

COMPUTER SCIENCE (CS)

CS133WS Computer Language I: Web Scripting 4 credits (3 lec, 2 lec lab hrs/wk)

Prerequisite(s): (CS160) or (CS195)

This programming course introduces basic concepts of client-side and server-side scripting languages emphasizing concepts of good website design and construction with the use of scripting languages. Programming focus is on modern event-driven client-server software concepts using HTML/XHTML and JavaScript and PHP. Prior HTML/XHTML knowledge is required for success.

This course may be taken 1 time for credit.

Course classification: LDC

CS160 Computer Science Orientation 4 credits (3 lec, 2 lec lab hrs/wk)

This course introduces students to the computer science field and profession. Students will be introduced to computer science, programming and careers, as well as societal and ethical issues surrounding the use of computers. Students will have the opportunity to participate in team problem solving.

This course may be taken 1 time for credit.

Course classification: LDC

CS161 Introduction to Computer Science I 4 credits (3 lec, 2 lec lab hrs/wk)

Prerequisite(s): (CS160)

This course offers a history and overview of fundamental computer science concepts using an object-oriented programming language. Topics include object-oriented programming, software engineering, algorithm development, data representation, introduction to user interface design and sources of error.

This course may be taken 1 time for credit.

Course classification: LDC

CS162 Introduction to Computer Science II 4 credits (3 lec, 2 lec lab hrs/wk)

Prerequisite(s): (CS161)

This course covers software engineering principles and modern programming methods. Topics include event-driven programming for graphical user interfaces, recursion, stream and exception handling. This course also introduces analysis of algorithms, sorting and searching.

This course may be taken 1 time for credit.

Course classification: LDC

CS165 Mobile Application Development 4 credits (3 lec, 2 lec lab hrs/wk)

Prerequisite(s): (CS161)

This class gives a broad exposure to application development on mobile platforms. Flavor for this class is the Android family of devices including tablets and smartphones. Starting at the hardware level and working through the Java language building a spectrum of basic applications ranging from GPS mapping, media players, animation, and communication. Students will also touch on publishing a new app to the market. The starting point for the application development begins here.

This course may be taken 1 time for credit.

Course classification: LDC

CS180 Internship: Computer Science 1-12 credits (3 lab hrs/wk/cr)

Prerequisite(s): Instructor consent

Practical on-site experience that will allow students to explore workplace environments and career options.

This course may be taken 12 times for credit.

Course classification: LDC

CS195 Web Development I 3 credits (2 lec, 2 lec lab hrs/wk)

Prerequisite(s): (CIS120) or (CIS120X) or (CS160)

This class introduces the basic elements of beginning webpage creation using a text editor and HTML/XHTML. This class will focus on web terminology basic HTML/XHTML coding to include hyperlinks anchors tables forms and frames design principles and accessibility issues.

Students will explore the availability of tools for webpage creation site management validation and accessibility checks.

This course may be taken 1 time for credit.

Course classification: LDC

CS233WS Computer Language II: Server-Side Web Scripting 4 credits (3 lec, 2 lec lab hrs/wk)

Prerequisite(s): (CS133WS)

The course is designed to provide students with an introduction to programming web-based applications using a contemporary server-based programming language. Students will learn how to design, code, and implement interactive webpages with dynamically-generated content. Course assumes students have a working knowledge of HTML and client-side scripting.

This course may be taken 1 time for credit.

Course classification: CTE

CS244 Systems Analysis 3 credits (3 lec hrs/wk)

Prerequisite(s): (CS125DB) or (CS275)

This course will introduce methods and modeling tools used in the systems development process. Emphasis is on structured analysis of computer information systems. Assignments will include the use of project management software CASE tools and graphic tools applied to problems similar to those found in systems in business and industry.

This course may be taken 1 time for credit.

Course classification: LDC

CS261 Data Structures 4 credits (3 lec, 2 lec lab hrs/wk)

Prerequisite(s): (CS162)

This course covers complexity analysis, approximation methods, trees and graphs, file processing, binary search trees, hashing, and storage management.

This course may be taken 1 time for credit.

Course classification: LDC

CS275 Database Management 4 credits (3 lec, 2 lec lab hrs/wk)

Prerequisite(s): (CS133WS) or (CS161) or (CS165)

This course is designed to be broader than teaching specific database products. It will address database development, a concept which includes data modeling, database design, and database implementation. It will identify the entity-relationship and object data modeling techniques, and the importance of normalizing data models. Techniques of implementing these models into a relational database scheme will be presented.

This course may be taken 1 time for credit.

Course classification: LDC

CS276 Advanced SQL 4 credits (3 lec, 2 lec lab hrs/wk)

Prerequisite(s): (CS162 and CS275) or (CS233WS)

Focuses on design, development and implementation of SQL programming for all types of relational database applications including client/server and Internet databases. Learn to write complicated interactive and embedded SQL statement and learn the implications of multi-user database applications.

This course may be taken 1 time for credit.

Course classification: LDC

CS280 CWE: Computer Science 1-12 credits (3 lab hrs/wk/cr)

Prerequisite(s): Instructor consent

Practical on-site experience that will allow students to test knowledge learned in the classroom and explore a variety of workplaces in which to apply that knowledge

This course may be taken 12 times for credit.

Course classification: LDC

CS297 SD Professional Capstone 4 credits (3 lec, 3 lab hrs/wk)

Prerequisite(s): (CS244 and CS261)

This course provides an opportunity to demonstrate proficiency in software development. Students solve a substantial problem using concepts that span several topic areas in CIS Software Development program of study. It will integrate both technical and personal skills including job exploration, effective interview, personality tests, professional networking, ethics, professional conduct, and trade publications. Students will also learn to present the work in both oral and written format. The course is designed as a project-based experience.

Permission from instructor required.

This course may be taken 1 time for credit.

Course classification: CTE