UNIVERSITY OF SOUTHERN CALIFORNIA

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

Stony Brook Curriculum

Freshman
- Fall: ITS 101
- Spring: ITS 102

Sophomore
- Fall: ECO 106 or EST 392
- Spring: ECO 108 or EST 392

Junior
- Fall: MEC 316
- Spring: MEC 317

Senior
- Fall: STAS
- Spring: ARTS

Graduation ≥ C
Prerequisite
Credits
Additional term offerings
Prerequisite, ≥ C
Co-requisite

Technical Electives
(≥ 9 credits with at least 2 MEC courses)
- Mechanical Engineering
  MEC 393, 398, 423, 450, 455, 456, 499.
- MEC 506, 509, 518, 526, 585
- Other graduate courses require 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
- Material Science and Engineering
  ESG 333, 339, ESM 335, 338, 353, 369, 486
- Technology and Society
  EST 328, 327, 364, 391, 393

Basic Science Electives
(≥ 3 credits)
- PHY 251/252 Modern Physics (4)
- CHE 132 General Chemistry II (4)
- BIO 202 Molecular and Cellular Biology (3)
- BIO 203 Cellular and Organ Physiology (3)
- GEO 310 Intro to Geophysics (3)
- GEO 312 Structure and Prop. of Materials (3)
- AST 203 Astronomy (4)
- ATM 205 Intro to Planetary Science (3)
- ATM 205 Intro to Atmospheric Science (3)

Minor in Mechanical Engineering
(≥ 18 credits)
- MEC 301 Thermodynamics (or ESG 302)
- MEC 363 Mechanics of Solids

Requirements for Admission to the Major in Mechanical Engineering
- Completion of PHY 131 or PHY 126 or PHY 127 or their equivalents.
- One MEC course required for the major and taken at Stony Brook.
- Earn 10 or more credits of mathematics, physics, and engineering courses that are taken at Stony Brook and satisfy the Major’s requirements.
- Obtain a G.P.A. of at least 3.2 in major courses with no more than one grade below B-.
- 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 306 Engineering Statics
- MEC 320 Numerical Methods in Design & Analysis
- MEC 325 Manufacturing Processes
- MEC 346 Introduction to Fluid Mechanics
- MEC 393 Engineering Fluid Mechanics
- MEC 398 Thermodynamics II
- MEC 402 Mechanical Vibrations
- MEC 411 System Dynamics and Control
- MEC 455 Applied Stress Analysis

Send inquiries to mechanicalengineeringundergrad@stonybrook.edu

Department of Mechanical Engineering, Stony Brook University (2018)