

GREEN CHEMISTRY AND ENGINEERING GRADUATE CERTIFICATE

Code	Title	Hours
<i>Required Courses</i>		
CHEM 6200	Green Chemistry	3
CHEM 6210	Environmental Chemistry	3
CHEE 6010	Green Engineering Principles	3
CHEE 6110	Green Engineering Applications	3
*In lieu of taking CHEE 6010, students with an undergraduate degree in chemical engineering may elect to take one of the following courses. Similarly, students that take CHEE 6010 may elect to take one of the following courses in lieu of taking CHEE 6110.		
CHEE 6120	Biofuels	
CIVE 5690	Sustainability Engineering	
Total Hours		12

Code	Title	Hours
First Term		
CHEM 6200	Green Chemistry (*)	3
CHEE 6010	Green Engineering Principles	3
	Hours	6
Second Term		
CHEM 6210	Environmental Chemistry	3
CHEE 6110	Green Engineering Applications	3
	Hours	6
Total Hours		12

**In lieu of taking CHEE 6010, students with an undergraduate degree in chemical engineering may elect to take one of the following courses. Similarly, students that take CHEE 6010 may elect to take one of the following courses in lieu of taking CHEE 6110.*

CHEE 6120 Biofuels 3 credit hours

CIVE 5690 Sustainability Engineering 3 credit hours

- Upon completion of the required coursework, students will be able to:
 1. Apply knowledge of green synthesis methods and associated green chemistry metrics.
 2. Evaluate the environmental fate and impacts of chemical emissions using appropriate tools for quantifying human, aquatic, and physical impacts.
 3. Perform process optimization to reduce environmental impacts.
 4. Identify and evaluate public health, safety, and ethical concerns in the global chemical industry.
 5. Apply knowledge of chemical alternative assessments to evaluate and select safer chemicals for use in both chemical product manufacturing and consumer product applications.