

## FIRST YEAR

FALL SEMESTER

<b>GE B</b> 4	<b>AME 101</b> 3	<b>MATH 125 (GE F)</b> 4	<b>CHEM 105aL or MASC 110L</b> 4	<b>ENGR 102</b> 2
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SPRING SEMESTER

<b>WRIT 150</b> 4	<b>GE A</b> 4	<b>MATH 126 or MATH 129</b> MATH 125 4	<b>PHYS 151L (GE E)</b> MATH 125 or 126 or 226 4	<b>ITP 168</b> 2
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## SECOND YEAR

FALL SEMESTER

<b>GEC</b> 4	<b>AME 201</b> MATH 125 3	<b>MATH 226 or MATH 229</b> MATH 126 or MATH 129 4	<b>PHYS 152L</b> PHYS 151L, (MATH 226) 4	<b>OPTIONAL ELECTIVE</b> 3
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SPRING SEMESTER

<b>GED</b> 4	<b>AME 204</b> AME 201 or CE 205 3	<b>MATH 245</b> MATH 226 or MATH 229 4	<b>PHYS 153L</b> PHYS 152L 4	<b>WRIT 340</b> WRIT 150 3
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## THIRD YEAR

FALL SEMESTER

<b>AME 310</b> MATH 226 3	<b>AME 301</b> AME 201 or CE 205 3	<b>AME 308</b> AME 204, (AME 301) 3	<b>MASC 310</b> 3	<b>AME 341aL</b> PHYS 152L, MATH 126 3	<b>OPTIONAL ELECTIVE</b> 3
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SPRING SEMESTER

<b>GE B</b> 4	<b>AME 302</b> MATH 245 3	<b>AME 309</b> (MATH 245) 4	<b>AME 331</b> AME 310, (AME 309 or CE 209) 3	<b>AME 341bL</b> AME 341aL 3	<b>OPTIONAL ELECTIVE</b> 1
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## FOURTH YEAR

FALL SEMESTER

<b>AME CORE</b> 3	<b>AME CORE</b> 3	<b>AME DESIGN ELECTIVE</b> 3	<b>TECHNICAL ELECTIVE</b> 3	<b>AME 441aL</b> AME 341bL 3	<b>OPTIONAL ELECTIVE</b> 3
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SPRING SEMESTER

<b>GEC</b> 4	<b>AME CORE</b> 3	<b>AME CAPSTONE ELECTIVE</b> 3	<b>AME CORE</b> 3	<b>TECHNICAL ELECTIVE</b> 2	<b>OPTIONAL ELECTIVE</b> 3
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### 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
- or **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 (67 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:** Mechoptronics Laboratory I
- AME 341BL:** Mechoptronics Laboratory II
- AME 441AL:** Senior Projects Laboratory
- AME CORE**
- AME DESIGN ELECTIVE**
- AME CAPSTONE ELECTIVE**
- ENGR 102:** Engineering Freshman Academy
- ITP 168:** Introduction to MATLAB
- MASC 310:** Mechanical Behavior of Materials
- TECHNICAL ELECTIVES**

### \* SPECIAL NOTES

Courses with this symbol may be satisfied with AP, IB or A-Level exams. See page 17 for more information.

**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 pp. 16-17 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.

**AME CORE:** Any upper-division AME course not already required.

**AME CAPSTONE ELECTIVE:** AME 409, 415, 423, 430, and 443

**AME DESIGN ELECTIVE:** AME 305, 408, 410, 415, 430 or any special topic design course.

**TECHNICAL ELECTIVES:** Any upper-division course in engineering, Chemistry, Physics, and Mathematics. See major advisor for exceptions/substitutions.

### 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.

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.

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.

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

#### COMPUTATIONAL

Fourth Year: FALL SEMESTER

<b>ITP 165</b> 2	<b>AME 404</b> 3	<b>AME 415</b> 3	<b>EE 241</b> MATH 126 3	<b>AME 441a</b> AME341b 3	<b>OPTIONAL ELECTIVE</b> 4
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Fourth Year: SPRING SEMESTER

<b>GE D</b> 4	<b>MATH 445</b> MATH 245 or 225 4	<b>CSCI 455</b> 4	<b>AME 408</b> AME204 4	<b>OPTIONAL ELECTIVE</b> 2
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#### DESIGN

Fourth Year: FALL SEMESTER

<b>AME 305</b> AME 204 or CE 225 3	<b>TECH ELECTIVE</b> 4	<b>AME 410</b> 3	<b>AME 441a</b> AME341bL 4	<b>OPTIONAL ELECTIVE</b> 4
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Fourth Year: SPRING SEMESTER

<b>GE D</b> 4	<b>AME 403</b> AME 204 3	<b>AME 409</b> 4	<b>AME 408</b> AME204 or CE225 3	<b>AME 420</b> MATH 245 3
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#### DYNAMICS & CONTROLS

Fourth Year: FALL SEMESTER

<b>GE D</b> 4	<b>AME 451</b> AME 302, MATH 245 3	<b>TECH ELECTIVE</b> 2	<b>AME 303</b> AME 301, CE 235 3	<b>AME 441a</b> AME 341bL 3	<b>OPTIONAL ELECTIVE</b> 3
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Fourth Year: SPRING SEMESTER

<b>AME 423</b> (EE 301 or AME 302) and PHYS 152 3	<b>AME 420</b> MATH 245 3	<b>AME 443</b> AME 420 or AME 451 or EE 482 3	<b>AME 453</b> MATH 245 3	<b>TECH ELECTIVE</b> 3	<b>OPTIONAL ELECTIVE</b> 3
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#### THERMO & FLUIDS

Fourth Year: FALL SEMESTER

<b>TECH ELECTIVE</b> 3	<b>AME 415</b> 3	<b>AME 430</b> AME 331 3	<b>AME 457</b> AME 310 and (AME 309 or CE 309) 3	<b>AME 441aL</b> AME 341bL 3	<b>OPTIONAL ELECTIVE</b> 3
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Fourth Year: SPRING SEMESTER

<b>GE D</b> 4	<b>AME 312</b> AME 310 3	<b>AME 436</b> AME 310 and (AME 309 or CE 309) 3	<b>TECH ELECTIVE</b> 3	<b>TECH ELECTIVE</b> 2	<b>OPTIONAL ELECTIVE</b> 3
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