

# Astronautical Engineering

| FIRST YEAR                       |                                                    | SECOND YEAR                                     |                                  | THIRD YEAR                           |                                                  | FOURTH YEAR                                           |                                            |
|----------------------------------|----------------------------------------------------|-------------------------------------------------|----------------------------------|--------------------------------------|--------------------------------------------------|-------------------------------------------------------|--------------------------------------------|
| FALL                             | SPRING                                             | FALL                                            | SPRING                           | FALL                                 | SPRING                                           | FALL                                                  | SPRING                                     |
| WRIT 150<br>4                    | GESM (GE B)#<br>4                                  | GE C<br>4                                       | AME 204<br>AME 201<br>4          | PHYS 153L<br>PHYS 152L<br>4          | AME 301<br>AME 201 (MATH 245)<br>4               | GE C<br>4                                             | GE B<br>4                                  |
| ASTE 101L<br>4                   | GE A*<br>4                                         | AME 201<br>MATH 125 or 126<br>or 129<br>4       | AME 208<br>MATH 245<br>4         | ASTE 331<br>ASTE 280 (PHYS 153)<br>4 | AME 341BL<br>AME 341AL<br>4                      | TECHNICAL<br>ELECTIVE<br>4                            | ASTE 421<br>ASTE 331 or<br>ASTE 331ab<br>4 |
| MATH 125<br>(GE F)*<br>4         | MATH 126 or<br>MATH 129*<br>MATH 125<br>4          | MATH 226 or<br>MATH 229<br>MATH 126 or 129<br>4 | MATH 245<br>MATH 226 or 229<br>4 | AME 310<br>PHYS 151, MATH 125<br>4   | ASTE 305<br>PHYS 153, AME 310<br>(MATH 245)<br>4 | ASTE 475<br>PHYS 152L and ASTE 305<br>or AME 309<br>2 | WRIT 340<br>WRIT 150<br>4                  |
| CHEM 105aL or<br>MASC 110L*<br>4 | PHYS 151L (GE E)<br>MATH 125 or 126<br>or 226<br>4 | PHYS 152L<br>PHYS 151L,<br>(MATH 226)<br>4      | ASTE 280<br>PHYS 152<br>4        | AME 341aL<br>PHYS 152, AME 208<br>4  | AME 308<br>AME 204, (AME 301)<br>4               | ASTE 404<br>4                                         | TECHNICAL<br>ELECTIVE<br>4                 |
| ENGR 102<br>2                    | TAC 168<br>2                                       | OPTIONAL<br>ELECTIVE<br>2                       | OPTIONAL<br>ELECTIVE<br>2        | OPTIONAL<br>ELECTIVE<br>2            | OPTIONAL<br>ELECTIVE<br>2                        | GE D*<br>4                                            | OPTIONAL<br>ELECTIVE<br>2                  |

## 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 (8 UNITS)

**WRIT 150:** Writing and Critical Reasoning

**WRIT 340:** Advanced Writing

## ENGINEERING (70 UNITS)

**AME 201:** Statics

**AME 204:** Strength of Materials

**AME 208:** Mathematical Methods in ENGR

**AME 301:** Dynamics

**AME 308:** Comp. Aided Analysis for Design

**AME 310:** Engineering Thermodynamics I

**AME 341aL:** Mechoptronics Laboratory I

**AME 341bL:** Mechoptronics Laboratory II

**ASTE 101L:** Intro. to Astronautics

**ASTE 280:** Astronautics & Space  
Environment I

**ASTE 305:** Astronautics Gas Dynamics

**ASTE 331:** Spacecraft Systems Engineering

**ASTE 404:** Computational Programming &  
Numerical Methods

**ASTE 421:** Space Mission Design

**ASTE 475:** Rocket Propulsion

**ENGR 102:** Engineering Freshman Academy

**TAC 168:** Introduction to MATLAB

## TECHNICAL ELECTIVES

## SPECIAL NOTES

Courses with the \* symbol may be satisfied with AP, IB or A-Level exams. See page 18 for more information.

**GESM#:** GESM can be taken from GE categories: A, B, C, or D. Courses listed in the guide are options for a four-year course plan.

**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 AP/IB. Additionally, your GESM course should be taken in categories A, B, C, or D only. See page 17 for more information and consult your advisor for detailed assistance.

**TECHNICAL ELECTIVES:** Any upper-division course in engineering, chemistry, physics, and mathematics. See academic advisor for exceptions/substitutions.