Computer Programming Undergraduate Certificate

The undergraduate certificate in Computer Programming is a five-course (15 credit hour) program. It is designed to provide a quick, yet broad training in technologies leading to secure and interesting careers in computer programming or education. Students majoring or minoring in Computer Science may not earn this certificate. A minimum GPA of 2.5 is required for admission.

A minimum of three courses must be taken from UMSL. Courses may be substituted with the permission of the certificate coordinator. For more information, students can contact the department chair or email info@arch.edu.

Required Courses		
CMP SCI 1250	Introduction to Computing	3
CMP SCI 2250	Programming and Data Structures	3
CMP SCI 2261	Object-Oriented Programming	3
Electives		
Choose two of the following courses:		6
CMP SCI 2700	Computer Organization and Architecture	
CMP SCI 2750	Linux Environment and Programming	
CMP SCI 3010	Web Full Stack Development	
CMP SCI 3130	Design and Analysis of Algorithms	
CMP SCI 3702	Introduction to Cyber Threats and Defense	
CMP SCI 4010	Web Development with Java	
CMP SCI 4011	Web Development with Advanced JavaScript	
CMP SCI 4020	Introduction to Android Apps: Android Fundamentals	
CMP SCI 4200	Python for Scientific Computing and Data Science	
CMP SCI 4220	Introduction to iOS Programming and Apps	
CMP SCI 4222	iOS Apps	
CMP SCI 4610	Database Management Systems	
INFSYS 3844	Developing Business Applications in .NET	
Total Hours		**15**