B.S. IN BIOSYSTEMS ENGINEERING
Yuma Campus CATALOG YEAR 2024-2025

COURSE NUMBER AND TITLE	UNITS	PREREQUISITES
1ST SEMESTER FALL 16 UNITS		
Introduction to Biosystems: BE 201 (Fall only)	2	MATH 122B or 125
Biosystems Thermal Engineering: BE 284 (Fall only)	3	MATH 129; PHYS 141
Introductory Biology I: MCB 181R/L I OR PLS 240	4	Appropriate Math Placement
Statics: CE 214	3	PHYS 141 or 161H; MATH 129
Calculus III: MATH 223 Vector Calculus	4	MATH 129 with C or better
2ND SEMESTER Spring 17 UNITS		
Engineering Analytic Computer Skills: BE 205 (Spring only)	3	
Calculus IV: MATH 254 Ordinary Differential Equations	3	MATH 129 or 223 with C or better
Physics II: PHYS 241 or PHYS 261H	4	For PHYS 241 or 261H: PHYS 141 or 161H; MATH 129 or appropriate Math Placement Level
Biology II: ECOL 182R/L Introductory Biology II or MIC 205 A/L General Microbiology or PSIO 201 Human Anatomy and Physiology	4	ECOL182R/L & MIC 205: Appropriate Math Placement
GE Exploring Perspectives, Humanist	3	
3RD SEMESTER FALL 15 UNITS		
Biosystems Engineering Design: Engineering Graphics & Design with Auto Cad: BE 220 or Introduction to Computer-Aided Design: BE 221	3	
Introductions to Biosystems Analytics: BE 310	3	
Fluid Mechanics: Mechanics of Fluids: CE 218 or Introduction to Fluid Mechanics: AME 331*	3	*ME Minors only, see major advisor for approval.
Engineering Management I: SIE 265	3	
GE Exploring Perspectives, Social Scientist	3	
ENGR ADVANCED STANDING REQUIRED TO ENROLL IN 300-400 LEVEL COURSES. STUDENTS MUST COMPLETE THE ADV. STANDING APPLICATION WITH THE BE ADVISOR. **4TH SEMESTER SPRING (ADVANCED STANDING REQUIRED) 16 UNITS**		
Biosystems Analysis and Design: BE 423	3	
Internship: BE 493	1	See major advisor for approval. Needs to be completed prior to taking BE 496A
BE Design Elective	3	See major advisor for course approval
BE Technical Elective	3	See major advisor for course approval
Statistics: AREC 239 Introduction to Statistics and Data Analysis or MATH 263 Introduction to Statistics and Biostatistics or MATH 363 Introduction to Statistical Methods or SIE 305 Engineering Probability and Statistics (*Yuma Campus recommendation)	3	*SIE 305 is required for SIE 330R.
GE Building Connections	3	

5TH SEMESTER FALL (ADVANCED STANDING REQUIRED) 16 UNITS		
Seminar in Engineering Careers and Professionalism: BE 496A	1	BE 493
Sensors and Controls: BE 447	3	
BE Design Elective	3	See major advisor for course approval
Technical Elective	3	See major advisor for course approval
Senior Capstone BE 498A (Fall Only) Yuma Campus Only	3	Senior status and BE 496A
Technical Writing: CE 301** or ENGL 308** or ENVS 408	3	** CE310 and ENGL 308 satisfy Building connections
6TH SEMESTER	**16/17 UNITS**	
Senior Capstone BE 498B (Spring Only) Yuma Campus Only	3	Senior Status
BE Design Elective (BE 485)	3	See major advisor for course approval
Technical Elective	3	See major advisor for course approval
Engineering Design of Experiments SIE 330R Yuma Campus only	3	SIE 305 and Advanced Standing
Building Connections or ***Technical Elective	3/**4**	See major advisor for course approval ***2 to 4 units of Tech elective.
General Education Portfolio: UNIV 301	1	

GE Exploring Perspective (1 of ea. Artist, Humanist, Natural Scientist, Social Scientist) and Building Connection Courses (3 courses, 9 units total) must meet University General Education requirements.

*Chemistry 151 will fulfill BE CHEM I requirement and Gen Ed– Natural Scientist course

** CE 301 and ENGL 308 will fulfill the BE technical writing requirement and one Building Connections course.

***Students who complete CE 301 or ENGL 308 to satisfy Tech Writing and Building Connections may take 4 units of technical elective with Advisor approval. Students who complete MATH 122A & B (5 units) and CE 301 or ENGL 308 Building Connections/Technical Writing (3 units) may take 2 units of technical elective with Advisor approval.