

# CEN: COMPUTER ENGINEERING

## Courses

	Credit(s)	Contact	Lab
CEN 3024C. SOFTWARE DEVELOPMENT I. SOFTWARE DEVELOPMENT I Prerequisite: Minimum grade of C in either COP 3330C or COP 2805C This course is an introduction to software development concepts in the context of hands-on project implementation using SDLC, version control, design with UML, documentation, testing, and 2&3-tier architecture. (Special Fee: \$42.00).	3	2	1
CEN 3100C. TECHNICAL WRITING AND COMMUNICATION FOR SOFTWARE DEVELOPERS. TECHNICAL WRITING AND COMMUNICATION FOR SOFTWARE DEVELOPERS Prerequisite: Minimum grade of C in ENC 1101 Prerequisite or Corequisite: Minimum grade of C in ENC 1102 This course is a study of the basics of technical writing and introduces students to common formats, such as the memo, letter, and report. The course will stress techniques to improve writing skills and how to apply techniques used in the technical writing process. Other topics covered include, but are not limited to, appropriate strategies for internal and external communication situations, audience analysis, and communication through technology.	3	2	1
CEN 3727C. USER INTERFACE AND USER EXPERIENCE. USER INTERFACE AND USER EXPERIENCE Prerequisite: Grade of C or higher in COP 3330C or COP 2805C User Interface and User Experience (UI/UX) Design covers concepts in human-computer interaction that focus on designing user interfaces (UI) and user experiences (UX). Topics include analyzing when to use various interfaces, modeling and representing user interaction with personas and scenarios, eliciting requirements and feedback from users, methods for designing and prototyping interfaces and UI/UX evaluation. The course also introduces students to current research and best practices on human behavior as it applies to user experience design. Students will learn to employ hardware and software to design and influence human/computer interaction.	3	2	1
CEN 3942. INTERNSHIP IN COMPUTING TECHNOLOGY & SOFTWARE DEVELOPMENT. INTERNSHIP IN COMPUTING TECHNOLOGY & SOFTWARE DEVELOPMENT Prerequisite: CEN 4025C or CIS 3083C, and departmental approval. This course is a work-based learning experience designed to immerse Computing Technology & Software Development students in learning opportunities in business and professional settings that are an extension of the Computing Technology & Software Development curriculum and allows students to enhance workplace skills while providing meaningful experience related to the student's career objectives. The internship experience is structured for learning with faculty supervision, reflection and evaluation. Students may enroll in up to a maximum of 4 credit hours of internships and must complete a total of 240 work hours for each 3 credit hour internship experience. Grade forgiveness cannot be applied.	3-4	variable	
CEN 4025C. SOFTWARE DEVELOPMENT II. SOFTWARE DEVELOPMENT II Prerequisite: Minimum grade of C in CEN 3024C This course is a continuation of Software Development I with larger and more complex projects. Enterprise-level applications are covered including distributed, and web-based systems using n-tier architecture. (Special Fee: \$42.00).	3	2	1

CEN 4333C. ADVANCED DATABASE DEVELOPMENT. ADVANCED DATABASE DEVELOPMENT Prerequisite: Grade of C or higher in CGS 2545C. This course covers professional-level database access from object-oriented systems, including complex SQL queries and stored procedures. Also covered are the use of object-relational frameworks and NOSQL databases through hands-on exercises with current RDBMS software. (Special Fee: \$42.00).	3	2	1
CEN 4350C. OPEN SOURCE WEB TECHNOLOGIES. OPEN SOURCE WEB TECHNOLOGIES Prerequisite: Minimum grade of C in either COP 2805C or COP 3330C This course covers Web application development using currently popular open-source/open-standard tools with concentration on the user-interface, business layer, database, and deploying to the web-server. (Special Fee: \$42.00).	3	2	1
CEN 4360C. MOBILE DEVICE SOFTWARE DEVELOPMENT. MOBILE DEVICE SOFTWARE DEVELOPMENT Prerequisite: Minimum grade of C in COP 2805C or COP 3330C This course covers the concepts and practice of software development for mobile devices with concentration in the user interface, data persistence, data communication, use of APIs for sound, mapping, GPS, sensors, etc. In this professional-level course students are expected to demonstrate use of several SDKs to build and deploy an application that is of significant scope. (Special Fee: \$42.00).	3	2	1
CEN 4370C. .NET SOFTWARE DEVELOPMENT USING C#. .NET SOFTWARE DEVELOPMENT USING C# Prerequisite: Minimum grade of C in COP 3330C or COP 2805C This course covers .NET Windows and Web application development with concentration in use of the .NET Framework class library, N-tier architecture, user interface, collections, database connectivity, and deployment. (Special Fee: \$42.00).	3	2	1
CEN 4802C. SOFTWARE INTEGRATION, CONFIGURATION, AND TESTING. SOFTWARE INTEGRATION, CONFIGURATION, AND TESTING Prerequisite: Minimum grade of C in CTS 1134C and minimum grade of C in CEN 3024C This course covers approaches and issues associated with integration of software subsystems and components into one system to ensure that the subsystems function together. (Special Fee: \$42.00).	3	2	1
CEN 4910C. SOFTWARE DEVELOPMENT PROJECT. SOFTWARE DEVELOPMENT PROJECT Prerequisite: Minimum grade of C in CEN 4025C and CEN 4802C This course is a software development project using the skills acquired from Software Development I & II. Working in teams, students develop a software system, simulating an industry experience. (Special Fee: \$42.00).	3	2	1
CEN 4930C. SEMINAR IN ADVANCED SOFTWARE DEVELOPMENT. SEMINAR IN ADVANCED SOFTWARE DEVELOPMENT Prerequisite: Minimum grade of C in CEN 4025C This course is hands on software development, with an emphasis on contemporary software trends. Topics may vary. (Special Fee: \$42.00).	3	2	1