# ENVIRONMENTAL ENGINEERING B.S. + Renew-Energy ENG minor - for students entering Fall 2024 or later

| ***FALL*** | ***First Year - Fall*** | ***Credits*** | ***SPRING*** | ***First Year - Spring*** | ***Credits*** |
|---|---|---|---|---|---|
| MATH 121<br>CORE 8 | Calculus I /<br>CORE Quant | 3 | MATH 122 | Calculus with Analytical Geom. II | 3 |
| CHEM 121/L<br>CORE 9 | General Chemistry I /<br>CORE NatSci | 4 | PHYS 121/L | General Physics I | 4 |
| CORE 1 | Intro to Engineering and Problem Solving /CORE 1 | 3 | CHEM 122/L | General Chemistry II | 4 |
| CORE 3 | WRIT 102, Research Writing | 3 | GEOL 205 | Physical Geology | 3 |
| ENGR 210/L | Programming for Engineers | 2 | ENGR 102 | Intro. to Engineering II | 1 |
| CORE 103 | Community Enrichment | 0 | CORE 2 | FTAE 105, Intro to Franciscan Theo | 3 |
| ENVE 192 | Freshman ENVE Seminar | 0 | CORE 104 | Community Enrichment | 0 |
| CORE 103 | Community Enrichment Series | 0 | ENVE 193 | Freshman ENVE Seminar | 0 |
| | | | CORE 104 | Community Enrichment Series | 0 |
| | **Total** | **15** | | **Total** | **18** |
| | | | | | |
| ***FALL*** | ***Second Year - Fall*** | | ***SPRING*** | ***Second Year - Spring*** | |
| MATH 221 | Calculus III | 3 | MATH 306 | Diff. Eqns. I | 3 |
| ENGR 201 | Engineering Statics | 3 | ENVE 322/L | Lab Measurements (Meas II) | 3 |
| PHYS 122/L | General Physics II | 4 | CORE 5 | History | 3 |
| ENVE 321/L | Field Measurements (Meas I) | 3 | CORE 7 | Literature | 3 |
| ENVE 201 | ENVE Statistics Lab | 1 | CORE course 6 | Social Science (Human Geography if approved) | 3 |
| CORE 12 | Fine Arts | 3 | CORE 11 | Religion or Philosophy | 3 |
| ENVE 292 | Sophomore ENVE Seminar | 0 | ENVE 293 | Sophomore ENVE Seminar | 0 |
| | **Total** | **17** | | **Total** | **18** |
| | | | | | |
| ***FALL*** | ***Third Year - Fall*** | | ***SPRING*** | ***Third Year - Spring*** | |
| ENGR 301/L | Fluid Mechanics | 4 | CORE 13 | Ethics | 3 |
| ENGR 321 | Applied Engr Thermodynamics | 3 | ECON 101<br>CORE course 4 | Economics /<br>CORE II Civic Responsibility | 3 |
| ENVE 311 | Aquatic and Atm. Chem | 3 | ENVE 312 | Transport processes | 3 |
| *ENVE 343* | *Energy Storage* | 3 | *Collateral set 1* | *Collateral set 1 (select from Minor options)* | 3 |
| EXAM 301 | Writing Comp Exam | 0 | *Collateral set 2* | *Collateral set 2* | 3 |
| CHEM 221/L | Organic Chemistry I | 4 | ENVE 497 | Capstone Design Proposal | 1 |
| ENVE 392 | Junior ENVE Seminar | 0 | ENVE 393 | Junior ENVE Seminar | 0 |
| | **Total** | **17** | | **Total** | **16** |
| | | | | | |
| ***FALL*** | ***Fourth Year - Fall*** | | ***SPRING*** | ***Fourth Year - Spring*** | |
| ENVE 413 | Hydraulics and Hydrology | 3 | ENVE 4xx | Water/Wastewater elective | 3 |
| ENVE 411 | Wastewater Treatment | 3 | ENVE 4xx | Pollution control elective<br>(ENVE 414) | 3 |
| ENVE 415 | Senior Lab | 3 | ENVE 498<br>CORE 15 | Capstone Design / CORE 15 App learning (needs approval as CORE) | 3 |
| ENVE 421 | Energy Conversion Engineering I: Mechanical and Nuclear Methods | 3 | ENGR 407<br>CORE 14 | Sustainability in Engineering Design / CORE III / CORE 14 | 3 |
| CORE 10 | Language / Culture | 3 | ENVE 422 | Energy Conversion Engineering II: Electro-Chemical Methods | 3 |
| ENGR 492 | Senior ENVE Seminar | 1 | ENVE 493 | Senior ENVE Seminar | 0 |
| | | | | | |
| | **Total** | **16** | | **Total** | **15** |
| | | | **Total =** | **132** | |

Note: Sequence of courses may be altered with advisor's approval.

**Technical Electives:**

a) Pollution Control. ENVE 414 (Hazardous and Solid Waste Handling), ENVE 416 (Air Quality Control), ENVE 417 (Contaminant Hydrogeology)

b) Water & Wastewater. ENVE 418 (Stormwater Treatment), ENVE 419 (Biological Processing), ENVE 420 (Acid Mine Drainage Prevention & Treatment), ENVE 425 (Drinking Water Treatment & Distribution)

**BIOL set.** Take at least three credits from BIOL 203 – Ecology (4), BIOL 302 – General Microbiology (4), BIOL 322 – Field Biology (3), ENVE 350 – Environmental Biotechnology (4).

**Collateral set.** Take at least six credits from the following: a second class from the BIOL set, CHEM 251 – Quantitative Analysis (3), ENGR 202 – Engineering Dynamics (3), ENGR 350 – Material Science (3), ENGR 315/L – Mechanics of Materials (3), ENVE 243 - Energy Storage (3)