

BIOSYSTEMS ENGINEERING DESIGN ELECTIVES

Students are required to take 3 BIOE design electives. Specific courses are required if a Specialization is desired. BIOE design electives are typically offered in a two-year rotation. The department will ensure that design electives satisfying each of the three specializations are offered each academic year.

BIOE Design Electives (General Program)			
Course #	Course Title	CH	Prerequisites
BIOE 4390	Unit Operations 1	4	BIOE 2790, BIOE 3320 (co-req) & BIOE 3270 (co-req)
BIOE 4412	Design of Light-Frame Building	4	BIOE 3110 or BIOE 2110 & BIOE 3590
BIOE 4414	Imaging & Spectroscopy for Biosystems	4	BIOE 3270
BIOE 4420	Crop Preservation	4	BIOE 3110 or BIOE 2110
BIOE 4440	Bioprocessing for Biorefin	4	BIOE 3110 or BIOE 2110 & BIOE 3320 (co-req)
BIOE 4460	Air Pollution Assessment & Management	4	BIOE 2790 or MECH 2262
BIOE 4560	Structural Design in Wood	4	BIOE 3590 or CIVL 3770
BIOE 4590	Management of By-Products from Animal Production	4	BIOE 2790 or MECH 2262
BIOE 4600	Design of Water Management System	4	SOIL 4060 or CIVL 3730
BIOE 4610	Design of Assistive Technology Devices	4	BIOL 1412
BIOE 4620	Remediation Engineering	4	BIOE 2790
BIOE 4640	Bioengineering Applications in Medicine	4	BIOL 1410, BIOL 1412 & BIOE 3320
BIOE 4650	Textiles in Healthcare and Medical Applications	4	BIOE 2590 & BIOE 3320 (co-req)

Biomedical Specialization Design Electives (select 3 courses)			
Course #	Course Title	CH	Prerequisites
BIOE 4414	Imaging & Spectroscopy for Biosystems	4	BIOE 3270
BIOE 4610	Design of Assistive Technology Devices	4	BIOL 1412
BIOE 4640	Bioengineering Applications in Medicine	4	BIOL 1410, BIOL 1412 & BIOE 3320
BIOE 4650	Textiles in Healthcare and Medical Applications	4	BIOE 2590 & BIOE 3320 (co-req)

Bioresource Specialization Design Electives (select 3 courses)			
Course #	Course Title	CH	Prerequisites
BIOE 4390	Unit Operations 1	4	BIOE 2790, BIOE 3320 (co-req) & BIOE 3270 (co-req)
BIOE 4412	Design of Light-Frame Building	4	BIOE 3110 or BIOE 2110 & BIOE 3590
BIOE 4420	Crop Preservation	4	BIOE 3110 or BIOE 2110
BIOE 4440	Bioprocessing for Biorefining	4	BIOE 3110 or 2110 & BIOE 3320 (co-req)
BIOE 4560	Structural Design in Wood	4	BIOE 3590 or CIVL 3770
BIOE 4590	Management of By-Products from Animal Production	4	BIOE 2790
BIOE 4600	Design of Water Management System	4	SOIL 4060 or CIVL 3730

Environmental Specialization Design Electives (select 3 courses)			
Course #	Course Title	CH	Prerequisites
BIOE 4412	Design of Light-Frame Building	4	BIOE 3110 or BIOE 2110 & BIOE 3590
BIOE 4460	Air Pollution Assessment & Management	4	BIOE 2790 or MECH 2262
BIOE 4590	Management By-Products from Animal Production	4	BIOE 2790 or MECH 2262
BIOE 4600	Design of Water Management System	4	SOIL 4060 or CIVL 3730
BIOE 4620	Remediation Engineering	4	BIOE 2790 or MECH 2262

Revised: June 6, 2024