

**U.A. WHITAKER COLLEGE OF ENGINEERING
BACHELOR OF SCIENCE IN BIOENGINEERING (B.S.)
129 Credits Total**

Freshman Year						
Semester 1 (Fall Term)	Course	Course Title	CR	Prerequisites*	Offered	Milestone
	EGS 1006L	Intro to Engineering Profession	1	MAC 1147	Fa, Sp	Meet with an engineering academic advisor and have a smart plan on file. Smart plans will be completed with the advisor and available to the student.
	ENC 1101	Composition I	3		Fa, Sp,Su	
	XXX XXXX	State Core Humanities*	3		Fa, Sp,Su	
	MAC 2311	Calculus I	4	MAC 1147 or MAC 2157	Fa, Sp,Su	
	CHM 1045 and CHM 1045L	Gen Chemistry I and Gen Chemistry I Lab	4	MAC 1105	Fa, Sp,Su	
		Total	15			

Semester 2 (Spring Term)	Course	Course Title	CR	Prerequisites*	Offered	Milestone
	EGN 1041C	Computational Tools for Engineering	2	MAC 2311 and EGS 1006L	Fa, Sp	
	PHY 2048C	General Physics I w/lab	4	MAC 2311	Fa, Sp,Su	
	MAC 2312	Calculus II	4	MAC 2311	Fa, Sp,Su	
	ENC 1102	Composition II	3	ENC 1101	Fa, Sp,Su	
	CHM 1046 and CHM 1046L	Gen Chemistry II and Gen Chemistry II Lab	4	CHM 1045 and CHM1045L	Fa, Sp,Su	
		Total	17			

Summer	Course	Course Title	CR	Prerequisites*	Offered	Milestone
	XXX XXXX	Social Science* (recommend ECO 2013 or ECO 2023)	3		Fa, Sp,Su	Complete MAC 2312 with a minimum grade of "C"
	XXX XXXX	State Core Social Science* (recommend AMH 2020 or POS 2041)	3		Fa, Sp,Su	
	XXX XXXX	Humanities*	3		Fa, Sp,Su	
		Total	9			

Sophomore Year						
Semester 3 (Fall Term)	Course	Course Title	CR	Prerequisites*	Offered	Milestone
	EGM 3420C	Engineering Mechanics	4	PHY 2048C	Fa, Sp	Complete EGN 1041C and BSC 1010C with a minimum grade of "C".
	MAP 2302	Differential Equation	3	MAC 2312	Fa, Sp,Su	
	BSC 1010C	General Biology I w/lab	4		Fa, Sp,Su	
	PHY 2049C	General Physics II w/lab	4	MAC 2312 and PHY 2048C	Fa, Sp,Su	
		Total	15			

Semester 4 (Spring Term)	Course	Course Title	CR	Prerequisites*	Offered	Milestone
	EGN 3433C	Design For Manufacturing	3	EGN 1041C and PHY 2048C	Sp	Complete MAP 2302 and CHM 1046C with a minimum grade of "C".
	STA 2023	Statistical Methods	3	MAT 1033	Fa, Sp	
	MAC 2313	Calculus III	4	MAC 2312	Fa, Sp,Su	
	BME 3403C	Human Physiology Engineers I	3	EGN 1041C, BSC 1010C, CHM 1046,CHM1046L, MAP 2302 and PHY 2048C	Sp	
		Total	13			

***Special Notes:**

Students must earn at least 9 semester hours by attending one or more summer sessions.

Students should be sure one of their social science or humanities include 1 course that is designated with an attribute for College Level Writing Skills (CLWS), 2 courses that are designated with an attribute for Intercultural Knowledge (INKN), and 1 course that satisfies the Civic Literacy requirement. Please be aware that 1 course may satisfy multiple attributes. Example: AML 2010 = Humanities, College Level Writing, and Intercultural Knowledge (GEHM, CLWS, INKN)

*Prerequisites for Coursework (all prerequisites require a minimum grade of C)
 ** The Technical Electives must be approved by the Bioengineering Department and together must total at least 6 credit hours.
<http://www.fgcu.edu/Eng/BioDpt/biobs/student-resources.html>

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	Course	Course Title	CR	Prerequisites*	Offered	Milestone
Summer	BSC 1011C	General Biology II w/ Lab	4	BSC 1010C	Fa, Sp,Su	
	CHM 2210 and CHM 2210L	Organic Chemistry I and Orgo Chemistry I Lab	4	CHM 1046 and CHM 1046L	Fa, Sp,Su	
	Total		8			

Junior Year						
	Course	Course Title	CR	Prerequisites*	Offered	Milestone
Semester 5 (Fall Term)	EGN 3060C	Introduction to Mechatronic Design	3	PHY 2049C and (EGM 3420C or COP 2001)	Fa	Complete EGM 3420C and PHY 2049C with a minimum grade of "C".
	CHM 2211 and CHM 2211L	Organic Chemistry II and Orgo Chemistry II Lab	4	CHM 2210 and CHM2210L	Fa, Sp,Su	
	BME 3100C	Introduction to Biomaterials	3	EGN 3420C, CHM 1046 and CHM 1046L and (STA 2023 or STA 2037)	Fa	
	BME 3404C	Human Physiology Engineers II	3	BME 3403C and PHY 2049C	Fa	
	BME 3506C	Circuits for Bioengineers	3	PHY 2049C and MAP 2302	Fa	
Total		16				

	Course	Course Title	CR	Prerequisites*	Offered	Milestone
Semester 6 (Spring Term)	XXX XXXX	Restricted Elective 2	3		Fa, Sp,Su	Complete EGN 3433C and BME 3403C with a minimum grade of "C".
	BME 3507C	Signals Syst Bioengineers	3	PHY2049C and BME 3403C	Sp	
	BME 4800C	Bioengineering Product Design	3	BME 3100C and EGN 3433C	Sp	
	BME 4722	Health Care Engineering	3	STA 2023 or STA 2037	Sp	
	BME 4332C	Cellular and Tissue Engineering	3	BME 3100C and BME 3403C	Sp	
Total		15				

Senior Year						
	Course	Course Title	CR	Prerequisites	Offered	Milestone
Semester 7 (Fall Term)	BME 4884	Bioengineering Senior Design I	2	EGN 3XXXC, BME 4332C, BME 4800C, BME 3507C and BME 4722	Fa	Make a graduation check appointment with advising. Complete BME 3100C and BME 3506C with a minimum grade of "C". Apply for graduation by the deadline.
	BME 4211C	Biomechanics	3	EGN 3420C and BME 3403C	Fa	
	BME 4503C	Biomedical Instrumentation	3	BME 3506C, BME 3507C and BME 3404C	Fa	
	BME 3261C	Biofluid Mechanics	3	BME 3100C and MAC 2313	Fa	
	XXX XXXX	Humanities	3			
Total		14				

	Course	Course Title	CR	Prerequisites	Offered	Milestone
Semester 8 (Spring Term)	BME 4885	Bioengineering Sr Design II	3	BME 4884 and BME 3404C	Sp	
	BME XXXX	BME Required Course***	3		Fa, Sp	
	BME 4632C	Biotransport Phenomena	3	BME 3261C	Sp	
	IDS 3920	University Colloquium	3		Fa, Sp,Su	
Total		12				

Engineering Common Core - Engineering Courses	10
Engineering Courses unique to B. S. in Bioengineering	47

General Education & Other Required Courses	72
Total Engineering Credits	57
Total Degree Credits	129

***Special Notes:**

Students must earn at least 9 semester hours by attending one or more summer sessions.

Students should be sure one of their social science or humanities include 1 course that is designated with an attribute for College Level Writing Skills (CLWS), 2 courses that are designated with an attribute for Intercultural Knowledge (INKN), and 1 course that satisfies the Civic Literacy requirement. Please be aware that 1 course may satisfy multiple attributes. Example: AML 2010 = Humanities, College Level Writing, and Intercultural Knowledge (GEHM, CLWS, INKN)

*Prerequisites for Coursework (all prerequisites require a minimum grade of C)

** The Restricted Electives must be approved by the Bioengineering Department and together must total at least 6 credit hours.

*** The BME Required Course must be from the approved list provided in the course catalog. Note that not all approved courses are available in each term.

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