and a programming language.

CISY 363**QUANTITATIVE METHODS AND ANALYSIS - 3 semester hours****F, Sp, Su**

The course covers basic quantitative methods in business and their applications to managerial decision making. Coverage includes such techniques as linear programming, duality and sensitivity analysis; transportation and assignment problems; basic inventory models, queuing theory and computer simulation. Students are exposed to the use of contemporary computer software for problem solving.

Prerequisites: MATH 121 or equivalent

CISY 364**OBJECT ORIENTED PROGRAMMING USING C++ - 3 semester hours****F**

This course introduces the student to Object-Oriented approach to program design and implementation using C++ programming language. The course exposes the student to objects, classes, data encapsulation, data abstraction, inheritance, structures and polymorphism. The course also covers C++ control constructs, functions, arrays, pointers and associated data structures, input/output streams and files.

Prerequisite: CISY 350 May be taken concurrently.

CISY 365**OPERATIONS/PRODUCTION MANAGEMENT - 3 semester hours****F, Sp, Su**

Operational problems are identified in service and manufacturing industries; the associated costs and other relevant factors are discussed; and models that provide guidance to decision making are developed and described. Content includes planning the production and service facilities, planning and control of production volume, and product quality.

Prerequisite: CISY 260 or equivalent

CISY 370**EXPERT SYSTEMS - 3 semester hours****F (odd years)**

This course introduces the student to the components of decision support and expert systems. These include user interfaces, knowledge bases, and inference engines. Existing commercial packages are reviewed. The course will work both on design and management of these systems.

Prerequisite: CISY 350

CISY 430**ADVANCED JAVA PROGRAMMING - 3 semester hours****Sp**

This course is the second part of a two semester Java programming course sequence. Students will learn how to write small to medium sized java applications and java applets. Special topics include key issues related to software engineering, object oriented design, Java Application Programming Interface (API), graphical user interface components, event handling, exceptions, input/output, and inheritance, data structures, and multithreading and animation.

Prerequisite: CISY 330**CISY 444****ADVANCED VISUAL BASIC (VB) PROGRAMMING - 3 semester hours****F**

This course is a continuation of CISY 344 - Introduction to Visual Basic (VB) Programming. Topics include advanced event-driven programming techniques including database programming, creating Active-X and COM components, and optimizing and deploying applications.

Prerequisite: CISY 344**CISY 460****MANAGING OPERATIONS - 3 semester hours****F**

Analysis of cases on operational activities in business and industry using quantitative and qualitative techniques with recommendations to improve their productivity and profitability. A case study approach to expose students to real-world business operations is used throughout the course.

Prerequisites: ACCT 202, CISY 360, CISY 363, CISY 365**CISY 463****OPERATIONS RESEARCH - 3 semester hours****F, Sp**

A survey of operations research techniques for solving "real world" business decision problems. This course is a continuation of CISY 363. Topics covered include integer, nonlinear and dynamic programming, Markov decision processes, decision theory and games. Emphasis is on modeling and algorithm development.

Prerequisites: MATH 121, CISY 363**CISY 464****ADVANCED C++ PROGRAMMING - 3 semester hours****Sp**

An advanced C++ programming course which focuses on Object-Oriented approach to program design and implementation using C++ programming language. Topics include objects, classes, data encapsulation, data abstraction, constructors and destructors, functions, arrays, pointers and associated structures, inheritance, virtual function and polymorphism, template, exception handling, input/output streams and file processing.

Prerequisite: CISY 364 or permission of instructor**CISY 465 SIMULATIONS - 3 semester hours****F, Sp (even years)**

This course introduces the student to the basic concepts of simulating complex business systems using the computer. Topics covered include discrete-event modeling, a specialized computer simulation language, and statistical analysis of simulation input and output data.

Prerequisites: CISY 260 or equivalent and a programming language

CISY 466**WEB APPLICATION DESIGN AND IMPLEMENTATION - 3 semester hours****F, Sp**

This course involves a study and application of the principles of web applications design. The design, development and implementation of dynamic web pages using Java Server Pages (SP), JavaBeans and EJB are covered. Students also learn how to use Unified Modeling Language (UML) to build web applications with both server side and client side scripting.

Prerequisite: An introductory level programming language or permission of instructor

CISY 467**NETWORKING - 3 semester hours****Sp**

An introduction to the transmission media used in digital communications. The course focuses on the study of concepts, components and issues involved in the design, implementation and management of computer communications networks. Local area networks, wide area networks and distributed networks are studied. Furthermore, most recent developments in the design of digital communications relating to the design of computer networks for voice, data and video transmission are also covered.

Prerequisite: CISY 155 or equivalent.

CISY 480**DATABASE AND SECURITY - 3 semester hours****F, Sp**

A study of the principles of database systems with emphasis on the relational model of data, and covering both the user and the system perspectives. User issues include data modeling, informal and commercial query languages and the theory of database design. System issues include file structures, query formulation, form design, and report generation using different database management systems (DBMSs).

Prerequisite: CISY 311, CISY 350, CISY 362, CISY 358

CISY 486**CURRENT ISSUES IN INFORMATION TECHNOLOGY - 3 semester hours****F, Sp**

The course provides an overview of current changes in information technology and their impact on organizations. This is a capstone course for information systems majors and will integrate material from all required courses and the respective changes that have taken place. This class uses many learning styles to achieve its purpose. The class is based on assigned readings, presentations by business leaders, classroom discussions, hands-on use of technology, research and presentation.

Prerequisite: To be taken during the last semester at Virginia State University.

CISY 490**PRODUCTION AND RESOURCE PLANNING - 3 semester hours****Sp**

An advanced operations/production course which includes topics on modern production and service facilities, planning and scheduling activities, material requirements planning, resource planning, and quality assurance.

Prerequisite: CISY 460, CISY 485

CISY 495**SPECIAL TOPICS - 1-3 semester hours****F, Sp, Su**

In-depth treatment within a seminar format of a timely topic in Information Systems and Decision Sciences.

Prerequisite: Permission of the instructor