WEB PROGRAMMING & DATABASE DEVELOPMENT (CWEB)

CWEB1010 | Introduction to Web Development | Lecture/Studio (3 Credits)
Hypertext Markup Language (HTML). Basic page structure, tags, link, text formatting, forms, tables, and debugging with trouble-shooting skills. Cascading Style Sheets (CSS), advanced formatting, and layout. Integration of web scripting languages (like Javascript) into existing web pages to increase user-friendliness and functionality. Creation of scripts for new pages.

CWEB1114 | Introduction to Application Dev | Lecture/Laboratory (2 Credits)
Code responsive, secure web app using HTML, CSS, JavaScript and server-side language while understanding the Software development life cycle and modern development methodologies.

CWEB1115 | Programming Fundamentals | Lecture/Laboratory (3 Credits)
Examine programming principles like data types, variables, expressions, operators, Boolean logic, algorithm creation, flowcharts. Topics include: structured programming and programming logic constructs (sequence, selection, and loops); abstraction, modularization, dynamic and static data-structures, object-oriented and event driven programming.

CWEB1123 | Data Fundamentals | Lecture/Laboratory (2 Credits)
Examine the concepts of data and logical structures of data. Explore database types including relational, hierarchical, and graph data structures, and common search algorithms and query structures. Build a relational database using MySQL workbench. Utilize Structured Query Language (SQL) core skills (Queries, operators and keys).

CWEB1131 | Web Tooling | Lecture/Studio (3 Credits)
Use various tools to construct, manage, test, and maintain a web application throughout the life of the application. Explore concepts such as development environments, version control, continuous integration/deployment, testing, hosted environments, and application frameworks.
Prerequisite(s): CWEB1114

CWEB2011 | Business Applications | Lecture/Studio (4 Credits)
Transition of static hypertext markup language (HTML) web sites to complex data integrated applications. Server-side scripting. Differentiate between coding a page and coding a site or full project. Customize and integrate many complex pieces of code and parts of a web site into a single cohesive web application.

CWEB2022 | Database Systems: Programming & Admin | Lecture/Studio (3 Credits)
Create, use and manage databases in relational and other data systems; Structured Query Language (SQL) language (Data Control, Manipulation, & Definition); create programmatic and other objects in SQL database systems.

CWEB2101 | Business Architecture | Lecture/Studio (4 Credits)
Business concepts such as human resource development, marketing, investing, security, legal, and entrepreneurship. Various development approaches for software development from traditional systems analysis to contemporary methods (like Agile) and beyond. Develop models and prototypes to practice the processes and techniques needed to design and build quality software systems.
Prerequisite(s): CWEB1010

CWEB2102 | UX/UI Design Fundamentals | Lecture/Laboratory (3 Credits)
Develop basic Adobe CC software skills. Explore design and user-centered approaches to web development. Model UX/UI best practices in planning, research, prototyping, and user testing.

CWEB2114 | Web Publishing | Lecture/Studio (4 Credits)
Design, develop, and deploy dynamic and responsive data-driven web applications using a variety of server and client-side languages.
Prerequisite(s): CWEB1131
Corequisite(s): CWEB2115

CWEB2115 | Cloud Computing | Lecture/Studio (3 Credits)
Create data-driven applications infused with cloud-based services. Analyze cloud strategy and various cloud delivery models such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS), and Function as a Service (FaaS).
Prerequisite(s): CWEB1131
Corequisite(s): CWEB2114

CWEB2116 | Application Design I | Lecture/Laboratory (3 Credits)
Construct application using modern front-end, back-end frameworks with an emphasis on understanding secure authentication and authorization practices, design patterns, sorting and filtering algorithms and automated unit testing and deployment using a continuous integration tool.

CWEB2124 | Database Systems: Concept & Design | Lecture/Studio (3 Credits)
Develop databases to support specific applications; explain database design methodology; use graphical models to document databases (UML, ERD, Data flow, etc.); optimize relational and NoSQL databases using normalization, de-normalization, indexing and ACID principles.
Prerequisite(s): CWEB2022

CWEB2125 | Database Systems: Programming and Admin | Lecture/Laboratory (3 Credits)
Create use and manage industry standard Linux and Windows based SQL database servers in a virtualized environment. Utilize Structured Query Language (SQL) advanced skills (Joins, Views and Stored Procedures). Stand up and define database driven web front ends on both Linux and Windows.

CWEB2133 | Internship III | Internship (3 Credits)
Practice skills in an approved, professional, external, commercial entity for a minimum of 162 hours.

CWEB2135 | Advanced Topics | Capstone (3 Credits)
Emerging technologies advanced topics. Career preparation work. Perfecting job skills. Resumes, cover letters, interview skills. Portfolio or external project work to exhibit all skills gained throughout program. Seminar/independent study format.

CWEB2140 | Continuous Testing | Lecture/Laboratory (3 Credits)
Solidify a firm understanding of DevOps and DevSecOps. Evaluate automation tools that perform Unit, Integration, End-to-End, UI testing. Solidify an understanding of version, securing and feature enhancing code-based through the lens of the Software Development Life Cycle (SDLC) model.

CWEB2210 | Cloud Computing for Web | Lecture/Laboratory (3 Credits)
Analyze cloud strategy and various cloud delivery models such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS), and Function as a Service (FaaS). Course also covers the cost of adopting cloud resources and demonstrating use of cloud vendor resources via a group project.

CWEB2225 | Database Systems: Concept and Design | Lecture/ Laboratory (3 Credits)
Develop databases to support specific applications; explain database design methodology; use graphical models to document databases (UML, ERD, Data flow, etc.); optimize relational and NoSQL databases using normalization, de-normalization, indexing and ACID principles.

CWEB2226 | Application Design II | Lecture/Laboratory (3 Credits)
Building on knowledge learned from Application Design I, you will create a secure comprehensive full-stack application that implements CRUD(Create, Retrieve, Update, Delete) operations and utilize RESTful Web Service all while ensuring standards are upheld as it relates to usability, accessibility, performance.

CWEB2230 | Advanced Topics | Lecture/Laboratory (3 Credits)
Portfolio or external project work to exhibit all skills gained throughout program.