

GRADUATE CERTIFICATE IN STRUCTURAL ENGINEERING

The graduate certificate in structural engineering program is appropriate for those who wish to gain specialized knowledge in one of the following tracks: earthquake engineering design of bridges and buildings, extreme event design of structures to resist the effects of accidental explosions and vehicular collision, concrete bridge design using the LRFD approach, or building design using the LRFD approach.

Students who successfully complete the certificate program may opt to continue towards a master's degree in the Civil and Environmental Engineering department. All courses completed by the student in the graduate certificate program with a grade of B or better can be transferred to the master's degree program.

Specific admission requirements are shown on the Graduate Program Finder. (<http://www.gwu.edu/all-graduate-programs>)

REQUIREMENTS

The following requirements must be fulfilled: 12 credits in required courses in one selected track.

Earthquake Engineering Design

Code	Title	Credits
Required		
CE 6202	Methods of Structural Analysis	
CE 6342	Structural Design to Resist Natural Hazards	
CE 6404	Geotechnical Earthquake Engineering	
CE 6800	Special Topics (Advanced Earthquake Engineering Topics)	

Concrete Bridge Design

Code	Title	Credits
Required		
CE 6301	Design of Reinforced Concrete Structures	
CE 6302	Prestressed Concrete Structures	
CE 6310	Advanced Reinforced Concrete Structures	
CE 6800	Special Topics (Advanced Bridge Design Topics)	

Extreme Event Design of Structures

Code	Title	Credits
Required		
CE 6202	Methods of Structural Analysis	
CE 6342	Structural Design to Resist Natural Hazards	
CE 8330	Advanced Finite Element Analysis	
CE 6800	Special Topics ((Advanced Blast Resistant Topics)	

Building Design

Code	Title	Credits
Required		
CE 6310	Advanced Reinforced Concrete Structures	
CE 6342	Structural Design to Resist Natural Hazards	
CE 6320	Design of Metal Structures	
CE 6800	Special Topics (Advanced Building Design Topics)	