

Biosystems Analytics & Technology B.S. Curriculum, 6-28-22

General Education Requirements	Course	34 Units
First Year Composition 1	ENGL 101, or ENGL 107, or ENGL 109H	3
First Year Composition 2	ENGL 102, or ENGL 108	3
Second Language, 1 st semester		4
Second Language, 2 nd semester		4
General Education, Natural Science	Chem 151 or MCB 181	
General Education, Artist		3
General Education, Social Scientist		3
General Education, Humanist		3
General Education, Building Connections 1		3
General Education, Building Connections 2		3
General Education, Building Connections 3		3
Bookend University Gen Eds		2
General Science & Math Core	Course	32-37 Units
Calculus I	MATH 122A/B, or MATH 125	5/3
Introductory Statistics	AREC 239, or MATH 263, or BIOS 376	4/3
Biology I with Lab	MCB 181R/L or PLS 240	4
Biology II with Lab	ECOL 182R/L	4
General Chemistry I with Lab	CHEM 151, or CHEM 161/163	4
General Chemistry II with Lab	CHEM 152, or CHEM 162/164	4
Physics I with Lab	PHYS 102 and PHYS 181, or PHYS 141	4
6 th semester of Science	MIC 205A/L, or ECOL 320, or BIOC 384, or RNR 316	4/3
Introduction to Data Science	ISTA 131	4
Biosystems Analytics & Technology Core	Course	29 Units
Intro to Biosystems Analytics & Technology using CURE	BE 102	3
Basic Computer Skills for Office Applications	BE 120	3
Introduction to Biosystems	BE 201	2
Intro to Sensors & Controls	BE 247	3
Engineering Analytic Computer Skills	BE 205	3
Intro to Biosystems Analytics	BE 310	3
Applied Biostatistics	BE 413	3
Biosystems Analytics	BE 434	3
Remote Sensing Data and Methods	BE 485	3
Senior Capstone Design I	BE 498	3
Electives	Course	14-19 Units
Various electives	see list	18
Career Preparation	Course	6 Units
Technical Writing	ENVS 408, or ALC/AGTM 422, or SCI 401	3
Seminar in Careers & Professionalism	BE 496A	1
Internship	BE 493	2
Total		120

Elective Suggestions

Seeking More Depth In: Analytics

Electives	Course	Units
Metagenomics	BE 487	3
Applied Cyberinfrastructure Concepts	ISTA/BE 429	3
Cloud Computing	CSC 346	3
Data Visualization	CSC 444	3
Database Design	CSC 460	3

Seeking More Depth In: Sensors & Controls

Electives	Course	Units
Precision Observations with Drones	BE 385	3
Introduction to Machine Learning	ISTA 421	3
Artificial Intelligence	ISTA 450	3

Applying Supporting and Core Coursework to an Area of Interest: CEA

Electives	Course	Units
Intro to Hydroponics	BE 217R/L	3/1
Advanced Hydroponics	BE 350R/L	3/1
Applied Instrumentation for Controlled Environment Agriculture	BE 479	3
Controlled Environment Systems	BE 483	3
Greenhouse Pest Management: Methods and Practice	BE/ENTO 497C	3
Plant Physiology	PLS 475A	3

Applying Supporting and Core Coursework to an Area of Interest: Pre-Health / Pre-Medical

Electives	Course	Units
Animal Research Methods	ACBS/ANS/BIOC/MIC/ 443	3
Biochemistry	BIOC 384	3
Genetics	ECOL 320	
Microbiology	MIC 305A/L	3/1
Organic Chemistry	CHEM 241 A	3

Applying Supporting & Core Coursework to Area of Interest: Remote Sensing, Precision Ag

Electives	Course	Units
Precision Observation with Drones	BE 385	3
Globalization, Sustainability, and Innovation	BE 452	3
Applications of Geographic Information Systems	RNR 403	3
Introduction to Remote Sensing	GEOG 330	3
Crop Science and Production	PLS 306	3

Applying Supporting and Core Coursework to an Area of Interest: Environment

Electives	Course	Units
Precision Observation with Drones	BE 385	3
Conservation of Natural Environment	RNR 200	3
Geographic Information Systems for Natural and Social Sciences	RNR 417	3
Introduction to Remote Sensing	GEOG 330	3
Ecosystem Health and Justice	ENVS 310	3