**Chemical Engineering**

*Focus Area*

**Oil & Gas Engineering**

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| **General Education Components[[1]](#footnote-1) (15 semester hours)**  Take 15 s.h. of courses consistent with career goals (*Courses that may be of particular interest are suggested below)* | | |
|  | GEC #1 – from *Engineering Be Creative* list | 3 s.h. |
| EES:1115 | GEC #2 – History & Science of Oil | 3 s.h. |
| GEOG:3780 | GEC #3 – U.S. Energy Policy in Global Context | 3 s.h. |
|  | GEC #4 – from *Approved Course Subjects* list | 3 s.h. |
|  | GEC #5 – from *Approved Course Subjects* list | 3 s.h. |
| **Statistics Elective (3 semester hours)**  *(Choose One)* | | |
| STAT:2020  CBE:3020 | Probability & Statistics for Engineering & Physical Sciences  Statistics for Chemical and Environmental Engineering (offered Spring semesters) | 3 s.h.  3 s.h. |
| **Advanced Chemistry/Science Electives[[2]](#footnote-2) (6 semester hours)** | | |
|  | Advanced Chemistry Course | 3 s.h. |
|  | Advanced Science Course | 3 s.h. |
| *(Recommendations for Advanced Science Course)* | | |
| EES:3110 | Chemical Evolution of the Oceans (offered spring) | 3 s.h. |
| EES:4490 | Elements of Geochemistry (offered fall) | 3 s.h. |
| Most paths on this EFA will require one of the following prerequisite courses. Due to their introductory nature, they do not qualify as EFA free electives. | | |
| CEE:1030 | Intro to Earth Science (offered fall, spring, summer) | 3-4 s.h. |
| EES:1050 | Intro to Geology (offered fall) | 4 s.h. |
| **Free Electives (12 semester hours from the following list)** | | |
| **Required Course** | | |
| CBE:5405 | Green Chemical & Energy Technologies | 3 s.h. |
| **Engineering Electives** | | |
| CBE:5199 | Contemporary Topics: Petroleum Refining (offered fall) | 1 s.h. |
| CBE:5415 | Satellite Image Processing & Remote Sensing of the Atmosphere | 3 s.h. |
| CBE:5425 | Atmospheric Chemistry & Physics | 3 s.h. |
| ENGR:2995 | Intro to AI and Machine Learning in Engineering | 3 s.h. |
| **Science Electives** |  |  |
| EES:1290 | Energy and the Environment (offered fall) | 3 s.h. |
| EES:2410 | Mineralogy (offered fall) | 4 s.h. |
| EES:2831 | Geologic Field Methods (offered summer) | 3 s.h. |
| EES:3100 | Introduction to Applied Remote Sensing (offered spring) | 4 s.h. |
| EES:3300 | Sedimentary Geology (offered fall) – **highly recommended** | 4 s.h. |
| EES:3840 | Structural Geology (offered spring) | 4 s.h. |
| EES:4230 | Quantitative Methods in the Geosciences (offered fall) | 3 s.h. |
| EES:4630 | Hydrogeology (offered spring) | 3 s.h. |
| EES:4750 | Mineral & Petroleum Exploration Geology (offered spring) | 3 s.h. |
| EES:4790 | Engineering Geology (offered fall even) | 3 s.h. |
| EES:4832 | Geologic Field Analysis (offered summer) | 3 s.h. |
|  | Other Advanced Science, Engineering, or Math courses – consult with academic advisor |  |

Note: Pursuing this EFA may require taking 132 s.h.

1. <https://www.engineering.uiowa.edu/current-students/academic-information/general-education-component>. Discuss with your CBE faculty advisor if you have questions about your GEC requirement [↑](#footnote-ref-1)
2. <https://cbe.engineering.uiowa.edu/undergraduate-program/undergraduate-handbook/chemical-engineering-curriculum#Advanced%20Chemical%20Science%20Electives>. Discuss with your CBE faculty advisor if you have questions about your advanced chemistry/science electives. [↑](#footnote-ref-2)