

Degree of Bachelor of Science in Bioengineering (Device Track)

FRESHMAN

FALL	WINTER	SPRING
MATH 11 – CALC I	MATH 12 – CALC II	MATH 13 – CALC III
CHEM 11– Chem I L/L (5)	PHYS 31 – Phys I	PHYS 32 – Phys II L/L (5)
ENGR 1 – Intro Engr. (1)		BIOE 10 - Intro BioEng.
CORE (Rel. 1)	C& I 1	C& I 2
CTW 1	CTW 2	

SOPHOMORE

FALL	WINTER	SPRING
MATH 14 – CALC IV	CHEM 12 - Chem II L/L (5)	CHEM 13 - Chem III L/L (5)
PHYS 33 –Phys III L/L (5)	AMTH 106 – Diff. Equation	ELEN 21 – Logic Design (5)
BIOL 21 – Intro Physiology	COEN 44 or 45 - Program. (5)	MECH 10 - Graph. Design (5)
CORE (Soc. Sci.)	CORE (Ethics)	CORE (Diversity)

JUNIOR

FALL	WINTER	SPRING
CHEM 31 – Org Chem I (5)	CHEM 32 –Org Chem II (5)	BIOE 161- BioInstrument.
ELEN 50 – Electr. Circuits I (5)	BIOE 162 – BioSignals (5)	AMTH 108 - Prob. & Stats.
BIOL 24 – Cell & Mol Bio.	BIOL 25 – Cell & Mol Bio (5)	TE
CORE (Rel. 2)	CORE (C& I 3)	CORE (Rel. 3)
		**BioEng Seminar (1)

SENIOR

FALL	WINTER	SPRING
*R1	*R2	TE
BIOE 194 - Senior Design	BIOE 195 - Senior Design	BIOE 196 - Senior Design
TE	BIOL 124 – Human Physiol (5)	TE
ENGL 181		ENGL 182

* Choose from BIOE 153 (Biomaterial Science), BIOE 154 (Intro Biomechanics) and BIOE 155 (Biological Transportation Phenomenon).

**Recommended.

TE: Technical elective; total should be a minimum of 15 units. Choose from the list.

Degree of Bachelor of Science in Bioengineering (Bimolecular /Pre-med Track)

FRESHMAN

FALL	WINTER	SPRING
MATH 11 – CALC I	MATH 12 – CALC II	MATH 13 – CALC III
CHEM 11– Chem I L/L (5)	CHEM 12 - Chem II L/L (5)	CHEM 13 - Chem III L/L (5)
BIOL 21 – Intro Physiology		BIOE 10 - Intro BioEng.
ENGR 1 – Intro Engr. (1)	C& I 1	C& I 2
CTW 1	CTW 2	

SOPHOMORE

FALL	WINTER	SPRING
MATH 14 – CALC IV	PHYS 31 – Phys I	PHYS 32 – Phys II L/L (5)
CHEM 31 – Org Chem I (5)	CHEM 32 –Org Chem II (5)	MECH 10 – Graph. Design (5)
BIOL 24 – Cell & Mol Bio.	BIOL 25 – Cell &Mol Bio (5)	ELEN 21 – Logic Design (5)
CORE (Rel. 1)	CORE (Soc. Sci.)	CORE (Ethics)

** BioEng Seminar (1)

JUNIOR

FALL	WINTER	SPRING
PHYS 33 –Phys III L/L (5)	*R1	*R2
COEN 44 or 45 - Program. (5)	BIOL 174 – Cell Biology (5)	AMTH 108 - Prob. & Stats.
AMTH 106 – Diff. Equation	ELEN 50 – Electr. Circuits I (5)	TE
CORE (Diversity)	CORE (Rel. 2)	CORE (Rel. 3)

SENIOR

FALL	WINTER	SPRING
BIOE 161- BioInstrument (5)	BIOE 162 – Biosignals (5)	BIOE 196 - Senior Design
BIOE 194 - Senior Design	BIOE 195 - Senior Design	TE
CORE (C& I 3)	TE	TE
ENGL 181		ENGL 182

* Choose from **BIOE 153** (Biomaterial Science), **BIOE 154** (Intro Biomechanics) and **BIOE 155** (Biological Transportation Phenomenon).

**Recommended.

TE: Technical elective; total should be a minimum of 15 units. Choose from the list.

List of Bioengineering Technical Electives:

AMTH 118 (4) - Numerical Methods
BIOE 100 (1) – Bioengineering research seminar
BIOE 107 (2) - Medical Device Product Development
One course from BIOE 153, 154, or 155 (if all three are taken)
BIOL 104 (5) – Human Anatomy
BIOL 122 (5) – Neurobiology
BIOL 124 (5) – Human Physiology (if not a required course)
BIOL 174 (5) - Cell Biology (if not a required course)
BIOL 175 (5) - Molecular Biology
BIOL 176 (5) – Recomb. DNA Tech.
BIOL 177 (5) - Gene Expression and Protein Purification
BIOL 178 (5) – Bioinformatics
*CHEM 33 (5) – Organic Chemistry III (*Required for Pre-med track*)
CHEM 111 (5) - Chem. Thermodynamics
CHEM 141 (5) – Biochemistry I
CHEM 150 (5) – Biophysical Chemistry
CHEM 151 (5) – Instrumental Analysis
CHEM 152 (5) – Spectroscopy
CENG 123 (4) – Environmental Reaction Engineering
CENG 143 (4) – Environmental Engineering
COEN 120 (5) – Real-time Systems
COEN 122 (5) – Computer Architecture
COEN 146 (5) – Computer Networks
ELEN 104 (4) - Electromagnetics
ELEN 115 (5) – Electronic Circuits I
ELEN 116 (5) - Electronic Circuits II
ELEN 123 (5) – Mechatronics
ELEN 151 (5) – Semiconductor Devices
ELEN 156 (4) – Intro Nanotechnology
MECH 121 (5) – Thermodynamics
MECH 122 (5) - Fluid Mechanics
MECH 151 (4) - Finite Element Theory