

Prerequisite Chart for the B.S. BME Degree Program

| Course | Title | Prerequisite |
|------------------------------|--------------------------------------|---|
| Required Core Courses | | |
| BMED 1000 | Intro to Biomedical Engineering | None |
| BMED 2110 | Conservation Principles in BME | BMED 1000 and CHEM 1211K and MATH 1552 |
| BMED 2250 | Problems in Biomedical Engineering | BMED 2110 |
| BMED 2310 | Intro to BME Design | BMED 2110 and BMED 2250 and PHYS 2211 |
| BMED 2400* | Intro to Bioengineering Statistics | MATH 1552 and CS 1371 |
| BMED 3100/4853 | Systems Physiology | CHEM 1315 or CHEM 2311 or Junior Standing |
| BMED 3110 | Quantitative Engr Physiology Lab I | BMED 3410 and BMED 3100/4853 ¹ and BMED 2400 (or CEE/ISYE 3770) ¹ and CS 1371 |
| BMED 3310 | Biotransport | BMED 2110 and MATH 2551 and MATH 2552 and CS 1371 and PHYS 2211 |
| BMED 3410 | Intro to Biomechanics | MATH 2551 and COE 2001 |
| BMED 3520 | Biomedical Systems and Modeling | BMED 2110 and BMED 3100/4853 and MATH 2552 and CS 1371 |
| BMED 3600 | Physio of Cellular and Molecular Sys | BMED 3100/4853 |
| BMED 3610 | Quantitative Engr Physiology Lab II | BMED 3600 ¹ and BMED 2400 (or CEE/ISYE 3770) |
| BMED 4000 | Art of Telling Your Story | BMED 1000 and BMED 2310 |
| BMED 4602 | Capstone Design | BMED 2310 and BMED 3110 ¹ |

* Or ISYE 3770 (Prerequisite MATH 1551 and 1553) or CEE 3770 (Prerequisite MATH 2551)

Depth Elective Courses

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|-----------|-----------------------------------|---|
| BMED 4477 | Biological Networks and Genomics | BMED 3520 and BMED 2400 (or CEE/ISYE 3770) |
| BMED 4603 | Advanced Biomedical Eng. Design | BMED 4602 |
| BMED 4739 | Medical Robotics | BMED 3410 and BMED 3110 |
| BMED 4740 | Bio-Inspired Design | BMED 3100/4853 |
| BMED 4750 | Diagnostic Imaging Physics | BMED 3110 |
| BMED 4751 | Introduction to Biomaterials | MSE 2001 |
| BMED 4757 | Biofluid Mechanics | BMED 3310 |
| BMED 4758 | Biosolid Mechanics | BMED 3410 |
| BMED 4765 | Drug Design, Develop & Delivery | CHEM 3511 or CHEM 4511 |
| BMED 4781 | Biomedical Instrumentation | ECE 3710 |
| BMED 4782 | Biosystems Analysis | BMED 3520 |
| BMED 4783 | Intro to Medical Image Processing | ECE 2026 and BMED 2400 (or CEE/ISYE 3770) |
| BMED 4784 | Engineering Electrophysiology | BMED 3520 |
| ECE 2026 | Intro to Signal Processing | MATH 1552 and 1553 and CS 1371 ² |

Required Science, Math and Engineering Courses

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|------------|--------------------------------------|---|
| CHEM 1211K | Chemical Principles I | None |
| CHEM 1315* | Survey of Organic Chemistry | CHEM 1211K |
| COE 2001 | Statics | MATH 1552 and PHYS 2211 |
| CS 1371 | Computing for Engineers | None |
| ECE 3710 | Circuits & Electronics | PHYS 2212 |
| ECE 3741 | Instrumentation & Electron Lab | ECE 3710 |
| MATH 1551 | Differential Calculus | SAT MATH SCORE of 600 or ACT MATH SCORE of 26 or MATH 1113 |
| MATH 1552 | Integral Calculus | MATH 1551 |
| MATH 1553 | Introduction to Linear Algebra | SAT MATH SCORE of 600 or ACT MATH SCORE of 26 or MATH 1113 or MATH 1552 |
| MATH 2551 | Multivariable Calculus | MATH 1552 and 1553 |
| MATH 2552 | Differential Equations | MATH 1552 and 1553 |
| MSE 2001 | Prin & Appl of Engineering Materials | CHEM 1211K |
| PHYS 2211 | Intro to Physics I | MATH 1552 ¹ |
| PHYS 2212 | Intro to Physics II | PHYS 2211 |

* Or CHEM 2312/2313 if pre-health - Prerequisite CHEM 2311

¹ Prerequisite w/concurrency

² Minimum grade of C required

Last updated January 20, 2022