Sustainable Processes and Materials, Minor

The sustainable processes and materials minor opens opportunities for students across the university who are interested in gaining knowledge in sustainability from a process engineering perspective. Students have an opportunity to develop a deeper understanding of process engineering as emphasized in chemical engineering principles, learn sustainability concepts as presented in process engineering, and form context for these concepts with environmental principles and other sustainable examples.

A total of 16 semester hours is required to complete this minor. Interested students must contact the chemical engineering academic advisor in order to declare the minor.

Students are permitted to double count a maximum of 50% of the credits required for a minor from their major.

Minor Requirements

Complete 16 semester hours from the courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

A minimum of 8 semester hours of coursework for this minor must be CHME coursework.

Students are permitted to double count a maximum of 50% of the credits required for a minor from their major.

Process Engineering Requirement

Code	Title	Hours
Complete one of the following:		4
CHME 2308	Conservation Principles in Chemical Engineering	
CHME 5101	Fundamentals of Chemical Engineering: Fluid, Heat, and Mass Transfer	
CHME 5102	Fundamentals of Chemical Engineering: Thermodynamics and Kinetics	

Environmental Principles Requirement

Code	Title	Hours
Complete one of the following:		4
CHEM 2326	Introduction to Green Chemistry and Toxicology	
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	

Sustainability in Chemical Engineering and Materials Requirement

Code	Title	Hours
Complete 4 semester hours from the following.		4
CHME 5621	Electrochemical Engineering	
CHME 5642	Photochemistry Fundamentals and Applications	
CHME 5692	Carbon Capture, Utilization, and Storage	
Appropriate CHME 5699 Special Topics courses (by petition)		

Sustainability Elective

Code	Title	Hours
Complete one of the following:		4
CHME 5510	Fundamentals in Process Safety Engineering	
CIVE 4566	Design for Sustainable Transportation: Netherlands	
CIVE 5527	Sustainable Rehabilitation of Structures	
ECON 3423	Environmental Economics	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	
ENVR 1500 and ENVR 1501	Introduction to Environmental, Social, and Biological Data and Lab for ENVR 1500	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
ENVR 5350	Sustainable Energy and Climate Solutions	
GE 3300	Energy Systems: Science, Technology, and Sustainability	
LARC 2130	Sustainable Urban Site Design	

LARC 2140	Designed Urban Ecologies
LARC 2230	Introduction to Sustainable Site Planning and Design
LARC 2330	Cities, Landscape, and Modern Culture
LARC 2340	Cities, Landscape, and Contemporary Culture
POLS 2395	Environmental Politics and Policy
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5260	Ecological Economics
PPUA 5268	International Environmental Policy
SBSY 5100	Sustainable Design and Technologies in Construction
SBSY 5200	Sustainable Engineering Systems for Buildings
SOCL 2485	Environment, Technology, and Society

GPA Requirement

2.000 GPA required in the minor