

Biomedical Engineering Course Plan (2017-2018)

| | Freshman Year | | | | | | |
|----------|--|-------|--|--|--|--|--|
| √ | Fall | ✓ | Spring | | | | |
| | ENGI 1100: Intro to Engineering | | ENGI 1331: Computers & Problem-Solving | | | | |
| | BIOL 1361: Biological Science I | | BIOL 1362: Biological Science II | | | | |
| | BIOL 1161: Biological Science I Lab | | BIOL 1162: Biological Science II Lab | | | | |
| | CHEM 1331: Chemistry I | | CHEM 1332: Chemistry II | | | | |
| | CHEM 1111: Chemistry I Lab | | CHEM 1112: Chemistry II Lab | | | | |
| | ENGL 1303/1309: First Year Writing I | | MATH 1432: Calculus II | | | | |
| | MATH 1431: Calculus I | | PHYS 1321: University Physics I | | | | |
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| | Sophomore Year | | | | | | |
| ✓ | Fall | ✓ | Spring | | | | |
| | CHEM 3331: Organic Chemistry I | | BIOE 2331: Biomedical Processes | | | | |
| | CHEM 3221: Organic Chemistry I Lab | | ECE 2201: Circuit Analysis I | | | | |
| | BIOE 2100: Intro to Biomedical Engineering | | BCHS 3304: Biochemistry I | | | | |
| | ENGL 1304/1310: First Year Writing II | | MATH 3321: Engineering Math | | | | |
| | MATH 2433: Calculus III | | Core: Social & Behavioral Sciences | | | | |
| | PHYS 1322: University Physics II | | Core: Creative Arts | | | | |
| | | | | | | | |
| | Junio | r Yea | ar | | | | |
| ✓ | Fall | ✓ | Spring | | | | |
| | MECE 3400: Intro to Mechanics | | BIOE 3340: Quantitative Physiology | | | | |
| | ENGI 2304: Technical Communication | | BIOE 3140: Quantitative Physiology Lab | | | | |
| | INDE 2333: Engineering Statistics | | BIOE 3341: Biothermodynamics | | | | |
| | Core: HIST 1377-US History to 1877 | | BIOE Track Course [recommend BIOE 4302] | | | | |
| | Core: POLS 1336-US & TX Constitutions | | BIOE Track Course | | | | |
| | | | Core: HIST 1378-US History Since 1877 | | | | |
| | | | | | | | |
| | Senio | r Ye | ar | | | | |
| ✓ | Fall | ✓ | Spring | | | | |
| | BIOE 4315: Intro to Bioinstrumentation | | BIOE 4336: Capstone Design II | | | | |
| | BIOE 4115: Intro to Bioinstrumentation Lab | | BIOE Track Course [recommend BIOE 4350/4150] | | | | |
| | BIOE 4335: Capstone Design I | | BIOE Track Course | | | | |
| | BIOE Track Course | | BIOE Track Course | | | | |
| | BIOE Track Course | | Core: Language, Philosophy, & Culture | | | | |
| | Core: POLS 1337 – US Government | | | | | | |
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| Notes: | | |
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Biomedical Engineering Course Plan (2017-2018)

| BIOE 4302: Numerical Analysis +Choose 3 from the following: BIOE 4308 & 4150: Genomic & Proteomic Engineering BIOE 4302: Numerical Analysis +Choose 3 from the following: BIOE 5341: Advanced Biofluid Dynamics BIOE 53439: Biomedical Microdevices BIOE 53439: Biomedical Microdevices BIOE 5323: Regenerative Medicine & Stem Cell Engineering BIOE 4303: Biomaterials Advances in Vision Research Mass Transport for Bio-systems Drug Design and Delivery Cell and Molecular Biology for BME Tissue Engineering: Principles & Practice +Choose 2 Additional Advanced BIOE Courses from Technical Electives or other Tracks* Neural, Cognitive, & Rehabilitation Engineering Track 2 required courses: BIOE 4305 & 4150: Genomic & Proteomic Engineering BIOE 4305: Brain-Machine Interfacing ECE 3337: Signals & Systems** Introduction to Neuro-Computing Neural Interfaces +Choose 2 Additional Advanced BIOE Courses from Technical Electives or other Tracks* **ECE 2202 (required for electrical courses in neural track, but does not count towards BIOE) **Biomedical Imaging Track* 5 required courses: BIOE 4330 & 4150: Genomic & Proteomic Engineering BIOE 4302: Numerical Analysis BIOE 5317: Introduction to Diseases BIOE 5320: Introduction to Optical Imaging BIOE 5337: Introduction to Optical Imaging BIOE 5317: Introduction to Optical Imaging BIOE 5317: Introduction to Optical Imaging BIOE 5315: Introduction to Diseases ECE 3355/3155: Electronics | partment of Biomedical Engineering | | | | | |
|--|---|--|--|--|--|--|
| BIOE 4302: Numerical Analysis +Choose 3 from the following: BIOE 4308 & 4150: Genomic & Proteomic Engineering BIOE 4302: Numerical Analysis +Choose 3 from the following: BIOE 5341: Advanced Biofluid Dynamics BIOE 53439: Biomedical Microdevices BIOE 53439: Biomedical Microdevices BIOE 5323: Regenerative Medicine & Stem Cell Engineering BIOE 4303: Biomaterials Advances in Vision Research Mass Transport for Bio-systems Drug Design and Delivery Cell and Molecular Biology for BME Tissue Engineering: Principles & Practice +Choose 2 Additional Advanced BIOE Courses from Technical Electives or other Tracks* Neural, Cognitive, & Rehabilitation Engineering Track 2 required courses: BIOE 4305 & 4150: Genomic & Proteomic Engineering BIOE 4305: Brain-Machine Interfacing ECE 3337: Signals & Systems** Introduction to Neuro-Computing Neural Interfaces +Choose 2 Additional Advanced BIOE Courses from Technical Electives or other Tracks* **ECE 2202 (required for electrical courses in neural track, but does not count towards BIOE) **Biomedical Imaging Track* 5 required courses: BIOE 4330 & 4150: Genomic & Proteomic Engineering BIOE 4302: Numerical Analysis BIOE 5317: Introduction to Diseases BIOE 5320: Introduction to Optical Imaging BIOE 5337: Introduction to Optical Imaging BIOE 5317: Introduction to Optical Imaging BIOE 5317: Introduction to Optical Imaging BIOE 5315: Introduction to Diseases ECE 3355/3155: Electronics | Bionanoscience Track | | | | | |
| BIOE 4302: Numerical Analysis +Choose 3 from the following: BIOE 5341: Advanced Biofulid Dynamics BIOE 5346: Transport Phenomena in Biosystems BIOE 5336: Transport Phenomena in Biosystems BIOE 5336: Transport Phenomena in Biosystems BIOE 5336: Biomaterials Advances in Vision Research Mass Transport for Bio-systems Drug Design and Delivery Cell and Molecular Biology for BME Tissue Engineering: Principles & Practice +Choose 2 Additional Advanced BIOE Courses from Technical Electives or other Tracks* Neural, Cognitive, & Rehabilitation Engineering Track 2 required courses: BIOE 4350 & 4150: Genomic & Proteomic Engineering BIOE 4302: Numerical Analysis +Choose 3 from the following: BIOE 4305: Brain-Machine Interfacing ECE 3337: Signals & Systems** Introduction to Neuro-Computing Neural Interfaces +Choose 2 Additional Advanced BIOE Courses from Technical Electives or other Tracks* **EECE 2202 (required for electrical courses in neural track, but does not count towards BIOE) Biomedical Imaging Track 5 required courses: BIOE 4350 & 4150: Genomic & Proteomic Engineering BIOE 4302: Numerical Analysis BIOE 4302: Numerical Analysis BIOE 4303: Introduction to Diectrical Imaging BIOE 4302: Numerical Analysis BIOE 5302: Introduction to Electrical Imaging BIOE 5302: Introduction to Diectrical Imaging BIOE 5307: Introduction to Imaging BIOE 5307: Introduction to Optical Imaging BIOE 5307: Introduction to Optical Imaging BIOE 5311: Introduction to Optical Imaging BIOE 3351: Introduction to Diseases ECE 3355/3155: Electronics | 2 required courses: | | | | | |
| ### Head of Company in the Following: ### Head of Courses in Proteomic Engineering ### Head of Courses in Head | BIOE 4350 & 4150: Genomic & Proteomic Engineering | | | | | |
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| BIOE 4349: Biomedical Microdevices BIOE 5316: Transport Phenomena in Biosystems BIOE 5323: Regenerative Medicine & Stem Cell Engineering BIOE 5303: Biomaterials Advances in Vision Research Mass Transport for Bio-systems Drug Design and Delivery Cell and Molecular Biology for BME Tissue Engineering: Principles & Practice +Choose 2 Additional Advanced BIOE Courses from Technical Electives or other Tracks* Neural, Cognitive, & Rehabilitation Engineering Track 2 required courses: BIOE 4350 & 4150: Genomic & Proteomic Engineering BIOE 4302: Numerical Analysis +Choose 3 from the following: BIOE 4342: Biomedical Signal Processing BIOE 4342: Biomedical Signal Processing BIOE 4303: Brain-Machine Interfacing ECE 3337: Signals & Systems** Introduction to Neuro-Computing Neural Interfaces +Choose 2 Additional Advanced BIOE Courses from Technical Electives or other Tracks* **ECE 2202 (required for electrical courses in neural track, but does not count towards BIOE) Biomedical Imaging Track 5 required courses: BIOE 4350 & 4150: Genomic & Proteomic Engineering BIOE 4302: Numerical Analysis BIOE 5302: Introduction to Electrical Imaging BIOE 5317: Introduction to Imaging BIOE 4307: Introduction to Imaging BIOE 4307: Introduction to Optical Imaging HCHoose 2 Additional Advanced BIOE Courses from Technical Electives or other Tracks* Additional Advanced Electives BIOE 3351: Introduction to Diseases ECE 3355/3155: Electronics | +Choose 3 from the following: | | | | | |
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| ECE 3355/3155: Electronics | Additional Advanced Electives | | | | | |
| ECE 3355/3155: Electronics | BIOE 3351: Introduction to Diseases | | | | | |
| | | | | | | |
| | ECE 3456: Analog Electronics | | | | | |