

BIORENEWABLE CHEMICALS (BR C)

Courses primarily for graduate students, open to qualified undergraduates:

BR C 506: The Evolving Chemical Industry

(1-0) Cr. 1.

An overview of the chemical industry including structure and its evolution. Discussion of the dynamics of recent introduction of biorenewable chemicals to the chemical industry.

BR C 507: Technology-Led Entrepreneurship in Biorenewables

(Cross-listed with BRT). (1-0) Cr. 1. S.

Prereq: Graduate Standing or Permission of Instructor.

Develop an understanding of the relationship between discovery research entrepreneurship and innovation in biorenewables. Understand critical techno-commercial analyses and intellectual property. Learn critical skills needed to found a company, including how to define key assets, write a business plan, leverage local resources, and secure funding.

BR C 590: Special Topics

(2-0) Cr. 2.

Special topics in biorenewable chemicals.

BR C 590K: Special Topics: K-12 Science Education.

(2-0) Cr. 2. F.SS.

Understanding of Discovery Research for sixth through 12th grade science teachers. Design, methods and analysis of research associated with biorenewable energy systems. Science teachers will be introduced to the value of scientific inquiry, elements of engineering design, 21st century careers in science, technology, engineering and math (STEM) and how high school students need to be prepared for these careers.

Courses for graduate students:

BR C 688: Catalysis and Catalytic Processes

(Cross-listed with CH E). (3-0) Cr. 3.

Prereq: CH E 382

Principles and applications of heterogeneous and homogeneous catalysis. Adsorption. Reaction kinetics and mass transfer effects. Catalyst characterization. Industrial catalytic processes.