

New Program Proposal

Computer Programming Education, Undergraduate Certificate

The undergraduate certificate in Computer Programming Education is an 18 credit hour program. It is designed to provide secondary school science teachers with training needed to implement a range of computer programming related courses in their schools. A minimum GPA of 2.5 is required for admission.

A minimum of four courses must be taken in residence in the Department of Mathematics and Computer Science at UMSL. Courses may be substituted with the permission of the program director.

Core Courses

CMP SCI 1250	Introduction to Computing	3
CMP SCI 2250	Programming and Data Structures	3
CMP SCI 2261	Object-Oriented Programming	3
ED TECH 3420	Computer Programming and Pedagogy	3

Electives

6

Choose two of the following:

CMP SCI 2700	Computer Organization and Architecture
CMP SCI 2750	System Programming and Tools
CMP SCI 3010	Web Programming
CMP SCI 3760	Cyber Threats and Defense
CMP SCI 4010	Advanced Web Development with Java
CMP SCI 4011	Client-Side Technologies
CMP SCI 4020	Introduction to Android Apps: Android Fundamentals
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		18

Sign-offs from other departments affected by this proposal

Department	Contact Person	Phone #	Objections
S003700	Keith W. Miller	3145164828	No

Rationale A new certificate aimed at primary and secondary school science teachers to transition into teaching computer and programming