

## Certificate of Achievement in Business Application and Database Management

**\*Certificate Requirement: 3 required courses plus 3 elective courses**

Course Number	Core or Elective	Course Title	Units	Semester Sequence
CIS 120	Core	Intro to Databases	3	Y 1 S 1
CIS 219	Core	Intro to Oracle: SQL and PL/SQL	3	Y 1 S 2
CIS 237	Core	Install, Configure and Administer MS SQL	3	Y1 S 2
CIS 101	Elective	Intro to Computers and Their uses	9	
CIS 104	Elective	Microcomputer Application Software		
CIS 124	Elective	Data Analytics		
CIS 140	Elective	Programming for Mobile Devices		
CIS 148	Elective	Intro to Web Development using HTML/CSS		
CIS 190	Elective	E-Commerce Essentials		
CIS 192	Elective	Intro to Cloud Computing		
CIS 193	Elective	AWS Data Storage and Database Essentials		
CS 112	Elective	Programming in Java Script		
<b>Total Units</b>	Core and Elective	<b>Total Certificate Units</b>		

## Certificate of Achievement in Web Support and Administration

**\*Certificate Requirement: 3 required courses plus 3 elective courses**

Course Number	Core or Elective	Course Title	Units	Semester Sequence
CIS 120	Core	Intro to Databases	3	Y 1 S 1
CIS 148	Core	Intro to Web Dev using HTML & CSS	3	Y 1 S 1
CIS 150	Core	Advanced Web Dev using JavaScript and Ajax	3	Y 1 S 2
		<b>Restricted Elective Course List</b>	9	
CIS 101	Elective	Intro to Computers and Their uses		
CIS 104	Elective	Microcomputer Application Software		
CIS 140	Elective	Programming for Mobile Devices		
CIS 124	Elective	Data Analytics		
CIS 190	Elective	E-Commerce Essentials		
CIS 192	Elective	Intro to Cloud Computing		
CIS 193	Elective	Database Essentials		
CIS 194	Elective	Computer Engines in Amazon		
CIS 195	Elective	Cloud Security		
CS 112	Elective	Programming in Java Scripting		
		<b>Total Certificate Units</b>	<b>18</b>	

**It is recommended that students meet with a counselor or email CS division chair via [ChiangAS@wlac.edu](mailto:ChiangAS@wlac.edu) for course advice.**

