## 2018-19 MAJOR COURSE PLAN

### MATHEMATICS (16 UNITS)
- **MATH 125:** Calculus I
- **MATH 126 or MATH 129:** Calculus II
- **MATH 226 or MATH 229:** Calculus III
- **MATH 245:** Mathematics of Phys. and Engr.

### PHYSICS (12 UNITS)
- **PHYS 151L:** Mechanics and Thermodynamics
- **PHYS 152L:** Electricity and Magnetism
- **PHYS 153L:** Optics and Modern Physics

### CHEMISTRY / MATERIALS SCIENCE (4 UNITS)
- **CHEM 105AL:** General Chemistry
- **MASC 110L:** Materials Science

### GENERAL EDUCATION (32 UNITS)
- **GE A:** The Arts (1 Course)
- **GE B:** Humanistic Inquiry (2 Courses)
- **GE C:** Social Analysis (2 Courses)
- **GE D:** Life Sciences (1 Course)
- **GE E:** Physical Sciences (1 Course)
- **GE F:** Quantitative Reasoning (1 Course)
- **GE G,H Global Perspectives (2 Courses)*
- **GESM General Education Seminar (1 Course)*

### WRITING (7 UNITS)
- **WRIT 150:** Writing and Critical Reasoning
- **WRIT 340:** Advanced Writing

### ENGINEERING (66 UNITS)
- **AME 101L:** Intro. to Mech. Engr. & Graphics
- **AME 201:** Statics
- **AME 204:** Strength of Materials
- **AME 301:** Dynamics
- **AME 302:** Dynamic Systems
- **AME 308:** Comp. -Aided Analysis for Design
- **AME 309:** Fluid Dynamics
- **AME 310:** Engineering Thermodynamics I
- **AME 331:** Heat Transfer
- **AME 341AL:** Mechatronics Laboratory I
- **AME 341BL:** Mechatronics Laboratory II
- **AME 441AL:** Senior Projects Laboratory
- **AME CORE:** Any upper-division AME course not already required
- **AME DESIGN ELECTIVE:** AME 409, 415, 423, 430, or 443
- **AME CAPSTONE ELECTIVE:** AME 305, 408, 410, 415, 430, or 481

### TECHNICAL ELECTIVES
- **AMC 301:** Mechanical Behavior of Materials

### GE: Engineering students are encouraged to satisfy GE G and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by exam. Additionally, your GESM course should be taken in categories A, B, C, or D only. See page 21 for more information and consult your advisor for detailed assistance.

### OPTIONAL ELECTIVES:
- Consult with your academic advisor to explore optional elective courses. These courses are not required.

### *SPECIAL NOTES*
- Courses with this symbol may be satisfied with AP, IB or A-Level exams. See page 22 for more information.

### 2018-19 MAJOR COURSE PLAN

### FIRST YEAR

#### FALL SEMESTER
- **GE B**
- AME 101L
- MATH 125 (GE F)
- CHEM 105L or MASC 110L
- **ENGR 102**

#### SPRING SEMESTER
- **WRIT 150**
- **GE A**
- MATH 126 or MATH 129
- PHYS 151L (GE E)
- ITP 168

### SECOND YEAR

#### FALL SEMESTER
- **GE C**
- AME 201
- MATH 226 or MATH 229
- PHYS 152L
- **OPTIONAL ELECTIVE**

#### SPRING SEMESTER
- **GE D**
- AME 204
- MATH 245
- PHYS 153L
- WRIT 340

### THIRD YEAR

#### FALL SEMESTER
- **AME 310**
- AME 301
- AME 308
- MASC 310
- **AME 341AL**

#### SPRING SEMESTER
- **GE B**
- AME 302
- AME 309
- AME 331
- **AME 341BL**

### FOURTH YEAR

#### FALL SEMESTER
- **AME 451**
- AME CORE
- AME DESIGN ELECTIVE
- AME 441AL
- **OPTIONAL ELECTIVE**

#### SPRING SEMESTER
- **GE C**
- AME CORE
- AME CAPSTONE ELECTIVE
- AME CORE
- **OPTIONAL ELECTIVE**

---

*Courses with this symbol may be satisfied with AP, IB or A-Level exams. See page 22 for more information.*
Optional Course Tracks for the Mechanical Engineering Degree:

The Mechanical Engineering curriculum covers foundational concepts in a number of areas, ranging from dynamics and aerodynamics to computer aided analysis for design to computational solutions to engineering problems. Through your first five to six semesters, students will gain exposure to foundational concepts in Aerospace and Mechanical Engineering.

Your final two to three semesters in the program, you may continue and graduate with the Mechanical Engineering Standard Track listed to the left or choose to specialize. As you will notice in the curriculum, students following the standard program will have the opportunity to take more technical and AME Core electives, while students following a specialized track will take specific courses relative to the specialization.

Mechanical Engineering offers the following tracks: Thermo/Fluids, Dynamics/Controls, Design, and Computational.

### COMPUTATIONAL

**Fourth Year: FALL SEMESTER**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITP 165</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>AME 404</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 415</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>EE 141L</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>AME 441a</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>GE C</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>MATH 445</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>CSCI 455</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 408</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 305</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 410</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 441a</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 403</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 409</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 408</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 420</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>GE C</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>AME 423</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 420</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 443</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 453</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>TECH ELECTIVE</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>AME 303</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 441a</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 415</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 430</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 457</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 441aL</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>TECH ELECTIVE</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>TECH ELECTIVE</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**Fourth Year: SPRING SEMESTER**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AME 415</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 430</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 457</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>AME 441aL</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>TECH ELECTIVE</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>TECH ELECTIVE</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>