

Design & Technical Elective Suggestions for Selected Emphasis Areas

Controlled Environment Agriculture

Technical Electives (Choose 9 units)	Course	Units
Aquaculture	ACBS 456	3
Aquaponics Engineering	BE 444	3
Intro to Hydroponics (with optional lab)	BE 217R/L	3/1
Advanced Hydroponic Crop Production (with optional lab)	BE 350 R/L	
Applied Plant Physiology	PLS 475A	3
Greenhouse Pest Management: Methods and Practice	ENTO 497C	3
(BE) Design Electives (Choose 9 units)	Course	Units
Aquaponics Design	BE 334	3
Applied Instrumentation for Controlled Environment Agriculture	BE 479	3
Controlled Environment Systems	BE 483	3
Irrigation Systems Design	BE/CE 456	3
Integrated Engineered Solutions in the Food-Water-Energy Nexus	BE 482	3

Digital Agriculture

Technical Electives (Choose 12 units)	Course	Units
Embedded Comp. Sys. (Mechatronics)	SIE 370	3
Biosystems Analytics	BE 434	3
Agronomy Foundations	ASM 490 or PLS 497	3
Applied Plant Physiology	PLS 475A	3
(BE) Design Electives (Choose 9 units)	Course	Units
Precision Observation with Drones	BE 385	3
Soil and Water Resources Engineering	BE 455	3
Remote Sensing Data and Methods	BE 485	3

Water Resources

Technical Electives (Choose 9 units)	Course	Units
Hydrology	CE/ATMO/HYDR 423	3
Wastewater Treatment Design System	CHEE/CE 476B	3
Hydraulic Engineering and Design	CE 323	4
Remote Sensing Data and Methods	BE 485	3
Applications of Geographic Information Systems	RNR 403	3
Watershed Management	WSM 462	3
(BE) Design Electives (Choose 9 units)	Course	Units
Watershed Engineering	BE 426	3
Computer Applications in Hydraulics	BE/CE 427	3
Control of Erosion Processes	BE 428	3
Ecological Systems Engineering	BE 430	3
Soil and Water Resources Engineering	BE 455	3
Irrigation Systems Design	BE 456	3
Wastewater Treatment Operations and Reuse	BE 458	3
Design of Onsite Wastewater Treatment and Dispersal Systems	BE 459	3

Pre-Health / Pre-Medical

Technical Electives (Choose 9 units)	Course	Units
Biochemistry	BIOC 384	3
Biomechanical Engineering	AME/BME 466	3
Biomedical Imaging	BME 416	3
Medical Device Design	BME 310	3
Nanoscience and Nanotechnology for Biomedical Engineers	BME 485	3
Microbiology for Engineers	CHEE 477R	3
Organic Chemistry	CHEM 241 A	3
(BE) Design Electives (Choose 9 units)	Course	Units
Engineering of Biological Processes	BE/CHEE 481A	3
Cell and Tissue Engineering	BE/CHEE 481B	3
Biomaterial-Tissue Interactions	BE/BME 486	3
Fabrication Techniques for Micro- and Nanodevices	BE/AME 489B	3