GRADUATE CERTIFICATE PROGRAMS

Certificate Program Guidelines

The School of Engineering and Computing's academic certificate programs can be especially useful in giving working professionals the skills and knowledge they need to advance in their professional careers. Our academic certificate programs provide relevant education at the graduate level. The programs center on a coherent body of knowledge and skills, and their completion represents the achievement of competence in a well-defined domain.

Applicants interested in enrolling in a Certificate program may be admitted on a non-matriculating basis to the School of Engineering and Computing as special-status students.

Applicants to graduate certificate programs must have successfully completed an undergraduate degree prior to admission.   Academic certificate programs typically consist of 4-5 courses for a minimum of 12-15 credit hours. Course transfer credit toward the certificate from other institutions is not allowed. An academic certificate enrollee must maintain a grade-point average of 3.0 or above to qualify for the certificate.

Students initially enrolled in a graduate certificate program can apply these courses towards certain master's degree programs if 1) these courses are normally offered as part of an existing curriculum for a master's degree program and 2) they are accepted for admission into the Master's program. Note that students initially enrolled in a master's degree program will not be awarded an academic certificate. So, certificates are a great way to take some classes, earn a credential, and confirm that you like an area of study before enrolling in the full graduate program.

Computer Science Certificates

Applicants interested in earning a Computer Science Certificate and those interested in taking selected courses may be admitted on a non-matriculating basis to the School of Engineering and Computing as special-status students. Non-matriculated students must have a Bachelor degree from an accredited university and academic records that suggest the likelihood of success in demanding graduate courses. Non-matriculated students are admitted to courses on a seating-available basis only. Matriculated students are given preference for course offerings. To earn a certificate, four courses (12 credits) need to be taken from the offerings of that certificate.

Cyber Security Certificate

Code	Title	Credits
Select four courses from the following:		12
SWEG 5349	Cloud Computing	
SWEG 5530	Introduction to Information Security	
SWEG 6404	Network Security	
SWEG 6530	Applications and Data Security	
SWEG 6599	Ethical Hacking	
Total Credits		**12**

Data Science and Big Data Technologies Certificate

Code	Title	Credits
Select four courses from the following:		12
SWEG 5321	Software Project Management	
SWEG 5322	Visual Analytics	
SWEG 5349	Cloud Computing	
SWEG 5360	Machine Learning	
SWEG 5530	Introduction to Information Security	
SWEG 6461	Pattern Recognition	
SWEG 6505	Advanced Database Concepts	
SWEG 6508	Data Warehouse Systems	
SWEG 6518	Data Mining and Business Intelligence	
SWEG 6530	Applications and Data Security	
Total Credits		**12**

Network Technology Certificate

Code	Title	Credits
SWEG 6404	Network Security	3
SWEG 6448	Server Management	3
SWEG 6596	Network Routing and Switching	3
SWEG 6599	Ethical Hacking	3
Total Credits		**12**

Web and Mobile Application Development Certificate

Code	Title	Credits
Select four courses from the following:		12
SWEG 5304	Web Development I	
SWEG 5305	Mobile Application Development	
SWEG 5349	Cloud Computing	
SWEG 5530	Introduction to Information Security	
SWEG 6410	Enterprise Java	
SWEG 6512	Web Development II with ASP.NET	
SWEG 6516	PHP and MySQL	
SWEG 6530	Applications and Data Security	
Total Credits		**12**