

Applied Engineering

Concentration: Sustainability and Environmental Engineering

Catalog Term: Fall 2024

Total credit hours: 120



| FRESHMAN | | | |
|---|-----------|---|-----------|
| FALL | Hrs | SPRING | Hrs |
| FYAP 102A FYS: Intro to Tech & Innovation | 3 | ECON 201 * Principles of Macro Economics (General Education B5) | 3 |
| ENGL 101 * College English I P: See Course Catalog | 3 | ENGL 102 * College English II P: ENGL 101 | 3 |
| COMM 111 * Public Speaking | 3 | BIOL 370 Intro to Environmental Science or Any BIOL course | 3 |
| MATH 242* Calculus 1 P: (MATH 111, MATH 123) or MATH 112 | 5 | MATH 243 * Calculus 2 P: MATH 242 | 5 |
| | | | |
| Total Hours | 14 | Total Hours | 14 |

| SOPHOMORE | | | |
|--|-----------|---|-----------|
| FALL | Hrs | SPRING | Hrs |
| APEN 201 * Introductory Design Project P: FYAP 102A | 1 | AE 223 Statics P: PHYS 313 P/C: MATH 243 or APEN 312 Applied Statics <i>Spring only</i> | 3 |
| PHYS 313 + 315 Physics for Scientists I P/C: MATH 243 | 5 | CHEM 211 + 211L General Chemistry I C: MATH 111 | 5 |
| IME 254 Engr Probability & Stat P: MATH 242 or STAT 370 Elem Statistics P: MATH 111 or higher | 3 | ECE 282+L Circuits I P/C: MATH 243 or APEN 320 Circuits Technology <i>Spring only</i> | 4 |
| IME 222 + 222L Engineering Graphics P: MATH 123 | 3 | APEN 354 * Statistical Process Control P/C: ECON 201, (STAT 370 or IME 254) <i>Spring only</i> | 3 |
| GEOL 300 Energy, Resources & Environment P: Intro BIOL, CHEM or PHYS | 3 | | |
| Total Hours | 15 | Total Hours | 15 |

| JUNIOR | | | |
|---|-----------|--|-----------|
| FALL | Hrs | SPRING | Hrs |
| APEN 301 * Intermediate Design Project P: APEN 201 or ENGR 205 | 1 | APEN 441 * Analysis of Decision Processes P: STAT 370 or IME 254 <i>Spring only</i> | 3 |
| APEN 323 Intro to Fluids P: APEN 312 or AE 223 <i>Fall only</i> | 3 | IME 258 + 258L Manufacturing Methods I P: MATH 123, IME 222 | 4 |
| APEN 334 Intro Strengths & Mech of Materials P: APEN 312 or AE 223 <i>Fall only</i> | 3 | PHIL 385 * Engineering Ethics P: Junior or senior standing | 3 |
| APEN 370 Environmental Engineering Tech P: CHEM 211 <i>Fall only</i> | 3 | ME 250 Materials Engineering P: MATH 242, CHEM 211 with "C" or better | 3 |
| APEN 492 Energy Management & Sustainability P: GEOL 300 & (ECON 201 or IME 255) <i>Fall only</i> | 3 | ME 251 Materials Engineering Lab P/C: ME 250 | 1 |
| MATH 451 Comput Math using MATLAB P: MATH 243 or Any MATH 300 level and above ^b | 3 | Engineering + 1 of 3 See notes | |
| Total Hours | 16 | Total Hours | 14 |

| SENIOR | | | |
|---|-----------|---|-----------|
| FALL | Hrs | SPRING | Hrs |
| APEN 401 Senior Design Project I P: APEN 301 & (ECON 201 or IME 255) P/C: PHIL 385 <i>Fall only</i> | 3 | APEN 402 Senior Design Project II P: APEN 401 <i>Spring only</i> | 3 |
| APEN 600 Water and Wastewater Treatment P: APEN 323, APEN 370 <i>Fall Only</i> | 3 | APEN 610 Hydraulics and Hydrology P: APEN 323 <i>Spring only</i> | 3 |
| General Education * In Fine Arts or Humanities (but not PHIL) | 3 | APEN 620 Structural Analysis & Design P: APEN 334 <i>Spring only</i> | 3 |
| Technical Electives | 3 | APEN 510 or ECE 596 Renewable Energy Engineering P: APEN 320 or ECE 282 <i>Spring only</i> | 3 |
| Technical Elective | 3 | Technical Elective | 5 |
| Engineering + 2 of 3 See notes | | Engineering + 3 of 3 See notes | |
| Total Hours | 15 | Total Hours | 17 |

Last Updated: 5/2023

Notes:

All first-time-in-college students must take FYET102A within their first two semesters.
 Transfer students must take ENGR205 to replace FYET102A and APEN201. Extra credit hours may be required.
 Students must fulfill three Engineering+ requirements.
 All prerequisites courses need to be completed with C or higher (2.0/4.0 grade point average).
 All technical electives must be preapproved by a faculty advisor. Please refer to the Applied Engineering (APEN) website or consult with your APEN advisor for current list of technical electives.

P: Prerequisite C: Corequisite

* May be available as an online or hybrid class.

a. General Education Courses from an approved list

b. Department Chair approval.