

Computer Technologies

Computer Technologies (CIS) Classes

CIS107G : Essentials of Computer Literacy

This course is designed for students with little or no computer skills or for those who are interested in refreshing their computer knowledge. Students will use a fully integrated, hands-on approach to understand the essential components of computer technology. Students will identify the major hardware and software components of a computer, gain proficiency in the Windows operating system environment, and learn how to manage files and folders. Students will also learn the essential elements of Office Application Software including word processing, spreadsheets, presentation software, and database applications. In addition, students explore and use the Internet for research, while evaluating electronic information, safeguarding data, and properly using email. Students will also learn the terms and skills needed in today's computer literate society.

Credits 4

Theory Hours 2

Lab Hours 4

Prerequisites

Placement Testing

Notes

Students cannot receive credit for both CIS107G and CIS110G.

CIS110G : Introduction to Computers

In this foundation course to gain computer literacy, students will use a fully integrated, hands-on approach to understand the critical components of computer technology. Students will examine personal computer hardware and software components, gain proficiency in the Windows operating system environment, and learn the fundamental elements of Office Application Software including word processing, spreadsheets, presentation software, and database applications. Students will also explore various facets of the Internet including using the Internet for research, working with online learning tools, evaluating electronic information, safeguarding data, proper use of email, and other current web technologies.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisites

Placement Testing

Notes

Students cannot receive credit for both [CIS107G](#) and CIS110G.

CIS111G : Computer Technologies

The purpose of this course is to provide students with the fundamental background and understanding of various critical components of computer technology. A required course for all computer majors, this foundation course provides students with a firm foundation in computer technology including hardware components, software applications, processors, memory management, secondary storage, file management,

operating systems, networking essentials, ethics, and emerging technologies. Students will also explore various ethical issues surrounding the use of digital information, as well as the impact of technology on business and society.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisites

[CIS110G](#) or [CIS107G](#), or permission of instructor

CIS112G : Introduction to Object Oriented Programming

This course will emphasize systems thinking as an approach to solving computer problems and understanding formal logic. Programming theory and logic will be presented with hands-on practice in model environments, while students are provided with essential problem-solving methods, techniques, and disciplines. Control flow, data manipulation, and planning methods will be emphasized. Students will develop confidence in applying programming solutions, will be exposed to pertinent terminology, and will learn the effective use of reference materials.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisites

[CIS107G](#) or higher

CIS113G : Database Design and Management

This course is an introduction to database analysis, planning, designing, and implementation with emphasis on the relational model. Students will study the theory behind relational databases, relational database nomenclature, and relational concepts. The course will include studying Structured Query Language (SQL) and optimizing databases through normalization. Students will apply their knowledge with hands-on exercises designed to teach the intricacies of database design methodology. A final project will conclude the course.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisites

Placement Testing or [CIS111G](#) or [CIS110G](#) or [CIS107G](#) or permission of Instructor

Semester Offered

Fall semester

CIS118G : Introduction to .NET

This course will provide students with an understanding of structured, procedural, and event-driven programming. Students will develop techniques for problem solving through the application of programming methods and will gain experience in the nuts-and-bolts of program design as they complete lab work and assignments. Students will learn to use the Visual Basic .NET language and programming environment.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

CIS112G: Introduction to Object Oriented Programming

CIS124G : Web Development I

In this course, students will gain knowledge of the web site development process and learn how to develop web pages using XHTML standards. Through the use of different text editors and validation programs, students will study in detail XHTML syntax and will develop well-formed and valid web pages. Students will also incorporate text, graphical, and form components into web pages and will use text formatting, tables, and CSS for page layout and site design.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisites

[CIS110G](#), [CIS111G](#), or [CIS107G](#) or permission of instructor

CIS134G : Web Style and Design

Students will learn the basic layout and imaging skills for attractive, informative, and entertaining Web pages. Course topics include information architecture, site design, layout, type, color, scanning, image manipulation and formats, copyrights, element integration, and compatibility issues with multiple browsers. Current software specific to Web publishing will be utilized.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisites

[DGMT115G](#), [CIS124G](#)

CIS146G : Linux I

The purpose of this course is to provide students with the fundamental skills needed to work in a Linux environment. A recent version of the popular public domain operating system Linux will be used as a vehicle for course delivery. Topics to be covered include the file system, file management, text editors, running and creating shell scripts, Xwindows, and basic system administration. Installing the Linux operating system and networking issues will also be discussed.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

CIS112G: Introduction to Object Oriented Programming

CIS148G : Introduction to Java Programming

The purpose of this course is to provide a solid foundation in the Java programming language. Program planning, object-oriented design, and Java language syntax will be emphasized. This course will prepare students for advanced study of the Java language as well as introduce students in other fields of computer study to general object programming.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

CIS112G: Introduction to Object Oriented Programming

CIS149G : Linux Applications

In this course, students will explore the various common business applications available to run on Linux. This includes Star Office, Open Office, Evolution, Mozilla, Gimp, and many other useful, open-source programs which are generally available free from sources on the Internet.

Credits 3

Theory Hours 2

Lab Hours 2

CIS154G : Comprehensive Business Computer Applications

The main focus of this course is on the business applications of software, including word processing, spreadsheets, databases, presentations, and business utilization of the internet and email. This course will also provide a comprehensive overview of computer terminology, hardware, and operating systems relative to the business environment. Through a project-based approach, students will learn advanced concepts and functions of business application software. To become more efficient and effective, students will solve real-world office technology problems using integrated software applications. Students will be able to manage customers and sales opportunities more effectively, create impressive sales and marketing materials in-house, manage email, and share information more efficiently using Microsoft Office and other productivity applications. This course is well-suited to those students who know the fundamentals of Microsoft Office yet need additional instruction to become thoroughly knowledgeable and experienced in its many applications.

**This course may be used in place of CIS156 to meet Business, Hospitality and Accounting program requirements.

Credits 4

Theory Hours 2

Lab Hours 4

Prerequisites

Placement Testing or permission of instructor

Notes

(Students cannot receive credit for both CIS154G and CIS156G.)

CIS156G : Computer Applications in Business

This course stresses project planning using technology, aiming to provide professionals the ability to meet the challenges of business. Through a project-based approach, students will learn advanced concepts and

functions of business application software. To become more efficient and effective, students will successfully solve real-world office technology problems using integrated software applications. Students will be able to manage customers and sales opportunities more effectively, create impressive sales and marketing materials in-house, manage email, and share information more efficiently using Microsoft Office. This course is well suited to those students who know the basics of Microsoft Office and need to become thoroughly knowledgeable and experienced in its many applications.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisites

[CIS110G](#) or [CIS107G](#)

CIS158G : Introduction to C++

This course introduces students to the fundamentals of structured programming and to the procedural aspects of the C++ programming language. Students will create programs to demonstrate the topics of program control, functions, arrays, and pointers. Microsoft's Visual C++ will be used as the primary development tool; however, other environments may also be utilized. Emphasis will be placed on the creation of platform-independent applications in order to allow students to become familiar with the core features of the C++ language.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

[CIS112G](#): Introduction to Object Oriented Programming

CIS177G : Introduction to Python

This course will provide a gentle, yet intense, introduction to programming using Python for highly motivated students with little or no prior experience in programming. The course will focus on planning and organizing programs, as well as the grammar of the Python programming language.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisites

[CIS110G](#) or [CIS107G](#)

CIS210G : Data Structures and Elementary Algorithms

This is an advanced, language-independent programming course. Students will master the skills necessary to develop and work with common programming Data Structures. Such topics as Arrays, Stacks, Queue, Linked Lists, Binary Trees, Hash Tables, Heap Concepts, and Graphs will be emphasized. The programming language used will be the students' choice of Java, VB.Net, or C#. Each student will be required to work in a team environment.

Credits 4

Theory Hours 3

Lab Hours 2

Prerequisites

[CIS118G](#), OR [CIS148G](#), OR [CIS158G](#), OR permission of the instructor

CIS216G : Web Server Administration

In this course students will discover how to manage web sites at the server level. Students will learn how to set up and maintain the hardware and software needed for both Internet and Intranet web sites. Emphasis will be placed on setting up a UNIX/Linux system with Apache web server; however, other platforms will be discussed throughout the course.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisites

[CIS146G](#), [CIS224G](#)

CIS218G : Advanced .NET

This course will expand the students' understanding of structured, procedural and event-driven programming using Visual Basic .NET. Students will learn advanced programming methods and will gain further experience in the nut-and-bolts of program design as they complete lab work and assignments.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

[CIS118G](#): Introduction to .NET

CIS223G : Advanced SQL

In this course, students will learn how to use Structured Query Language to manipulate and retrieve data from relational databases. Students will use SQL to modify database structure, add user permission to databases or tables, query the database for information, and update the contents of a database. Stress will be placed on working with large database management systems like SQL Server.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

[CIS113G](#): Database Design and Management

CIS224G : Web Development II

Building upon the web development skills taught in [CIS124G](#), this course will enable students to create dynamically built web sites using JavaScript and other client-side scripting languages. Students will also gain advanced XHTML and CSS skills and will gain familiarity with programming concepts and terminology common to many web scripting languages. Please note that if students have no previous programming experience, then [CIS112G](#) is a must prior to enrolling in this course.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

CIS112G: Introduction to Object Oriented Programming

CIS124G: Web Development I

CIS246G : Linux II

Building upon fundamentals previously acquired, students will further develop Linux skills and knowledge in a hands-on environment. Students will install a dual boot operating system, develop shell scripts for application management, configure various business productivity applications, discuss Linux security issues, and gain a further understanding of Linux administration with respect to using and configuring various network services.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

CIS146G: Linux I

CIS248G : Advanced Java Programming

In this course, students will extend their knowledge of object-oriented programming through the use of the Java programming language. They will develop applets for use in web pages as well as stand-alone applications. Application design, planning, language syntax, and a variety of Java environments will be covered. Individual and group projects are emphasized throughout the course.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

CIS148G: Introduction to Java Programming

CIS249G : Linux Databases

In this course, students will establish a firm foundation in Linux database installation, design, construction, and use. Students will install and use My SQL and Postgres SQL, two popular open-source database programs, along with a variety of useful tools to work with these databases. Students will also write basic PHP/Perl code to link these databases to websites.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

CIS113G: Database Design and Management

CIS146G: Linux I

CIS253G : Data Sharing

This course will provide the student with the skills necessary to share data across the Internet. Topics will include database queries, ASP, JSP, and CGI scripting, as well as security and form design. Current trends will be examined and discussed.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

CIS223G: Advanced SQL

CIS224G: Web Development II

CIS254G : PHP and MySQL

PHP is a server-side, cross-platform scripting language. It offers a server-side approach to database connectivity with an integrated environment where complex scripting code combines with plain HTML. This class enables students to create dynamic web applications with PHP and MySQL. Topics include the basics of PHP, mixing PHP and HTML, displaying dynamic content, using cookies, and database connectivity. Other topics may include: fusebox design and open-source prebuilt solutions.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

CIS113G: Database Design and Management

CIS224G: Web Development II

CIS258G : Advanced C++

This advanced programming course emphasizes the C++ implementation of object-oriented designs. It expands upon the structured techniques introduced in [CIS158G](#). While concentrating on the creation of C++ object systems, students will learn advanced language topics such as function overloading, default arguments, inheritance, virtual functions, and run-time type information.

Credits 3

Theory Hours 2

Lab Hours 2

Prerequisite Courses

CIS158G: Introduction to C++

CIS281G : Internship

This capstone course allows a limited number of students to receive on-the-job experience at an off-site location related to their specific area of academic concentration. Students are required to work eight hours per week at positions that meet the criteria established by the Internship Manual. A seminar meeting once per week will review internship progress and discuss issues related to successful employment. The course has one hour of lecture and eight hours of work for three credits. Department Elective.

Credits 3

Theory Hours 1

Lab Hours 8

Prerequisites

completion of coursework for the first three semesters of the student's program of study and approval of the Department Chair and/or Program Advisor

CIS291G : Advanced Topics

The purpose of this experience is to provide qualified students with the opportunity to pursue academic work outside the formal classroom setting. Independent Project is an ideal way for a student to specialize in a concentrated area within the Computer Technologies Department. In order to be eligible for this challenging opportunity, students must seek the approval of the Department Chair and work with a faculty advisor to set up a course of study. Students must submit an original project plan prior to acceptance.

Credits 3

Theory Hours 2

Lab Hours 2

CIS292G : Portfolio Preparation and Presentation

As a required capstone course, this course is an opportunity for students to demonstrate they have achieved the required goals and objectives for the CT/DGMT Programs. The course is designed to assist students with final portfolio preparation.

Credits 1

Theory Hours 1

Lab Hours 0

Prerequisites

Approval of the Department Chair and/or Program Advisor upon completion of coursework entering final semester