[2] Elective units from course(s) numbered 1-599, if needed, to reach 60 degree-applicable units.

WEB DEVELOPMENT - ASSOCIATE IN SCIENCE

Plan Code: 2128

Students will learn relevant and current web technologies including HTML, CSS, JavaScript/jQuery and database concepts. Other topics include mobile web application development, responsive design, accessibility and user-centered design. This program is designed to prepare students for employment in Web Development related fields including both front-end development and back-end development. Students interested in a bachelor's degree (transfer program) should meet with a counselor to discuss how this program fully articulates with other schools.

Program Student Learning Outcomes

- Demonstrate the ability to attain the Institutional Student Learning Outcomes (ISLOs).
- Create websites by employing several web design tools and programming languages including HTML, CSS, JavaScript, SQL, and PHP.
- Demonstrate and apply effective web development skills for a variety of industries and organizational situations.

Program Requirements

This degree requires the completion of General Education coursework plus the following:

Code Number	Course Title	Units
REQUIRED COURSES		
COSA 50	Intro to IT Concepts and Applications	4
COSP 7	Programming Concepts and Methodologies	4
COSP 38	Database Concepts	4
COSW 10	Beginning Website Development	4
COSW 20	Front End Website Development	4
COSW 30	Web Development with PHP/MySQL	4
COSW 200	Introduction to JavaScript	4
COSW 240	Intro to Content Management Systems	3
Required Subtotal		**31**
Complete one of the following: [1]		19-39
LBCC General Education (Plan A) (https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-a/)		
CSU GE Breadth (Plan B) (https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-b/)		
IGETC Pattern (Plan C) (https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-c/)		
Electives (as needed to reach 60 degree-applicable units) [2]		
Minimum Degree Total		**60**

[1] Units for the major may be double-counted for LBCC GE, CSU GE, or IGETC; see counselor for limitations.

WEB DEVELOPMENT - CERTIFICATE OF ACHIEVEMENT

Plan Code: 3128

The certificate is designed to prepare students for beginning employment in Web Development related fields in both front-end development and back-end development. Topics include modern website development, responsive design, best practices, database-driven web applications, accessibility and user-centered design.

Program Student Learning Outcomes

- Create websites by employing several web design tools and programming languages.
- Demonstrate and apply effective web development skills for a variety of industries and organizational situations.

Program Requirements

Code Number	Course Title	Units
REQUIRED COURSES		
COSA 50	Intro to IT Concepts and Applications	4
COSP 7	Programming Concepts and Methodologies	4
COSP 38	Database Concepts	4
COSW 10	Beginning Website Development	4
COSW 20	Front End Website Development	4
COSW 30	Web Development with PHP/MySQL	4
COSW 200	Introduction to JavaScript	4
COSW 240	Intro to Content Management Systems	3
Total Units		**31**

WEB DEVELOPER - CERTIFICATE OF ACHIEVEMENT

Plan Code: 3134

The Web Developer Certificate of Achievement is an entry-level program that will provide students with the necessary technical skills for a junior level web development position. Skills include writing HTML and CSS code, designing interactive web pages using JavaScript, building a site using Content Management Systems, and creating responsive web applications that work across a wide variety of screen sizes.

Program Student Learning Outcomes

- Create websites by employing several web design tools and programming languages.
- Demonstrate and apply effective web development skills for a variety of industries and organizational situations.

Program Requirements

Code Number	Course Title	Units
COSW 10	Beginning Website Development	4
COSW 20	Front End Website Development	4
COSW 200	Introduction to JavaScript	4
Subtotal Units		**12**
IN ADDITION, complete FOUR (4) units from the following:		
COSP 201	Mobile App Development	1
COSW 30	Web Development with PHP/MySQL	4
COSW 230	Web Development Frameworks	4
COSW 240	Intro to Content Management Systems	3
Subtotal Units		**4**
Total Units		**16**

PHP WEB PROGRAMMER - CERTIFICATE OF ACHIEVEMENT

Plan Code: 3138

The PHP Web Programmer Certificate of Achievement provides students with entry-level back-end web programming skills to build data driven website applications using HTML, CSS, PHP, and SQL languages.

Program Student Learning Outcomes

- Design, run, and analyze new and existing SQL programs according to commonly practiced industry standards.

Program Requirements

Code Number	Course Title	Units
COSP 38	Database Concepts	4
COSW 10	Beginning Website Development	4
COSW 30	Web Development with PHP/MySQL	4
COSW 200	Introduction to JavaScript	4
Total Units		**16**

ANDROID APP DEVELOPER - CERTIFICATE OF ACCOMPLISHMENT

Plan Code: 4119

Students will learn programming skills in Java or C++, Android App Development, and Database hands-on concepts.

Program Student Learning Outcomes

- Demonstrate the ability to create, design, and implement java-based Android applications (apps) using the Android API.
- Show the skills to create, manage, and use databases and SQL for Android applications (apps).
- Be able to complete the full development process for Android Applications (apps).

Program Requirements

Code Number	Course Title	Units
REQUIRED COURSES		
CS 11	Introduction to Computer Science- C++	3
or CS 21	Introduction to Computer Science-Java	
or CS 31	Introduction to Computer Science-Python	
COSP 230	Android App Development in Java	3
Total Units		**6**