Undergraduate Program in Mechanical Engineering

Recommended Sequence of Required Courses for the Major in Mechanical Engineering (2019)

Stony Brook Curriculum

Freshman
- Fall
  - ITS 101 Intro to Stony Brook
  - WRT 102 Introd Writing
  - USA 100 History of US
  - HUM 100 Humanities
  - PHY 131 Classical Physics
  - PHY 133 Classical Physics
  - MEC 101 Mech. Eng. Statics
- Spring
  - ITS 102 Topics Intro & Tech
  - CHE 131 or ESG 198 Chemistry
  - PHY 132 Classical Physics

Sophomore
- Fall
  - ECO 108 or EST 392 Economics
  - BSE Bas. Sci. Elective
  - CHE 131 or ESG 198 Chemistry
  - PHY 132 Classical Physics
  - MEC 316 Inst. & Solids Lab (18)
- Spring
  - MEC 301 Thermodynamics
  - MEC 303 Heat Transfer
  - MEC 305 Heat Transfer

Junior
- Fall
  - MEC 317 Thermal Fluid Lab
  - MEC 318 Intro Fluid Mech.
  - MEC 320 Num. Meth. Des.
  - MEC 401 Mechanical Behavior
- Spring
  - STAS Rel. Sci./Arts
  - TE 1 Technical Elective
  - TE 2 Technical Elective
  - MAT 303 or AMS 361 Calculus IV Appl.

Senior
- Fall
  - Arts Fine & Perf. Arts
  - Global Issues
  - TE 3 Technical Elective
  - MEC 441 Mech. Eng. Des. II
- Spring
  - Graduation ≥ C
  - Graduation ≥ D
  - Additional term offerings
  - Credits

Technical Electives
(≥ 9 credits with at least 2 MEC courses)

Basic Science Electives
(≥ 3 credits)
- PHY 251/252 Modern Physics
- PHY 281 Engineering Intro Solid State
- PHY 300 Waves and Optics
- CHE 132 General Chemistry II
- BIO 202 Molecular and Cellular Biology
- BIO 203 Cellular and Organ Physiology
- GEO 310 Intro to Geophysics
- GEO 312 Structure and Prop. of Materials
- AST 203 Astronomy
- AST 205 Intro to Planetary Science
- ATM 205 Intro to Atmospheric Science

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

Requirements for Admission to the Major in Mechanical Engineering
Qualification for admission is based upon all 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. Earn 10 or more credits of mathematics, physics, and engineering courses that are taken at Stony Brook and satisfy the Major’s requirements.
4. Obtain a G.P.A. of at least 3 in major courses with no more than one grade below B, and
5. No courses required for the major have been repeated.

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).

Two Elective Courses:
- MEC 305 Heat and Mass Transfer
- MEC 310 Introduction to Machine Design
- MEC 320 Numerical Methods in Design & Analysis
- MEC 325 Manufacturing Processes
- MEC 364 Introduction to Fluid Mechanics
- MEC 393 Engineering Fluid Mechanics
- MEC 398 Thermodynamics
- MEC 411 System Dynamics and Control
- MEC 455 Applied Stress Analysis

Send inquiries to mechanicalengineeringundergrad@stonybrook.edu

Department of Mechanical Engineering, Stony Brook University (2019)