

Table A.3a

ECE with BME Second Major (matriculating classes 2012-2014)

Freshman Year	
Fall Semester	Spring Semester
EGR 103L Computational Methods in Engineering	Biology 201L Molecular Biology <i>[alt; Chem 210DL or Chem 201DL]</i>
Math 111L Introductory Calculus I	Math 112L Introductory Calculus II
Chem 101DL Core Concepts in Chemistry ¹	Physics 151L Introductory Mechanics ²
Writing 101 / Social Science or Humanities Elective 1	Social Science or Humanities Elective 1 / Writing 101
Sophomore Year	
Fall Semester	Spring Semester
ECE 110L Fundamentals of ECE	ECE 230L Microelectronic Devices and Circuits
EGR 201L Mechanics of Solids	ECE 280L Signals and Systems
Math 212 Multivariable Calculus	Math 216 Linear Algebra & Differential Equations
Physics 152L Intro Electricity, Magnetism, Optics ²	COMPSCI 201 Data Structures and Algorithms
BME 244L Quantitative Physiology <i>[alt: Bio 201L]</i>	Chem 210DL Apps Chem Principles or Chem 201DL Organic Chemistry <i>[alt:BME 244L]</i>
Junior Year	
Fall Semester	Spring Semester
ECE 270DL Fields & Waves	ECE Concentration Elective 1 ³
ECE 250D Computer Architecture	BME 354L Biomed Electronics and Measurement II
Math 353 Ordinary & Partial Differential Equations	BME 301L Bioelectricity or BME 303 Modern Diagnostic Imaging Systems ⁵
ME 221L Structure and Properties of Solids	Statistics Elective ⁶
BME 260L Modeling Cell & Molecular Systems	Social Science or Humanities Elective 2
Senior Year	
Fall Semester	Spring Semester
ECE Elective ⁴ or ECE Concentration Elective 2	ECE Elective or ECE Concentration Elective 2
BME design: BME 436L or 464L	BME General Elective
BME Area Elective ⁵	Social Science or Humanities Elective 4
Life Science Elective ⁷	Social Science or Humanities Elective 5
Social Science or Humanities Elective 3	

1. Students are required to have Chem 21 or take Chem 101DL or Chem 110DL.
2. See also the Physics requirements on [p.6](#).
3. ECE Concentration Electives: Two courses selected from the set approved for the ECE program. Both courses must be selected from the same area. See [Appendix D: Approved ECE Concentration Elective Areas and Courses](#) for a complete course listing.
4. ECE Elective: Any ECE course at the 300 level or above.
5. If BME 301L is taken, the Area Elective must be from the Bioelectricity Area
If BME 303 is taken, the Area Elective must be from the Imaging and Sensors Area
See the BME Undergraduate Program Handbook for details.
6. Statistics Elective selected from the list of approved Statistics electives, found in [Appendix E](#).
7. See the BME Undergraduate Program Handbook for a list of approved Life Science Electives.