COMPUTER INFORMATION SYSTEM (CIS)

CIS 110 Programming Fundamentals 5 Credits
Covers essential programming concepts and skills common to most modern programming languages. Students learn to design, code, test, and debug Python programs, including working with data files.
Prerequisite: Prerequisite: C or better in MATH 092 or higher. MATH& 146 (or CMATH 146) can be taken concurrently.

Distribution Requirements: Specified Electives

CIS 160 Desktop Application Development 5 Credits
Introduces programming structures, concepts, techniques and terminology using the Visual Studio development environment and the C# programming language. Familiarity with basic computer operations using Microsoft Windows, file management, the internet, and basic application software is required. CIS 110 recommended.
Prerequisite: Prerequisite: C or better in MATH 097 or MATH& 146.

CIS 166 Programming Business Objects 5 Credits
Introduces concepts and techniques of object-oriented programming, validation and storage of business data sets, and user interfaces.
Prerequisite: Prerequisite: CIS 160.

CIS 169 Requirements Analysis 5 Credits
Introduces planning, analysis, and design of software, with an emphasis on development methodologies, design process, and communication techniques.
Prerequisite: Prerequisite: CIS 166.

CIS 182 SQL Fundamentals 5 Credits
Introduces Structured Query Language (SQL). Emphasizes techniques for writing efficient SQL queries using a common commercial implementation of SQL. CIS 110 recommended.
Prerequisite: None

CIS 185 HTML, CSS, Javascript 5 Credits
Introduces creating web pages with HTML5 and CSS. Covers JavaScript coding to create, test, debug, and document programs. CIS 166 recommended.
Prerequisite: Prerequisite: CIS 160.

CIS 189 XML/Dom 5 Credits
Introduces Extensible Markup Language (XML), proper structure for XML documents, validation, and data manipulation.
Prerequisite: Prerequisite: CIS 185.

CIS 195 Introduction to Cloud Computing 5 Credits
Introduces basic concepts and operation of cloud environments. Includes virtual machines (VMs), storage, and security.
Prerequisite: Prerequisite: Completion of CIS 160 or concurrent enrollment in CIS 160.

CIS 218 Powershell, Cybersecurity, Ethics 5 Credits
Introduces PowerShell scripting, basic cybersecurity concepts, and ethical issues for software development.
Prerequisite: Prerequisite: CIS 166 and C or better in ENGL& 101.

CIS 235 Rich Internet Applications 5 Credits
Explores development of rich internet applications using standard web technologies and preconfigured server-side resources.
Prerequisite: Prerequisite: CIS 182 and CIS 185.

CIS 245 Business Information Systems 5 Credits
Introduces business information systems. Explores the role of software developers and database managers in developing, refining, and supporting these systems.
Prerequisite: Prerequisite: CIS 266.

CIS 266 Introduction to Business Applications 5 Credits
Explores how to edit, present, and store data using object-oriented programming and relational databases.
Prerequisite: Prerequisite: CIS 166 and CIS 182.

CIS 269 Software Maintenance 5 Credits
Covers responsibilities and techniques of the maintenance programmer. Includes version control software, teamwork, basic project planning, select cybersecurity issues, and software testing.
Prerequisite: Prerequisite: CIS 169 and CIS 235.

CIS 282 SQL Programming 5 Credits
Continues development of relational databases and associated services using Structured Query Language (SQL) in Microsoft SQL Server. Introduces transaction processing, stored procedures, indices, constraints, triggers, and views.
Prerequisite: Prerequisite: CIS 182 and CIS 160.

CIS 284 Web Application Development 5 Credits
Introduces development of interactive web pages using ASP.NET server-side programming. Web programming with SQL databases, addresses security issues, develops web services, and introduces deployment to cloud services.
Prerequisite: Prerequisite: CIS 166, CIS 182, and CIS 185.

CIS 287 Mobile Application Development 5 Credits
Covers mobile app development, packaging, and release for Android and iOS devices.
Prerequisite: Prerequisite: CIS 166 and CIS 185.

CIS 288 Ethical Coding with AI 5 Credits
Explores ethical coding using AI and creates helpful open source tools for the community.
Prerequisite: CIS 160, CIS 185, and CIS 282

CIS 293 Application Development-Special Projects 2-5 Credits
Provides an opportunity for a special project selected jointly by the student and instructor. Written proposal and project timeline must be approved by the instructor prior to registration. Requires a special agreement form. Credits vary based on areas covered and application complexity.
Prerequisite: None