

Degree of Bachelor of Science in Bioengineering (Medical Device Track)
Effective Fall 2011 (apply to BIOE freshmen)

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)
BIOE 21 – Intro Physiology	BIOE 22 –Cell & Mol BioEng (5)	MECH 10 - <i>Graph. Design</i> (5)
CORE (Soc. Sci.)	CORE (Ethics)	CORE (Diversity)

JUNIOR

FALL	WINTER	SPRING
CHEM 31 – Org Chem I (5)	BIOE 155 - Bio.Transport.Phenom	BIOE 161- BioInstrument.(5)
ELEN 50 – Electr. Circuits I (5)	BIOE 162 – BioSignals (5)	AMTH 108 - Prob. & Stats.
BIOE 153 - Biomaterial	COEN 45 (or 44) - Program. (5)	BIOE 154 - Biomechanics
CORE (Rel. 2)	BIOE 172 – Tissue Eng I (5)	BIOE 171 - Physio & Anat. (5)

SENIOR

FALL	WINTER	SPRING
TE (BIOE 107 - Med. Device) (2)	TE	TE
BIOE 194 - Senior Design (2)	BIOE 195 - Senior Design (2)	BIOE 196 - Senior Design (2)
TE	CORE (Rel. 3)	TE
ENGL 181	CORE (C& I 3)	ENGL 182

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

Degree of Bachelor of Science in Bioengineering (Bimolecular Track)
Effective Fall 2011 (apply to BIOE freshmen)

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) or ELEN 21 – Logic Design (5)
BIOL 24 – Cell & Mol Bio.	BIOL 25 – Cell & Mol Bio (5)	AMTH 106 – Diff. Equation
CORE (Rel. 1)	CORE (Rel. 2)	CORE (Ethics)

JUNIOR

FALL	WINTER	SPRING
PHYS 33 –Phys III L/L (5)	COEN 45 - Program. (5)	BIOE 163 - Bio-device Eng. (5)
*R1	ELEN 50 – Electr. Circuits I (5)	AMTH 108 - Prob. & Stats.
BIOE 175 – Biomol. Eng. I (5)	BIOE 176 – Biomol. Eng. II	*R2
CORE (Rel. 3) Biol 171	CORE (Soc. Sci.)	CORE (Diversity)

SENIOR

FALL	WINTER	SPRING
TE	BIOE 162 – Biosignals (5)	TE
BIOE 194 - Senior Design (2)	BIOE 195 - Senior Design (2)	BIOE 196 - Senior Design (2)
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)

TE: Technical elective; total should be a minimum of 16 units. Choose from the list.

Degree of Bachelor of Science in Bioengineering (Pre-med Track)
Effective Fall 2011 (apply to BIOE freshmen)

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)	CHEM 33 - Org Chem II (5)
BIOL 24 – Cell & Mol Bio.	BIOL 25 – Cell & Mol Bio (5)	MECH 10 – Graph. Design (5) or ELEN 21 – Logic Design (5)
CORE (Rel. 1)	CORE (Soc. Sci.)	CORE (Rel. 2)

JUNIOR

FALL	WINTER	SPRING
PHYS 33 –Phys III L/L (5)	*R1	BIOE 163 - Bio-device Eng. (5) or BIOE 161 - Bioinstrument. (5)
AMTH 106 – Diff. Equation	ELEN 50 – Electr. Circuits I (5)	AMTH 108 - Prob. & Stats.
BIOE 172 – Tissue Eng. I (5)	COEN 45 - Program. (5)	BIOE 171 - Physio & Anat. (5)
CORE (Diversity)	CORE (Ethics)	CORE (C& I 3)

SENIOR

FALL	WINTER	SPRING
*R2	BIOE 162 – Biosignals (5)	TE
BIOE 194 - Senior Design (2)	BIOE 195 - Senior Design (2)	BIOE 196 - Senior Design (2)
CORE (Rel. 3)	TE	
ENGL 181	TE	ENGL 182

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

TE: Technical elective; total should be a minimum of 10 units. Choose from the list.

Technical Elective (TE) Requirements:

- A minimum number of TE units are required for each track. Specifically,
Medical-device track: 15 units; Biomolecular track: 16 units; Pre-med track: 10 units

Recommended Technical Electives for Medical -device Track:

- BIOE 100, 107, 157, 163, 167, 173, 174, 175,176; COEN 123; ELEN 110, 115, 116, 130, 152, 156, 160;
MECH 121, 122, 123, 151, 154

Recommended Technical Electives for Biomolecular Track

- BIOE 100, 157, 171, 172, 173, 174; one course from BIOE 153,154, 155 that is not counted as a required course; BIOL 104, 110, 122, 124, 174, 175, 176, 177, 178, 189; CHEM 33, 111, 141, 142, 143, 151, 152

Recommended Technical Electives for Pre-med Track:

- BIOE 100, 107,157, 173, 174, 175,176; one course from BIOE 153,154, 155 that is not counted as a required course; BIOL 104, 110, 122, 174,175, 176, 177, 178, 189; CHEM 111, 141, 142, 143, 151, 152