## ASTRONAUTICAL ENGINEERING

### FIRST YEAR

**FALL SEMESTER**
- WRIT 150
- ASTE 101L
- MATH 125 (GE F)
- CHEM 105aL or MASC 110L
- ENGR 102

**SPRING SEMESTER**
- GE B
- 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
- ATE 280

### THIRD YEAR

**FALL SEMESTER**
- GE C
- AME 301
- AME 310
- AME 309
- AME 308

**SPRING SEMESTER**
- GE D
- WRIT 340
- AME 341BL
- OPTIONAL ELECTIVE

### FOURTH YEAR

**FALL SEMESTER**
- AME 441a
- TECHNICAL ELECTIVE
- AME 470
- AME 404

**SPRING SEMESTER**
- GE B
- ASTE 421
- ATE 421
- OPTIONAL ELECTIVE

### 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 155L: 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 (68 UNITS)
- AME 201: Statics
- AME 204: Strength of Materials
- AME 301: Dynamics
- AME 308: Comp-Aided Analysis for Design
- AME 309: Fluid Dynamics
- AME 310: Engineering Thermodynamics I
- AME 341AL: Mechoptronics Laboratory I
- AME 341BL: Mechoptronics Laboratory II
- AME 404: Comp. Solutions to Engr. Problems
- AME 441AL: Senior Projects Laboratory
- ATE 101L: Intro. to Astronautics
- ATE 280: Astronautics & Space Environment I
- ATE 301B: Thermal and Statistical Systems II
- ATE 330: Astronautics & Space Environment II
- ATE 421: Space Mission Design
- ATE 470: Spacecraft Propulsion
- ATE 480: Spacecraft Dynamics
- ENGR 102: Engineering Freshman Academy
- ITP 168: Introduction to MATLAB

### TECHNICAL ELECTIVES
- Any upper-division course in engineering, Chemistry, Physics, Mathematics, or Math 225 except CE 404, 412, and ISE 440. No more than 3 units of ATE 490 or ATE 491 course work can be used for Technical Electives.

### SPECIAL NOTES
Courses with the AP/IB 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 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.

DEGREE COURSE PLAN 2019-20