

Therapeutics Track Curriculum Map

Fall Year 1 (17 hrs)	Spring Year 1 (16 hrs)	Fall Year 2 (17 hrs)	Spring Year 2 (18 hrs)	Fall Year 3 (15 hrs)	Spring Year 3 (17 hrs)	Fall Year 4 (12/13 hrs)	Spring Year 4 (15/16 hrs)
MATH 221 (4) Calculus I	MATH 231 (3) Calculus II	MATH 241 (4) Calculus III	MATH 285 (3) Intro Diff Eq	BIOE 476 (3) Tissue Engineering	BIOE 310 (3) Comp Tools for Bio Data	BIOE 400 (4) Sr. Design or Free Elective (3)	BIOE 400 (4) Sr. Design or Free Elective (3)
ENG 100 (1) Engineering Lecture	PHYS 211 (4) Univ Physics, Mechanics	PHYS 212 (4) Univ Physics, Elec & Mag	BIOE 205 (3) Systems in Bioengineering	BIOE 302 (3) Modeling Human Physiology	BIOE 360 (3) Transport & Flow in Bioengineering	BIOE 420 (3) Intro Bio Control Systems	
BIOE 100 (1) BIOE Freshman Seminar	BIOE 120 (1) Introduction to Bioengineering	CS 101 (3) Intro to Comp or CS 124 (3)	BIOE 210 (3) Linear Algebra for Biomedical Data Science	↓	BIOE 414 (3) Biomedical Instrumentation		
RHET 105 (4) Principles of Composition	MCB 150 (4) Molec&Cellular Basis of Life	BIOE 201 (3) Conservation Princ Bioeng	BIOE 202 (2) Cell & Tissue Eng. Lab	BIOE 303 (2) Quant Human Physiology Lab	↓		
CHEM 102 (3) General Chemistry I	CHEM 104 (3) General Chemistry II	BIOE 206 (3) Cellular Bioengineering	CHEM 232 (4) Organic Chemistry I		BIOE 415 (2) Biomedical Instrumentation Lab		
↓ C	↓ C	BIOE 200 (1) BIOE Career Immersion					
CHEM 103 (1) General Chem Lab I	CHEM 105 (1) General Chem Lab II			Free Elec (1)		Track Elec (3)	Free Elec (3)
SS/Hum (3)			Free Elec (3)	Track Elec (3)	Track Elec (3)	Track Elec (3)	Track Elec (3)
				SS/Hum (3)	Free Elec (3)		SS/Hum (3)

** Note – Not taking courses as advised may result in a delayed graduation date. Students are responsible for any impact resulting from not following departmental advising.

** If outlined in RED, the BIOE course is offered both Fall & Spring Semesters.

**Courses with dashed line borders are not currently required as part of the Core BIOE Curriculum

Therapeutics Track Electives

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| <ul style="list-style-type: none"> • BIOE 306 - Biofabrication Lab (3 hr) • BIOE 424 - Preclinical Molecular Imaging (3 hr) • BIOE 430 - Intro Synthetic Biology (3 hr) • BIOE 450 - Quantitative Pharmacology (3 hr) • BIOE 460 - Gene Editing Lab (3 hr) • BIOE 479 - Cancer Nanotechnology (3 hr) • BIOE 487 - Stem Cell Bioengineering (3 hr) • BIOE 498 NIE/ST1 - Surgical Technologies (3 hr) • BIOE 498 AL - Immunoengineering (3 hr) • BIOE 498 TL - Intro to Systems Bio (3 hr) • BIOE 498 LEC/TC1 - Tech for Cancer Diag & Therapy (3 hr) • BIOE 498 HG - Soft Robotics (3 hr) • BIOE 498 RI - Regulatory Safety Issues in Bioengineering (3 hr) • BIOE 498 BTP - Biotech Principles, Tools, & Applications (3 hr) • BIOE 498 MPM - Disease Models for Personalized Medicine (3 hr) | <ul style="list-style-type: none"> • MSE 403 - Synthesis of Materials (3 hr) • MSE 404 - Polymer Characterization (1.5 hr) • MSE 450 - Polymer Science & Engr (3 hr) • MSE 457 - Polymer Chemistry (3 hr) • MSE 470 - Design & Use of Biomaterials (3 hr) • MSE 473 - Biomolecular Materials Science (3 hr) • MSE 474 - Biomaterials & Nanomedicine (3 hr) • MSE 480 - Surfaces & Colloids (3 hr) • ECE 481 - Nanotechnology (3 hr) • CHBE 472 - Techniques in Biomolecular Engineering (3 hr) • TMGT 461 TMD/TME - Tech, Eng, & Mngmt Project (4 hr) |
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General Education Requirements

- ☐ 6 hours in Humanities
- ☐ 6 hours in Social/Behavioral Sciences
- ☐ 1 Advanced Composition Course
- ☐ 1 Western Comparative Cultures Course
- ☐ 1 Non-Western Comparative Cultures Course
- ☐ 1 US Minority Cultures Course
- ☐ Language Other Than English

PreMed Requirements

- ☐ Meet with The Career Center for Premed advising
- ☐ Common Courses (*additional requirements may apply depending on school*):
 - ☐ MCB 450/354 (BioChem)
 - ☐ CHEM 233 (Orgo 1 lab)
 - ☐ Social/Behavioral Science Sequence (2-3 courses)