

APPROVED ELECTIVES FOR UNDERGRADUATES

Students wishing to use courses such as Technical, Engineering Science, and/or Experimental electives that do not appear on this list should submit a petition to the AME faculty for approval before enrolling. **Courses taken during intersessions will not qualify for Engineering Science/Technical Elective credit.**

Courses that have not been approved in advance may not count for elective credit. A maximum of 6 credit hours from courses that are not centrally scheduled by the university with regular meeting hours (e.g., AME 3440, AME 3960, AME 3980, AME 3990, AME 4980, AME 4990) can be used for Technical, Engineering Science, and Experimental electives.

IMPORTANT NOTE: Any of the courses listed below, which are part of the student's REQUIRED CURRICULUM (AE or ME), **cannot** be considered for these electives.

I. ENGINEERING SCIENCE ELECTIVES

- A. AME courses, 3000 level and above, **not specifically listed on the required curriculum.**
NOTE: For AME 4980 – a consent form signed by the instructor is required.
- B. All courses offered by the different schools in the College of Engineering and the School of Petroleum Engineering that are 3000 level and above, excluding courses that are equivalent to AME courses in the required curriculum and excluding ENGR courses.

II. MATH/SCIENCE ELECTIVES

1. Chemistry: CHEM 3053 and higher numbered Chemistry courses
2. Math: MATH 3333; Any MATH 4000 level and above
3. Physics: PHYS 3043, 3183, 3223, 3803; Any PHYS 4000 level and above
4. Astronomy: ASTR 3113 and 4303
5. Biology: BIOL 5374, BIOL/PBIO 5364, BIOL/PBIO 4394/5394
6. Geology: GEOL 3633

III. SIMULATION ELECTIVES

1. AME 3203 Computational Structural Mechanics (new course to be offered in Spring 2027)
2. AME 4133 Heat Transfer in Multiphase Systems (Spring course)
3. AME 4970 (4223) Advanced Energy Systems (Spring course)
4. AME 4970 Data-Driven Computation (Fall course)
5. AME 4543 Computational Materials Science (Spring course)

IV. TECHNICAL ELECTIVES

- A. Any Engineering Science Elective (see above)
- B. Any Math/Science Elective (see above)
- C. Any Simulation Elective (see above)
- D. ENGR 4003CW, ENGR 4013, ENGR 4023, ENGR 4113, ENGR 4223, ENGR 4513, ENGR 4510
- E. AME 2281 - Engineering Co-Op Program; Co-Op students may substitute up to 3 hours of this course for a Technical Elective
- F. Other: Meteorology: Any METR 4000 level and above; Naval Science: NS 3223 and NS 3433

V. EXPERIMENTAL ELECTIVES

AE

- A. AME 4802 Robotics Lab
- B. AME 4832 Micro and Nanomaterials Lab
- C. AME 4980 Special Lab - NOTE: A consent form signed by the instructor is required. Course content must have experimental emphasis, and a report must be submitted.

ME

- A. AME 4442 Internal Combustion Engines Lab
- B. AME 4822 Fluid & Thermal Lab

- C. AME 4832
- D. AME 4980

Micro and Nanomaterials Lab

Special Lab - NOTE: A consent form signed by the instructor is required. Course content must have experimental emphasis and a report must be submitted.