Recommended Sequence of Required Courses for the Major in Mechanical Engineering (2018)

**Stony Brook Curriculum**

**Freshman**
- **Fall**: ITS 101, WRT 102, HUM 3
- **Spring**: ITS 102, USA 3

**Sophomore**
- **Fall**: ECO 108 or EST 392, CHE 131, MEC 316
- **Spring**: BSE, Bas. Sci. Elective, MEC 363

**Junior**
- **Fall**: EME 332, General Chemistry, MEC 317

**Senior**
- **Fall**: TE1, TE2, TE3
- **Spring**: STAS, Arts, Glo

**Additional Degree Requirements**

- **Technical Electives** (≥ 9 credits with at least 2 MEC courses)
  - Mechanical Engineering
    - MEC 393, 398, 423, 450, 456, 459.
    - MEC 506, 509, 519, 526, 585, and other 500-level courses, required GPA ≥ 3.0.
  - Applied Math and Statistics
    - AMS 310, 311, 315, 341, 342, 351
  - Biomedical Engineering
    - BME 353, 481
  - Civil Engineering
    - CIV 310, 422
  - Chemical Engineering
    - CME 369
  - Computer Science
    - CSE 308, 327, 328, 352
  - Electrical Engineering
    - ESE 305, 356, 311, 330, 347, 350, 352, 380, 381
  - Materials Science and Engineering
    - ESG 333, 339, ESM 335, 338, 353, 369, 486
  - Technology and Society
    - EST 326, 327, 364, 391, 393

- **Basic Science Electives** (≥ 3 credits)
  - PHYS 251/252 Modern Physics (4)
  - ESG 281. Engineering Intro Solid State (3)
  - PHY 300 Waves and Optics (4)
  - CHE 132 General Chemistry II (4)
  - BIO 201 (4)
  - GE 203 Cellular and Organ Physiology (3)
  - GEO 310 Intro to Geophysics (3)
  - GEO 312 Structure and Prop. of Materials (3)
  - AST 303 Astronomy (4)
  - AST 205 Intro to Planetary Science (3)
  - ATM 205 Intro to Atmospheric Science (3)

- **Minor in Mechanical Engineering** (≥ 18 credits)
  - Four Required Courses
    - MEC 260 Engineering Statics
    - MEC 262 Engineering Dynamics
    - MEC 301 Thermodynamics (or ESG 302)
    - MEC 363 Mechanics of Solids
  - Additional term offerings

**Sciences**

- **Fall**: PHYS 131 & PH 133 Classical Physics
- **Spring**: PHY 132 & PH 134 Classical Physics II

**Mechanical Engineering**

- **Fall**: MEC 101 Fr. Des. Innov.
- **Spring**: MEC 102 Eng. Comput. PS

**Math**

- **Fall**: MAT 131 or AMS 151 Calculus I
- **Spring**: MAT 132 or AMS 161 Calculus II

**Requirements for Admission to the Major in Mechanical Engineering**

Qualification for admission is based upon all of the following requirements:
1. Completion of PHY 131 or PHY 126 or PHY 127 or their equivalents.
2. One MEC course required for the major and taken at Stony Brook.
3. Obtain 10 or more credits of mathematics, physics, and engineering courses that are taken at Stony Brook and satisfy the Major’s requirements.
4. No courses required for the major have been repeated.
5. Admission is highly competitive and contingent upon program capacity.

**Accelerated BE/MS Program in Mechanical Engineering (5 years)**

The accelerated BE/MS program in mechanical engineering allows students to use up to 6 graduate credits (typically technical electives) taken as an undergraduate towards MS degree requirements, thus reducing the normal time required to complete the MS degree. The program is designed for upper-division mechanical engineering students with superior academic records (GPA ≥ 3.2).