

BIOE Prerequisites Effective Fall 2017

| Course | Prerequisites |
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| BIOE 1010 | CH 1010 |
| BIOE 2010 | BIOE 1010 or BIOL 1030 or BIOL 1100; and CH 1020 |
| BIOE 3000 | BIO E 2000 |
| BIOE 3020 | BIOE 2010, MSE 2100, and CH 2010/2020 or CH 2230/2270 Coreq: Bio E 3021 |
| BIOE 3021 | Coreq: Bio E 3020 |
| BIOE 3100 | BIOE 1010 or BIOL 1030 or BIOL 1100 Coreq: BIOE 3101 |
| BIOE 3101 | Coreq: BIOE 3100 |
| BIOE 3200 | MTHS 2080 and CE 2010 |
| BIOE 3210 | MTHS 2080 and CE 2010 |
| BIOE 3700 | ECE 2020 or ECE 2070; and MTHSC 2080 Coreq: BIOE 3701 |
| BIOE 3701 | Coreq: BIOE 3700 |
| BIOE 4000 | BIOE 3000 |
| BIOE 4010 | BIOE 3020 or BIOE 3200 or BIOE 3700 |
| BIOE 4020 | BIOE 3020 and BIOL 4610 Coreq: BIOE 4021 |
| BIOE 4021 | Coreq: BIOE 4020 |
| BIOE 4030 | BIOE 4010 Coreq: BIOE 4031 |
| BIOE 4031 | Coreq: BIO E 4030 |
| BIOE 4120/6120 | BIOE 3020 and BIOE 3200, and, prereq or coreq: BIOL 3150/BIOL 3151 or BIOE 3100/3101 |
| BIOE 4200 | BIOE 3020 and BIOE 3200 |
| BIOE 4230/6230 | BIOE 3020, BIOL 3150/3151 or BIOE 3100/3101, and BIOE 3200 or 3210 |
| BIOE 4310/6310 | MTHS 2080; ECE 2020 or 2070; and prereq or coreq: Bio E 3700, Coreq: BIOE 4311/6311 |
| BIOE 4311/6311 | Co-req: BIOE 4310/6310 |
| BIOE 4350/6350 | MTHS 2080 |
| BIOE 4400/6400 | BCHM 3050 |
| BIOE 4480 | BIOE 3020, BIOL 3150/3151. Concurrent enrollment BIOL 4610. Coreq: BIOE 4481 |
| BIOE 4481 | Coreq: BIOE 4480 |
| BIOE 4490 | BIOE 3020 |
| BIOE 4510 | Consent of Instructor |
| BIOE 4600 | Consent of Instructor |
| BIOE 4610 | Consent of Instructor |

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| BIOE 4690 | Consent of Instructor |
| BIOE 4710/6710 | MTHS 2080, PHYS 2210; ECE 3200 or 2070 |
| BIOE 4760 | BCHM 3050 Coreq: BIOE 4761 |
| BIOE 4761 | BIOE 4760 |
| BIOE 4820/6820 | Junior standing in BIO E Coreq: BIOE 4821/6821 |
| BIOE 4821/6821 | Coreq: BIOE 4820/6820 |
| BIOE 4900 | Senior standing in BIOE and Consent of BIOE Department Chair |
| BIOE 4910 | Consent of Instructor |
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BioE Technical Requirements/Electives Effective Fall 2013(updated 7/31/13)

I. BioE Technical Electives. All students must take at least 3 credits from the following list. Students may take all 12 credits of BioE technical requirement from this list.

| Course | Title | Credits |
|--------------------|---------------------------------------|----------------|
| BIO E 4020 | Biocompatibility | 3 |
| BIO E 4120/6120 | Ortho Engr and Path | 3 |
| BIO E 4230/6230 | Cardiovascular Engr and Path | 3 |
| BIO E 4310/6310 | Medical Imaging | 3 |
| BIO E 4350/6350 | Modeling Multiphysics Problems | 3 |
| BIO E 4400/6400 | Biotechnology for Bioengineers | 3 |
| BIO E 4490 | Drug Delivery | 3 |
| BIO E 4500 (H) | Special Topics | Variable (1-4) |
| BIO E4610 | International Study in Bioengineering | 3 |
| BIO E 4710/6710 | Biomedical Imaging in Biophotonics | 3 |
| BIO E 4760 | Biosurface Engineering | 3 |
| BIO E 4820/6820 | Biomaterial Implantology | 3 |

II. Additional Technical Elective Requirement Courses

| Course | Title | Credits |
|--------------------------------------|---------------------------------------|-----------------|
| BIO E 321(for Bioelectrical Conc) | Biofluid Mechanics | 3 |
| BIO E 415 (H) | Research Principles | 1 |
| BIO E 451 | Creative Inquiry | Variable (1-3) |
| BIO E 460 | International Special Research Topics | Variable (1-6) |
| BIO E 469 | International Internship | Variable (1-6) |
| BIO E 490 | Internships | 1 (max.) |
| BIO E 491 (H) | Research in Bioengineering | Variable (1-6) |
| BMOLE 425/625 | Biomolecular Engineering | 3 |
| BMOLE 426/626 | Biosensors and Bioelectronic Devices | 3 |
| ECE 272 & 273 | Computer Organization and laboratory | 3 & 1 |
| ECE 321/312 (3 cr/1cr) take both | Electronics II | 4 |
| ECE 381 | Fields waves and circuits | 3 |

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| ECE 317 | Random signal analysis | 3 |
| ECE 371 & 372 | Microcontroller interfacing and laboratory | 3 & 1 |
| ECE 409 | Cont and Discrete Syst Design | 3 |
| ECE 410/610 | Modern Control Theory | 3 |
| ECE 432 | Instrumentation | 3 |
| ECE 467 | Intro to DSP | 3 |