Bioproducts and Bioprocessing — Graduate Certificate

The Graduate Certificate in Bioproducts and Bioprocess Engineering provides a specialization in the application of biological/biochemical principles to solve complex problems that are needed in developing systems for processing and converting biological materials to fuels, products and chemicals. Because of this, the program is inter-disciplinary in nature.

This graduate certificate program is designed for individuals holding baccalaureate degrees in biosystems engineering, or other appropriate engineering/science fields with an interest in biofuels, bioenergy, and bioprocess engineering. Students can complete the certificate program in one academic year (fall and spring semesters) by passing four of the courses listed below (total of 12 credit hours), and attending (in-person) all required one-week labs for each course.

Curriculum Model: The certificate requires students to complete four of the graduate courses (total of 12 credit hours). Students are required to take two required courses (BSEN 6540 and BSEN 6280) and two elective courses (*) from the list. Other elective courses may be allowed at the discretion of the department. Students must earn a B or higher grade in each course.

Code	Title	Hours
BSEN 6540	Biomass and Biofuels Engineering	3
BSEN 6280	Life-Cycle Assessment for Biological Systems	3
BSEN 6270	Metabolic Engineering for Bioprocess	3
BSEN 6240	Bulk Biological Solids Behavior, Handling and Processing	3
BSEN 6260	Renewable Energy in Biosystems Process Operations	3
BSEN 6220	Geospatial Technologies in Biosystems	3
BIOP 6250	Biocomposites	3
PFEN 6200	Polymer Processing	4
PFEN 6510	Polymer Chemistry	3
MATL 7130	Advanced Polymer Science and Technology	3