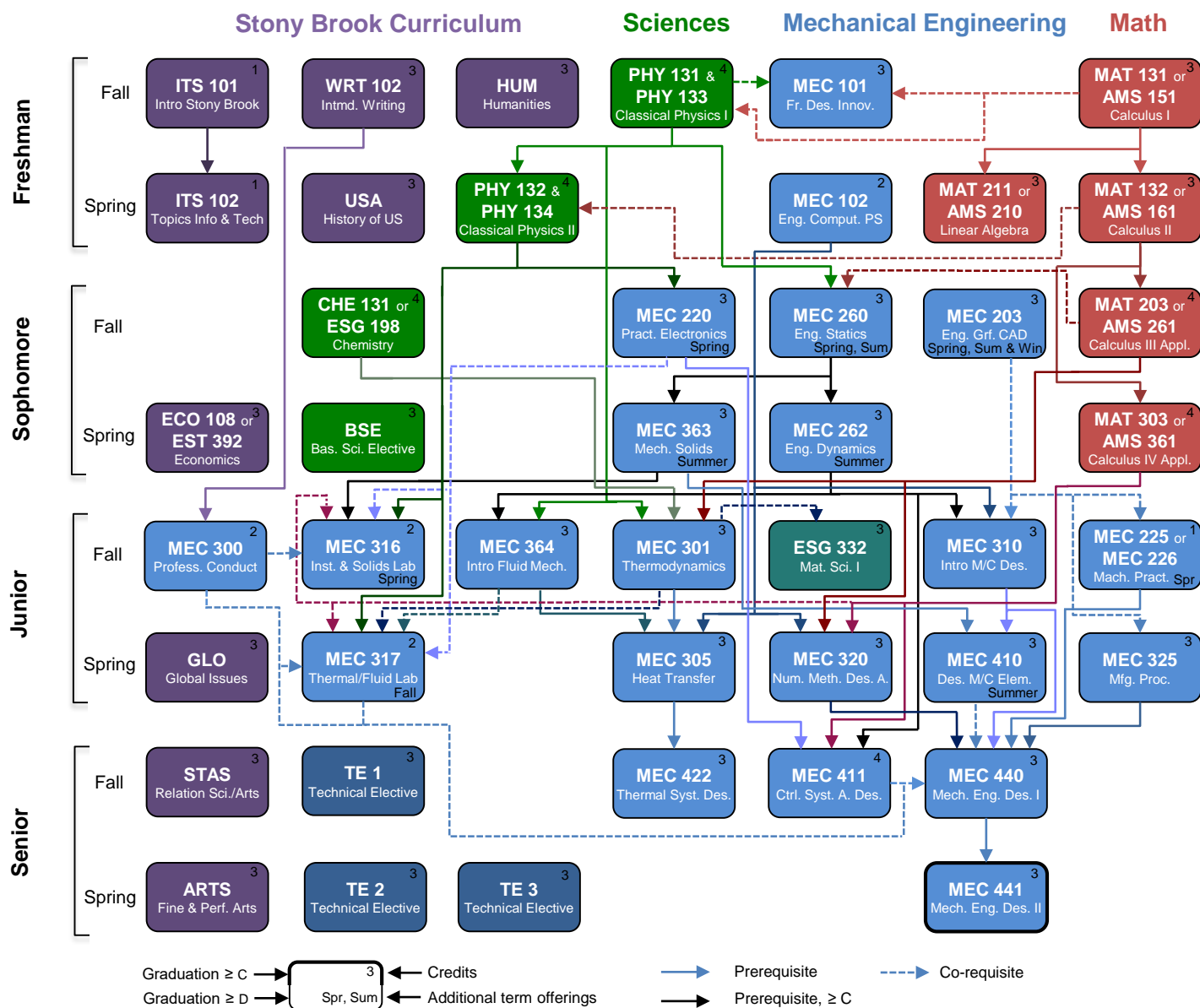


# UNDERGRADUATE PROGRAM IN MECHANICAL ENGINEERING

Recommended Sequence of Required Courses for the Major in Mechanical Engineering (2020)



## Additional Requirements

### Technical Electives

( $\geq 9$  credits with at least 2 MEC courses)

#### Mechanical Engineering

MEC 393, 398, 423, 450, 455, 456, 465, 499  
MEC 506, 509, 518, 526, and other 500-level courses  
Required GPA  $\geq 3.0$  & permission of GPD

#### Applied Math and Statistics

AMS 310, 311, 315, 341, 342, 351

#### Biomedical Engineering

BME 353, 481

#### Civil Engineering

CIV 310, 320, 330, 420, 422

#### Chemical Engineering

CME 369, 372

#### Computer Science

CSE 308, 327, 328, 352

#### Electrical Engineering

ESE 305, 306, 311, 330, 347, 350, 352, 380, 381

#### Material Science and Engineering

ESG 333, 339, ESM 335, 336, 353, 369, 486

#### Technology and Society

EST 326, 327, 364, 391, 393

### Basic Science Electives

( $\geq 3$  credits)

PHY 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 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)

AST 205 Intro to Planetary Science (3)

ATM 205 Intro to Atmospheric Science (3)

### Minor in Mechanical Engineering

( $\geq 18$  credits)

#### Four Required Courses:

MEC 260 Engineering Statics

MEC 262 Engineering Dynamics

MEC 301 Thermodynamics (or ESG 302)

MEC363 Mechanics of Solids

### 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. 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 3.2 in major courses with no more than one grade below B-, and
5. No courses required for the major have been repeated.

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  $\geq 3.2$ ).

#### 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 II

MEC 411 System Dynamics and Control

MEC 455 Applied Stress Analysis