

GRADUATE CERTIFICATE IN TRANSPORTATION ENGINEERING

The graduate certificate in the field of transportation engineering is particularly appropriate for those who wish to gain specialized knowledge in either intelligent transportation systems and congestion mitigation or transportation safety.

Students who successfully complete the graduate certificate in structural engineering 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: 15 credits, including 9 credits in required courses and 6 credits in elective courses in one selected track.

Intelligent Transportation Systems and Congestion Mitigation Track

Code	Title	Credits
Required		
Three of the following:		
CE 6707	Systems Dynamics Modeling and Control	
CE 6721	Traffic Engineering and Highway Safety	
CE 6722	Intelligent Transportation Systems	
CE 6800	Special Topics (Advanced Theory in Traffic Flow)	
CE 6800	Special Topics (Advanced Demand Modeling)	
Electives		
Two of the following:		
CE 6101	Numerical Methods in Engineering	
CE 6102	Application of Probability Methods in Civil Engineering	
CE 6210	Introduction to Finite Element Analysis	
CE 6701	Analytical Mechanics	
CE 8330	Advanced Finite Element Analysis	

CE 8380 Advanced Biomechanics

Transportation Safety Track

Code	Title	Credits
Required		
Three of the following:		
CE 6350	Introduction to Biomechanics	
CE 6702	Vehicle Dynamics	
CE 6703	Vehicle Standards and Crash Test Analysis	
CE 6704	Crash Investigation and Analysis	
CE 6705	Nonlinear Finite Element Modeling and Simulation	
CE 6707	Systems Dynamics Modeling and Control	
CE 6721	Traffic Engineering and Highway Safety	
CE 6722	Intelligent Transportation Systems	
Electives		
Two of the following:		
CE 6101	Numerical Methods in Engineering	
CE 6102	Application of Probability Methods in Civil Engineering	
CE 6210	Introduction to Finite Element Analysis	
CE 6701	Analytical Mechanics	
CE 8330	Advanced Finite Element Analysis	
CE 8380	Advanced Biomechanics	