

### Approved depth electives from other majors:

Highlighted courses or those that have the number 8 as their second digit are special topics courses that might change from semester to semester. If you are interested in one of the above special topics courses or an engineering course that builds on the core BME curriculum email a copy of the current course syllabus to the Director of Undergraduate study for evaluation. Seniors with a grade point average of at least 3.5 may schedule graduate level BMED courses as acceptable alternatives, subject to the approval of the course professor and the Director of Undergraduate Studies.

| School  | Course   |
|---|--|
| AE  | AE 2010: Thermodynamics  |
|   | AE 2220: Dynamics  |
|   | AE 3030: Aerodynamics  |
|   | AE 3515: Systems Dynamics and Controls                                       |
| CEE   | CEE 2040: Dynamics   |
|   | CEE 4560: Origami Engineering  |
| CHBE  | CHBE 2120: Numerical Methods in Chemical Engineering                         |
|   | CHBE 4210: Process Control   |
|   | CHBE 4505: Chemical Process Design   |
|   | CHBE 4525: Biochemical Process Design  |
|   | CHBE/ME/ECE 4782 : Biosystems Analysis                                       |
|   | CHBE/ME/MSE 4793 : Composite Materials & Processes                           |
|   | CHBE/MSE/ME 4775 : Polymer Science and Engineering I                         |
|   | CHBE/MSE/ME 4776 : Polymer Science and Engineering II                        |
| COE   | COE 2701*: Start Up Lab (counts againt 6 max credits of reserach)            |
|   | COE 3001: Mechanics of Deformable Bodies                                     |
|   | COE 3002: Introduction to the Microelectronics and Nanotechnology Revolution |
|   | COE 3803: Data Analytics for Engineers                                       |
| CS / CX   | CS 3600: Intro to AI   |
|   | CS 3630: Intro to Robotics and Perception                                    |
|   | CS 3651: Prototyping Intelligent Appliances                                  |
|   | CS 4240: Computational Data Analysis   |
|   | CS 4400: Intro to Database Management  |
|   | CS 4460: Introduction to Information Visualization                           |
|   | CS 4641 (QUP): Machine Learning  |
|   | CX 4230: Computer Simulation   |
|   | ECE  |
| ECE 2026 : Intro to Signal processing                                 |  |
| ECE 2031: Digital Design Laboratory                                   |  |
| ECE 2036: Engineering Software Design                                 |  |
| ECE 2893: Computing Fundamentals: Combined Hardware/Software Approach |  |
| ECE 3550: Feedback Control Systems                                    |  |
| ECE 4782 : Biosystems Analysis  |  |
| ECE/MSE 4761 : Industrial Controls and Manufacturing                  |  |

| School   | Course   |
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| ID   | ID 4843/8900CZ: Evidence Based Design              |
|  | ID 6271: Healthcare Design of the Future           |
| ISYE   | ISYE 3133 (QUP): Engineering Optimization          |
| ME   | ME 2202: Dynamics of Rigid Bodies                  |
|  | ME 3015: System Dynamics and Control               |
|  | ME 3017: System Dynamics                           |
|  | ME 3180: Machine design                            |
|  | ME 3210: Design, Materials, and Manufacture        |
|  | ME 3322: Thermodynamics                            |
|  | ME 3743: Emerging Technologies                     |
|  | ME 4214: Mechanical Behavior of Materials          |
|  | ME 4775 : Polymer Science and Engineering I        |
|  | ME 4776 : Polymer Science and Engineering II       |
|  | ME 4782 : Biosystems Analysis                      |
|  | ME 4793 : Composite Materials & Processes          |
|  | ME 4803 : Probabilistic Risk Assessment            |
|  | ME 4833: Collaborative Assistive Technology Design |
| MSE  | MSE 4010: Environ Degradation                      |
|  | MSE 3300: Matsci & Eng of Sports                   |
|  | MSE 4330 : Fund Nanomats & Nanostrucs              |
|  | MSE 4335: Soft Nano Bio Materials                  |
|  | MSE 4761 : Industrial Controls and Manufacturing   |
|  | MSE 4775 : Polymer Science and Engineering I       |
|  | MSE 4776 : Polymer Science and Engineering II      |
|  | MSE 4793 : Composite Materials & Processes         |
|  | MSE 4803 : Advanced Nanomaterials                  |
|  | MSE 4803: Energy and Materials Research            |
| MSE 4330: Material Science & Engineering of Sports |  |
| PHYS   | PHYS 3520: Physics of Living Systems               |
|  | PHYS 3804: Neurophysics                            |
|  | PHYS 4251 : Biophysics                             |