

SUSTAINABLE ENGINEERING (GRADUATE CERTIFICATE)

Admission to this program is contingent upon admission to the Graduate School (<http://bulletins.wayne.edu/graduate/general-information/admission/>). Students currently enrolled in a graduate program in the College of Engineering, or students who have already completed a Bachelor's degree in engineering can be admitted to the program. Admission into the graduate program requires a minimum grade point average of 3.0.

Students must complete a minimum of twelve credits of sustainable engineering courses. A maximum of eight credits may be counted towards both this certificate program and a related M.S. or Ph.D. program. All requirements must be completed within three years with a minimum 3.0 g.p.a. required in the certificate coursework. All course work must be completed in accordance with the regulations of the Graduate School (<http://bulletins.wayne.edu/graduate/general-information/academic-regulations/>) and the College of Engineering (<http://bulletins.wayne.edu/graduate/college-engineering/academic-regulations/>).

Code	Title	Credits
Required Courses		
CHE 6100	Introduction to Sustainable Engineering	3
CE 6270	Sustainability Assessment and Management	3
Elective Courses		
Select nine credits of the following:		9
CE 5995	Special Topics in Civil Engineering I	
CE 6130	Open Channel Hydraulics	
CE 6150	Hydrologic Analysis and Design	
CE 7995	Special Topics in Civil Engineering II	
CHE 5110	Fundamental Fuel Cell Systems	
CHE 6570	Safety in the Chemical Process Industry	
CHE 6810	Chemical Engineering Research Project	
IE 6310	Lean Operations and Manufacturing	
IE 6325	Supply Chain Management	
IE 6405/ EVE 5600/AET 5600	Integrated Product Development	
ME 5330	Advanced Thermal Fluid System Design	
Total Credits		15