BME Undergraduate Tracking Document

Student: Biomedical sensors, instrumentation, and imaging Sample Rev: May 22, 2023

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| 13/3 Units | | | | | | | |  | | 2/3 Units | | | | | |
| **MATH / BASIC SCIENCE / SUPPLEMENTAL SCIENCE** | | | | | | | |  | **SOCIAL SCIENCE** | | | | | | |
| Math  (2 Units) | | | | Biology  (2/3 Units; at least one at 2000+) | | | Chemistry  (2/3 Units) |  | ECON 1110 | | | | ID 2050 | | |
|  | [courses](https://www.wpi.edu/academics/departments/social-science-policy-studies/courses) & ID 2050 (for global IQP) | | | | | | |
| MA 1021: Calculus I | | | | BB 2550: Cell Biol. | | | CH 1010: Chem I |  | 6/3 Units | | | | | | |
| MA 1022: Calculus II | | | | BB 3102: Physiol. | | | CH 1020: Chem II |  | **HUMANITIES REQ’MENT** | | | | | | |
| MA 1023: Calculus III | | | | Physics  (2/3 Units) | | | Suppl. Science  (1/3 Units; any level)  (BB, PH, CH, MA, CS, FY) |  | Hu | | | Hu | | Hu | |
| MA 1024: Calculus IV | | | |  | Hu | | | Hu | | InqSem | |
| MA 2051: Diff. Equat. | | | | PH 1110: Mechanics | | |  | Click for [HU Requirement](https://www.wpi.edu/project-based-learning/project-based-education/humanities-arts-requirement) | | | | | | |
| MA 2610: Statistics I | | | | PH 1120: Electricity | | | PH 1140: Osc & Wave |  |  | | | | | | |
|  | | | |  | | | |  | 3/3 Unit | | | | | | |
| **COMPUTER PROGRAMMING** (1/3 Unit) | | | | | | | BME 1004 |  | **IQP** | | | | | | |
|  | | | | | | |  |  | Away | | | Away | | Away | |
| **HUMAN PHYSIOLOGY** (1/3 Unit) | | | | | | | BME 3111 |  | To find an IQP click [link](https://www.wpi.edu/academics/undergraduate/interactive-qualifying-project) | | | | | | |
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| 1/3 Unit | | | | |  | 1/3 Unit | |  | 3/3 Unit | | | | | | |
| **WELLNESS & PHYSICAL EDUCATION** | | | | |  | **FREE ELECTIVE** | |  | **MQP** | | | | | | |
| 1/12 | 1/12 | 1/12 | 1/12 | |  |  | |  | 1/6 A | | 1/3 B | | 1/3 C | | 1/6 D |

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| 14/3 Units | | | | | | |
| **ENGINEERING** | | | | | | |
| **Distribution requirement**  (or higher level, or equivalent) | **Course** | | | | | **Notes** |
| **Sensors & Instrument\*** | | **Signals\*** | | **Imaging\*** |
| Biomechanics | BME 2502 | | | | | - Consult the Biomedical Engineering Program Chart in the Undergraduate catalog for courses that count towards these requirements.  - Students that entered Fall 2020 and after:  You can only receive ENGR distribution credit for one of BME2502 or ES2502.  You can only receive ENGR distribution credit for one of BME2001 or ES2001.  - We do not recommend you take both BME2210 and ECE2010. |
| Biomaterials | BME 2001 | | | | |
| Bioinstrumentation | BME 2210 | | | | |
| BME Analysis | BME 2211 – Analysis/Prog | | | | |
| ENGR 2000+ | ECE 2019 | ECE 2311– Cont. Signals | | | |
| ENGR 2000+ | ECE 2029 | | ECE 2312 | ECE 2112 | | **Notes** |
| ENGR 2000+ | ECE 2201, ECE 2799, or ECE 2049 | | | | | ENGR course can be all courses designated “BME” (except BME 1001, BME 1004, BME 3110, BME 532, BME 560, BME 562, BME 564, and BME 593; BME 595 requires departmental approval) and ES, AE, AREN, CE, CHE, ECE, RBE, and ME courses at the 2000-level or above (except RBE 3100 and CE3022).  Extra suggested courses:  ECE 2201  ECE 3204  ECE 2799  ECE 2049  Free Elective:  BME 1001 |
| Engr Design | BME 3300 – BME Design | | | | |
| BME Lab #1 (1/6 unit) | BME 3012 – Biomed. Sensors lab | | | | |
| BME Lab #2 (1/6 unit) | BME 3013 – Biomed. Instrumentation lab | | | | |
| BME Lab #3 (1/6 unit) | BME 3014 – Biomed Signals lab | | | | |
| BME Lab #4 (1/6 unit) | BME 3811 – Biomaterials lab | | | | |
| ENGR 3000+ | ECE 3849 – R/T Embedded Systems | | | | |
| ENGR 3000+ | ECE 4703 – R/T DSP | | | | ES 3011 |
| BME 4000 depth | BME 4023 | BME 4011 – Biomed Signal Analysis | | | |
| BME 4000+ depth | BME 4201 – Biomed Imaging | | | | |

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| **SELF AUDIT** (check WorkDay to assure your courses are assigned correctly) |
| * 1/3 unit Computer program (BME1004, CS1004, or equiv.) (y/n)? \_\_\_\_\_\_\_ |
| * 1/3 unit Human Physiology (BME 3111, BME3112, BB3101, BB3102, or equiv.) (y/n)? \_\_\_\_\_\_\_ * 14/3 units Engineering (y/n)? \_\_\_\_\_\_\_ with 9/3 units BME (y/n)?\_\_\_\_\_\_\_ |
| * 3/3 units ENG 2000+ level (y/n)?\_\_\_\_\_\_\_ **(the green rows may bin in this category if they are not BME designated courses)** * 2/3 units ENG 3000+ level (y/n)?\_\_\_\_\_\_\_ |
| * BME Labs (4 x 1/6 unit) (y/n)?\_\_\_\_\_\_\_ * Living Systems Laboratory requirement (BME3111, BME 3012, BME 3503, or BME 3813) (y/n)?\_\_\_\_\_ * 2/3 units BME 4000+ (y/n)? \_\_\_\_\_\_\_\_ (Note: 1/3 unit **must be at the** BME 4000 level) * 1/3 unit BME design (BME 3300) (y/n)? \_\_\_\_\_\_ * 1/3 unit Capstone Design in BME (must be checked off by BME program MQP advisor during the MQP eCDR process) (y/n)?\_\_\_\_\_\_\_ * **BME3111 cannot double count** towards an ENGR requirement and the physiology requirement. * **No more than one 500 or 5000 level course** towards the 14/3 Units of Biomedical Engineering and Engineering requirement |