

# GRADUATE CERTIFICATE IN SMART CITIES AND TRANSPORTATION

The graduate certificate program in smart cities and transportation provides students with the key knowledge and skills required to understand and apply smart technology for operating a data-rich smart urban environment. Coursework is supplemented by hands-on modules on different software and technology tools available in GW's Transportation Program laboratories, including driving simulation, mobile robotics, sustainable urban mobility, traffic equity and safety, and vehicle instrumentation and automation.

Credit earned in this program may be applied to the requirements for the master of science civil and environmental engineering degree (<http://bulletin.gwu.edu/engineering-applied-science/civil-environmental-engineering/ms/>).

## REQUIREMENTS

The following requirements must be fulfilled: 12 credits.

Code	Title	Credits
<b>Required</b>		
Once course in numerical methods selected from the following:		
CE 6102	Application of Probability Methods in Civil Engineering	
CE 6711	Civil Infrastructure Optimization	
CE 6712	Data Science and Artificial Intelligence in Civil and Environmental Engineering	
Once course in transportation applications selected from the following:		
CE 6721	Traffic Engineering and Highway Safety	
CE 6722	Intelligent Transportation Systems	
CE 6723	Fundamentals of Highway Safety	
Two courses in smart city integration selected from the following:		
CE 6730	Sustainable Urban Planning	
CE 6731	Economics of Transportation Systems	
CE 6732	Automation and Sensing in Civil and Environmental Engineering	
CE 6733	Human Factors in Civil and Environmental Engineering	