LAFAYETTE
ENGINEERING

Bioengineering Focus Area Electives

The following are approved courses for the Bioengineering focus area – discuss the courses that meet your specific interests with your advisor. Please note that depending on the instructor you may need both BIOL 111 and 112, or just 112 to meet the prerequisites for upper level BIOL electives. We do our best to keep these lists current, but students may petition for new courses to be added. If a course is on this list and doesn't show up in DegreeAudit, please let both the Registrar and your Advisor know about it. Please note that courses on this list may not be offered each year.

Engineering Electives

CHE 331	Polymers
CHE 350	Intro to Nanoengineering
CHE 360	Drug Delivery
CHE 372	Biomolecular Engineering
CHE 386	Composites
ME 338	Soft Tissue Mechanics
ME 482	Advanced Fluid Dynamics w/ Apps
ME 489	Intro to Biomedical Engineering
ME 492	Biomechanics
ECE 322	Solid State Circuits
ECE 414	Embedded Systems
ECE 427	Sensors and Electronic Systems
ECE 434	Digital Signal Processing
ECE 435	Image and Speech Signal Processing
ECE 437	Biomedical Systems Modeling
ECE 471	Introduction to AI for Computer Vision
ES 495, 496	Integrative Engineering Senior Thesis

Math/Science Electives (2 must be from the Biology Electives list)

CHEM 221	Organic Chemistry I
CHEM 351	Biochemistry Survey
MATH 286	Introduction to Probability and Mathematical Statistics
MATH 335	Probability
MATH 336	Statistics
NEUR 201	Intro to Neuroscience
PHYS 220	Medical and Biological Physics

Biology Electives (2 from this list – may require instructor permission)

BIOL 213	Comp. Vertebrate Anatomy
BIOL 214	Neuroanatomy
BIOL 245	Immunology
BIOL 255	Molecular Genetics
BIOL 265	Biostatistics
BIOL 274	Intro to Bioinformatics
BIOL 277	Cell Biology
BIOL 314	Anatomy of Vision
BIOL 345	Infectious Diseases
BIOL 350	Genomics
BIOL 356	Biomedical Informatics
BIOL 3xx	special topics courses may apply

Related Electives (can be any from the above lists, plus the courses list below)

HIST 215	History of Technology
HIST 252	Transformation of the American Environment
INDS 246	Biotechnology and Innovation
INDS 253	Being Human in STEM
PHIL 145	Bioethics
PHIL 175	Ethics of AI, Internet, and Algorithms
PHIL 236	Philosophy of Science
PHIL 225	Philosophy of the Mind
PSTD 255	Multinational Business and Corporate Social Responsibility
PSYC 225	Psychopharmacology
PSYC 331	Human Factors and Engineering Psychology