

Bachelor of Science in Electrical Engineering - Sample Plan

Biomedical Applications Concentration – Biomechanics Path

This plan is suggested for students entering Academic Year 2023-2024 who are ready for calculus.

Semester 1:

Course:	Title:	CR.
MA 1160/61	Calculus I w/Technology	4
ENG 1101	Engg Analysis & Prob. Solving	3
CH 1150	University Chemistry 1	3
CH 1151	University Chemistry 1 Lab	1
CH 1153	Optional Chem. Recitation (1 cr.)	1
UN 1015	Composition (1)	3
Total:		14

Semester 2:

Course:	Title:	CR.
MA 2160	Calculus II w/Technology	4
ENG 1102	Engineering Modeling and Design	3
PH 1100	Physics by Inquiry I	1
PH 2100	University Physics I – Mechanics	3
UN 1025	Global Issues (1)	3
Total:		14

Semester 3:

Course:	Title:	CR.
MA 2321 (2)	Elementary Linear Algebra	2
MA 3521 (2)	Elementary Differential Equations	2
EE 2111	Electric Circuits I	3
CS 1111	Intro. to Programming in C / C++	3
BL 2010	Anatomy and Physiology I	3
BE 2400	Cellular and Molecular Biology	3
PH 1200	Physics by Inquiry II	1
Total:		17

Semester 4:

Course:	Title:	CR.
MA 3160	Multivariable Calculus w/Technology	4
EE 2112	Electric Circuits II and Lab	4
EE 2174	Digital Logic and Lab	4
BL 2020	Anatomy and Physiology II	3
	CORE Critical/Creative Thinking (1)	3
Total:		18

Semester 5:

Course:	Title:	CR.
BE 3300	Biomechanics I	3
EE 3160	Signals and Systems	3
EE 3131	Electronics and Lab	4
PH 2200	University Physics II – Elec. & Magnetism	3
	CORE Soc. Resp. & Ethical Reas. (1)	3
	<i>Take ENT3950 if choosing Enterprise</i>	
Total:		16

Semester 6:

Course:	Title:	CR.
	Biomedical Eng'g. Application (BEA) concentration elective (3)	3
EE 3901	Design Fundamentals	2
EE 3171	Microcontroller Applications for CPS	4
BE 3700	Biomedical Instrumentation	3
BE 3701	Biomedical Instrumentation Lab	1
	HASS Social & Behavioral Science (1)	3
	<i>Take ENT 3960 if choosing Enterprise</i>	
Total:		16

Semester 7:

Course:	Title:	CR.
EE 4901 (4)	ECE Senior Design Project I <i>or take ENT 4950 if Enterprise</i>	2
EE 3180	Probability & Random Signal Analysis	3
	EE Elective (5)	3
	EE Elective (5)	3
	HASS Humanities/Fine Arts (1)	3
	HASS Communication/Composition (1)	3
Total:		17

Semester 8:

Course:	Title:	CR.
EE 4910 (4)	ECE Senior Design Project II <i>or take ENT 4960 if Enterprise</i>	2
EE 3140	Electromagnetics	3
	EE Elective (5)	3
	EE Elective (5)	3
	Free Electives	2
	HASS Elective (1)	3
Total:		16

Total credits: 128 + 3 units co-curricular activities

This is a suggested plan which can vary by individual student, and which shows a path through the program which avoids time conflicts. Students are responsible for monitoring degree progress and meeting degree requirements. Refer to the degree audit.

- (1) Follow university General Education CORE and HASS requirements. All students must add 3 units of co-curricular activities. GE 2100 is suggested HASS for Environmental Applications, from the HASS restricted list.
- (2) May substitute MA 2320 for MA 2321 and/or MA 3520 for MA 3521. MA 2320 and MA 3520 are taken in separate semesters. MA 3520 or MA 3521 is a prerequisite for EE 2112.
- (3) Choose one course from the list of Biomedical Engineering Application (BEA) electives. Example: BE 3350, Human Biomechanics.
- (4) Approved Engineering Design courses: (EE 4901 & EE 4910) or (MEEM 4901 & MEEM 4911) or Enterprise (ENT3950 & ENT3960 & ENT 4950 & ENT 4960). Recommended enterprises include: BMSE, OSHE, WCE, RSE, and H-STEM with EE applications.
- (5) Choose EE courses offered among various areas of specialization (focus areas). Mix and match as the student likes.

Bachelor of Science in Electrical Engineering - Sample Plan

Biomedical Applications Concentration – Biomaterials Path

This plan is suggested for students entering Academic Year 2023-2024 who are ready for calculus.

Semester 1: Semester 2:

Course:	Title:	CR.
MA 1160/61	Calculus I w/Technology	4
ENG 1101	Engg Analysis & Prob. Solving	3
CH 1150	University Chemistry 1	3
CH 1151	University Chemistry 1 Lab	1
CH 1153	Optional Chem. Recitation (1 cr.)	1
UN 1015	Composition (1)	3
Total:		14

Course:	Title:	CR.
MA 2160	Calculus II w/Technology	4
ENG 1102	Engineering Modeling and Design	3
PH 1100	Physics by Inquiry I	1
PH 2100	University Physics I – Mechanics	3
UN 1025	Global Issues (1)	3
Total:		14

Semester 3: Semester 4:

Course:	Title:	CR.
MA 2321 (2)	Elementary Linear Algebra	2
MA 3521 (2)	Elementary Differential Equations	2
EE 2111	Electric Circuits I	3
CS 1111	Intro. to Programming in C / C++	3
BL 2010	Anatomy and Physiology I	3
BE 2400	Cellular and Molecular Biology	3
PH 1200	Physics by Inquiry II	1
Total:		17

Course:	Title:	CR.
MA 3160	Multivariable Calculus w/Technology	4
EE 2112	Electric Circuits II and Lab	4
EE 2174	Digital Logic and Lab	4
BL 2020	Anatomy and Physiology II	3
	CORE Critical/Creative Thinking (1)	3
Total:		18

Semester 5: Semester 6:

Course:	Title:	CR.
EE 3160	Signals and Systems	3
EE 3131	Electronics and Lab	4
PH 2200	University Physics II – Elec. & Magnetism	3
	CORE Soc. Resp. & Ethical Reas. (1)	3
	HASS Humanities/Fine Arts (1)	3
<i>Take ENT3950 if choosing Enterprise</i>		
Total:		16

Course:	Title:	CR.
BE 2800	Biomaterials I	3
EE 3901	Design Fundamentals	2
EE 3171	Microcontroller Applications for CPS	4
BE 3700	Biomedical Instrumentation	3
BE 3701	Biomedical Instrumentation Lab	1
	HASS Social & Behavioral Science (1)	3
<i>Take ENT 3960 if choosing Enterprise</i>		
Total:		16

Semester 7: Semester 8:

Course:	Title:	CR.
EE 4901 (4)	ECE Senior Design Project I	2
	<i>or take ENT 4950 if Enterprise</i>	
	Biomedical Eng'g Application (BEA) concentration elective (3)	3
EE 3180	Probability & Random Signal Analysis	3
	EE Elective (5)	3
	EE Elective (5)	3
	HASS Communication/Comp. (1)	3
Total:		17

Course:	Title:	CR.
EE 4910 (4)	ECE Senior Design Project II	2
	<i>or take ENT 4960 if Enterprise</i>	
EE 3140	Electromagnetics	3
	EE Elective (5)	3
	EE Elective (5)	3
	Free Electives	2
	HASS Elective (1)	3
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Total credits: 128 + 3 units co-curricular activities

This is a suggested plan which can vary by individual student, and which shows a path through the program which avoids time conflicts. Students are responsible for monitoring degree progress and meeting degree requirements. Refer to the degree audit.

- (1) Follow university General Education CORE and HASS requirements. All students must add 3 units of co-curricular activities. GE 2100 is suggested HASS for Environmental Applications, from the HASS restricted list.
- (2) May substitute MA2320 for MA2321 and/or MA3520 for MA3521. MA2320 and MA3520 are taken in separate semesters. MA 3520 or MA 3521 is a prerequisite for EE 2112.
- (3) Choose one course from the list of Biomedical Engineering Applications (BEA) electives. Example: BE 3800, Biomaterials II.
- (4) Approved Engineering Design courses: (EE 4901 & EE 4910) or (MEEM 4901 & MEEM 4911) or Enterprise (ENT3950 & ENT3960 & ENT 4950 & ENT 4960). Recommended enterprises include: BMSE, OSHE, WCE, RSE, and H-STEM with EE applications.
- (5) Choose EE courses offered among various areas of specialization (focus areas). Mix and match as the student likes.