

REQUIREMENTS FOR THE BACHELOR OF SCIENCE
MEWBORNE COLLEGE OF EARTH AND ENERGY
THE UNIVERSITY OF OKLAHOMA

| Academic Year |
|----------------------------------------------------------------------------------------------------------------|
| For Students Entering the Oklahoma State System for Higher Education Summer 2022 through Spring 2023 |

| General Requirements | |
|-----------------------------------------------------------|------|
| Minimum Total Credit Hours | 129 |
| Minimum Retention/Graduation Grade Point Averages: | |
| Overall - Combined and OU | 2.50 |
| Major - Combined and OU | 2.50 |
| Curriculum - Combined and OU | 2.50 |

| Program |
|------------------------------|
| Petroleum Engineering |
| B765 |
| Bachelor of Science |

OU encourages students to complete at least 33 hours of applicable coursework each year to have the opportunity to graduate in 4 years.

GENERAL EDUCATION AND COLLEGE REQUIREMENTS

Courses for fulfillment of General Education and college requirements must be from the approved General Education course list at <http://www.ou.edu/content/gened/courses.html>. **Courses graded P/NP will not apply**

UNIVERSITY-WIDE GENERAL EDUCATION (MINIMUM 40 HOURS) AND COLLEGE REQUIREMENTS

At least three hours of Upper-Division General Education coursework must be completed **outside the major**.

| Code | Title | Credit Hours |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------|
| Core Area I: Symbolic and Oral Communication | | |
| <i>English Composition (6 hours)</i> | | |
| ENGL 1113 | Principles of English Composition | 3 |
| ENGL 1213 | Principles of English Composition | 3 |
| or EXPO 1213 | Expository Writing | |
| <i>Language (0-10 hours)</i> | | |
| (0-10 hours in the same language) Students who have not completed two years of the same language in high school are required to take two college courses in the same language | | |
| Beginning Course | | 0-5 |
| Beginning Course, continued | | 0-5 |
| <i>Mathematics (minimum 3 hours)</i> | | |
| MATH 1914 | Differential and Integral Calculus I ¹ | 3-4 |
| or MATH 1823 | Calculus and Analytic Geometry I | |
| Core Area II: Natural Science (minimum 7 hours, 2 courses) | | |
| CHEM 1315 | General Chemistry (Science with Lab) ¹ | 5 |
| or CHEM 1335 | General Chemistry I: Signature Course | |
| PHYS 2514 | General Physics for Engineering and Science Majors ¹ | 4 |
| Core Area III: Social Science (6 hours) | | |
| P SC 1113 | American Federal Government | 3 |
| Choose one course from the General Education Social Science list | | 3 |
| Core Area IV: Arts and Humanities - one must be Upper Division (3000-4000-level) | | |
| <i>Artistic Forms (3 hours)</i> | | |
| Choose one course from the General Education Artistic Forms list. | | 3 |
| <i>Western Culture (6 hours)</i> | | |
| HIST 1483 | United States to 1865 | 3 |
| or HIST 1493 | United States, 1865 to the Present | |
| Choose one course from the General Education Western Culture list (Excluding HIST 1483 and HIST 1493) | | 3 |
| <i>World Culture (3 hours)</i> | | |
| Choose one course from the General Education World Culture list | | 3 |
| Core Area V: First Year Experience (3 hours) | | |
| Choose one course | | 3 |
| Total Credit Hours | | 39-50 |

¹Mewborne College of Earth and Energy Sciences requirements that also satisfy University General Education requirements.

ADDITIONAL MEWBORNE COLLEGE OF EARTH & ENERGY REQUIREMENT

| Code | Title | Credit Hours |
|--------------------|----------------------------------------------------|--------------|
| PHYS 2524 | General Physics for Engineering and Science Majors | 4 |
| Total Credit Hours | | 4 |

FREE ELECTIVES

Electives to bring total applicable hours to 129 including 40 upper-division hours.

MAJOR REQUIREMENTS

ACCREDITED BY THE ENGINEERING ACCREDITATION COMMISSION OF ABET, [HTTP://WWW.ABET.ORG](http://www.abet.org)

A minimum grade of C is required for each course in the curriculum, and students must successfully complete prerequisite courses (with a minimum C grade) before proceeding to the next course.

| Code | Title | Credit Hours |
|------------------------------------------------------|-----------------------------------------------|--------------|
| P E 2011 | Introduction to Petroleum Engineering | 1 |
| P E 2113 | Statics and Dynamics | 3 |
| P E 2213 | Thermodynamics | 3 |
| P E 2153 | Mechanics of Materials | 3 |
| P E 3022 | Technical Communications | 2 |
| P E 3213 | Reservoir Rock Properties | 3 |
| P E 3221 | Rock Properties Laboratory | 1 |
| P E 3220 | Petroleum Engineering Internship ¹ | 0 |
| P E 3123 | Petroleum Reservoir Fluids | 3 |
| P E 3223 | Fluid Mechanics | 3 |
| P E 3313 | Drilling I | 3 |
| P E 3712 | Petroleum Economics | 2 |
| P E 3723 | Numerical Methods for Engineering Computation | 3 |
| P E 3413 | Production Engineering I | 3 |
| P E 3513 | Reservoir Engineering I | 3 |
| P E 3813 | Formation Evaluation with Well Logs | 3 |
| P E 4331 | Drilling Engineering Laboratory | 1 |
| P E 4323 | Drilling II | 3 |
| P E 4423 | Production Engineering II | 3 |
| P E 4521 | Reservoir Fluid Mechanics Laboratory | 1 |
| P E 4711 | Petroleum Project Evaluation | 1 |
| P E 4532 | Reservoir Engineering II | 2 |
| P E 4463 | Data Analytics | 3 |
| P E 4553 | Integrated Reservoir Management | 3 |
| Choose 3 hours of approved P E Elective ¹ | | 3 |
| Total Credit Hours | | 59 |

¹PE Elective: P E 4573, P E 4583, P E 4033, or any P E 5000-level course.

MAJOR SUPPORT REQUIREMENTS

| Code | Title | Credit Hours |
|--------------------|-------------------------------------------------------------|--------------|
| MATH 2924 | Differential and Integral Calculus II ¹ | 4 |
| MATH 2934 | Differential and Integral Calculus III ¹ | 4 |
| MATH 3113 | Introduction to Ordinary Differential Equations | 3 |
| CHEM 1415 | General Chemistry (Continued) | 5 |
| or CHEM 1435 | General Chemistry II: Signature Course | |
| GEOL 1114 | Physical Geology for Science and Engineering Majors | 4 |
| GEOL 3003 | Structural Geology and Stratigraphy for Petroleum Engineers | 3 |
| GPHE 3423 | Introductory Petroleum Geology and Geophysics | 3 |
| Total Credit Hours | | 26 |

¹The MATH 1823, MATH 2423, MATH 2433, and MATH 2443 sequence can be substituted for MATH 1914, MATH 2924, and MATH 2934.

More information in the catalog: (<http://ou-public.courseleaf.com/mewbourne-earth-energy/mewbourne-petroleum-geological-engineering/petroleum-engineering-bachelor-science/>).

SUGGESTED SEMESTER PLAN OF STUDY

ACCREDITED BY THE ENGINEERING ACCREDITATION COMMISSION OF ABET, <http://www.abet.org>

A minimum grade of C is required for each course in the curriculum.

Students must successfully complete prerequisite courses (with a minimum C grade) before proceeding to the next course.

Courses designated as Core I, II, III, IV, or V are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved lists.

Two college-level courses in a single language are required; this may be satisfied by successful completion of 2 years in a single language in high school. Students who must take language at the University will have an additional 6-10 hours of coursework.

| Year | FIRST SEMESTER | | Hours | SECOND SEMESTER | | Hours |
|------------------|---------------------------|-------------------------------------------------------------------------|-----------|---------------------------|--------------------------------------------------------------------|-----------|
| FRESHMAN | ENGL 1113 | Principles of English Composition (Core I) | 3 | ENGL 1213 or EXPO 1213 | Principles of English Composition (Core I) or Expository Writing | 3 |
| | CHEM 1315 | General Chemistry (Core II) ¹ | 5 | CHEM 1415 | General Chemistry (Continued) ¹ | 5 |
| | MATH 1914 | Differential and Integral Calculus I (Core I) ² | 4 | MATH 2924 | Differential and Integral Calculus II ² | 4 |
| | | First Year Experience (Core V) ³ | 3 | PHYS 2514 | General Physics for Engineering and Science Majors (Core II) | 4 |
| | | | | P E 2011 | Introduction to Petroleum Engineering | 1 |
| | CREDIT HOURS | | 15 | CREDIT HOURS | | 17 |
| SOPHOMORE | MATH 2934 | Differential and Integral Calculus III ² | 4 | P E 2213 | Thermodynamics | 3 |
| | PHYS 2524 | General Physics for Engineering and Science Majors | 4 | P E 3022 | Technical Communications | 2 |
| | GEOL 1114 | Physical Geology for Science and Engineering Majors | 4 | P E 3213 | Reservoir Rock Properties | 3 |
| | P E 2113 | Statics and Dynamics | 3 | P E 3221 | Rock Properties Laboratory | 1 |
| | | Approved Elective: Artistic Forms (Core IV) ³ | 3 | MATH 3113 | Introduction to Ordinary Differential Equations | 3 |
| | | | | | Approved Elective: World Culture (Core IV) ³ | 3 |
| | CREDIT HOURS | | 18 | CREDIT HOURS | | 15 |
| | SUMMER | | | | | |
| | P E 3220 | Petroleum Engineering Internship | 0 | | | |
| | CREDIT HOURS | | 0 | | | |
| JUNIOR | GEOL 3003 | Structural Geology and Stratigraphy for Petroleum Engineers | 3 | GPHY 3423 | Introductory Petroleum Geology and Geophysics | 3 |
| | P E 3123 | Petroleum Reservoir Fluids | 3 | P E 2153 | Mechanics of Materials | 3 |
| | P E 3223 | Fluid Mechanics | 3 | P E 3413 | Production Engineering I | 3 |
| | P E 3313 | Drilling I | 3 | P E 3513 | Reservoir Engineering I | 3 |
| | P E 3712 | Petroleum Economics | 2 | P E 3813 | Formation Evaluation with Well Logs | 3 |
| | P E 3723 | Numerical Methods for Engineering Computation | 3 | P E 4331 | Drilling Engineering Laboratory | 1 |
| | CREDIT HOURS | | 17 | CREDIT HOURS | | 16 |
| SENIOR | HIST 1483 or HIST 1493 | United States to 1865 (Core IV) or United States, 1865 to the Present | 3 | P SC 1113 | American Federal Government (Core III) | 3 |
| | P E 4323 | Drilling II | 3 | P E 4463 | Data Analytics | 3 |
| | P E 4423 | Production Engineering II | 3 | P E 4553 | Integrated Reservoir Management | 3 |
| | P E 4521 | Reservoir Fluid Mechanics Laboratory | 1 | | P E - Approved P E Elective ⁴ | 3 |
| | P E 4532 | Reservoir Engineering II | 2 | | Approved Elective: Western Culture (Core IV) ³ | 3 |
| | P E 4711 | Petroleum Project Evaluation | 1 | | | |
| | | Approved Elective: Social Science (Core III) ³ | 3 | | | |
| | CREDIT HOURS | | 16 | CREDIT HOURS | | 15 |

¹ CHEM 1315 and CHEM 1415 can be substituted with CHEM 1335 (Fall only) and CHEM 1435 (Spring only), respectively.

² The MATH 1823, MATH 2423, MATH 2433, and MATH 2443 sequence can be substituted for MATH 1914, MATH 2924, and MATH 2934.

³ To be chosen from the University-Wide General Education Approved Course List. Three of these hours must be upper-division (3000-4000). See list in the Class Schedule.

⁴ PE Elective: P E 4573, P E 4583, P E 4033, or any P E 5000-level course.