

REQUIREMENTS FOR THE BACHELOR OF SCIENCE
GALLOGLY COLLEGE OF ENGINEERING
THE UNIVERSITY OF OKLAHOMA

| Academic Year |
|--|
| For Students Entering the Oklahoma State System for Higher Education Summer 2023 through Spring 2024 |

| General Requirements | |
|---|------|
| Minimum Total Credit Hours | 129 |
| Minimum Retention/Graduation Grade Point Averages: | |
| Overall - Combined and OU | 2.00 |
| Major - Combined and OU | 2.00 |
| Curriculum - Combined and OU | 2.00 |

| Program |
|---------------------|
| Engineering Physics |
| B372 |
| 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 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 list, including at least one upper-division Gen. Ed. course outside of the student's major. **Courses graded P/NP will not apply.**

A grade of C or better is required in each course in the curriculum, including all prerequisite courses.

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

| Code | Title | Credit Hours |
|---|--|--------------|
| Core Area I: Symbolic and Oral Communication | | |
| <i>English Composition</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 in the same language)</i> | | |
| This requirement can be met by two years of the same language in high school: | | 0-10 |
| Beginning Course (0-5 hours) | | |
| Beginning Course, continued (0-5 hours) | | |
| <i>Mathematics</i> | | |
| MATH 1914 | Differential and Integral Calculus I (Core I) ^{1,3} | 4 |
| Core Area II: Natural Science (including one laboratory) | | |
| PHYS 1205 | Introductory Physics I for Physics Majors (Core II) ² | 5 |
| CHEM 1315 | General Chemistry (Core II-Lab) ³ | 5 |
| or CHEM 1335 | General Chemistry I: Signature Course | |
| Core Area III: Social Science | | |
| P SC 1113 | American Federal Government | 3 |
| Choose one course ⁴ | | 3 |
| Core Area IV: Arts & Humanities | | |
| <i>Artistic Forms</i> | | |
| Choose one course ⁴ | | 3 |
| <i>Western Culture</i> | | |
| HIST 1483 | United States to 1865 | 3 |
| or HIST 1493 | United States, 1865 to the Present | |
| Choose one course (excluding HIST 1483 and HIST 1493) ⁴ | | 3 |
| <i>World Culture</i> | | |
| Choose one course ⁴ | | 3 |
| Core Area V: First-Year Experience | | |
| Choose one course ⁴ | | 3 |
| Total Credit Hours | | 41-51 |

¹ MATH 1823, MATH 2423, MATH 2433, and MATH 2443 sequence can be substituted for MATH 1914, MATH 2924, and MATH 2934.
² With approval of advisor, PHYS 2514, PHYS 2524, and PHYS 1311 and PHYS 1321 may substitute for PHYS 1205, PHYS 1215.
³ Major support requirements that also satisfy University General Education requirements.
⁴ 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.

FREE ELECTIVES

Electives to bring total applicable hours to the minimum total required for the degree including a minimum of 40 upper-division hours.

Bachelor of Science in Engineering Physics accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the General Criteria and the Engineering, General Engineering, Engineering Physics, Engineering Science and Similarly Named Program Criteria.

In order to progress in your curriculum in the Gallogly College of Engineering, and as a specific graduation requirement, a **grade of C** or better is required in each course in the curriculum, including all prerequisite courses.

MAJOR REQUIREMENTS

| Code | Title | Credit Hours |
|--|--|--------------|
| Required Courses | | |
| PHYS 1205 | Introductory Physics I for Physics Majors | 5 |
| PHYS 1215 | Introductory Physics II for Physics Majors | 5 |
| PHYS 2203 | Introductory Physics III: Modern Physics | 3 |
| PHYS 2303 | Electronics | 3 |
| PHYS 3043 | Physical Mechanics I | 3 |
| PHYS 3053 | Physical Mechanics II | 3 |
| PHYS 3183 | Electricity and Magnetism I | 3 |
| PHYS 3302 | Advanced Lab I | 2 |
| or PHYS 3312 | Advanced Lab II | |
| PHYS 3803 | Introduction to Quantum Mechanics I | 3 |
| PHYS 4310 | Senior Research Project I | 1-3 |
| PHYS 4153 | Statistical Physics and Thermodynamics | 3 |
| PHYS 4320 | Senior Research Project II | 1-3 |
| Approved Physics Elective ¹ | | 3 |
| Total Credit Hours | | 40 |

¹ Chosen from: PHYS 4183, PHYS 4213, PHYS 4243, PHYS 4803, or PHYS 4813.

MAJOR SUPPORT REQUIREMENTS

| Code | Title | Credit Hours |
|--|--|--------------|
| Math and Science | | |
| MATH 2924 | Differential and Integral Calculus II | 4 |
| MATH 2934 | Differential and Integral Calculus III | 4 |
| MATH 3413 | Physical Mathematics I | 3 |
| MATH 3423 | Physical Mathematics II | 3 |
| Engineering Electives | | |
| Choose three 2000-4000 level courses | | 9 |
| Engineering Electives - Design Sequence | | |
| Choose five engineering design courses approved by advisor | | 15 |
| Technical Elective | | |
| Choose one 3000-level or higher course from engineering, physics, or math approved by advisor ¹ | | 3 |
| Engineering Physics Elective | | |
| Choose one 3000-level or higher course from engineering or physics approved by advisor ² | | 3 |
| Additional College Requirements | | |
| ENGR 1411 | Pathways to Engineering Thinking ³ | 1 |
| ENGR 2002 | Professional Development | 2 |
| C S 1313 | Programming for Non-Majors with C | 3 |
| or C S 1323 | Introduction to Computer Programming for Programmers | |
| AME 3153 | Fluid Mechanics | 3 |
| or CEES 2223 | Fluid Mechanics | |
| Total Credit Hours | | 53 |

¹ Co-op students may substitute 3 hours of Engineering Co-op Program, on approval of advisor. A 2000-level engineering course may be used if prerequisite for engineering design sequence. Must be approved by advisor.
² A 2000-level engineering course may be used if it is a prerequisite of a design sequence and the technical elective is not a 2000-level course. **Electives must be approved by Advisor.**

³Engineering transfer students may take ENGR 3511 in place of ENGR 1411.

More information in the catalog: (<http://ou-public.courseleaf.com/gallogly-engineering/engineering-physics/engineering-physics-bachelor-science/>).

SUGGESTED SEMESTER PLAN OF STUDY

Bachelor of Science in Engineering Physics accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the General Criteria and the Engineering, General Engineering, Engineering Physics, Engineering Science and Similarly Named Program Criteria.

In order to progress in your curriculum in the Gallogly College of Engineering, and as a specific graduation requirement, a grade of C or better is required in each course in the curriculum, including all prerequisite courses.

Two college-level courses in a single world language are required; this may be satisfied by successful completion of 2 years in a single world 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 |
| | MATH 1914 | Differential and Integral Calculus I (Core I) ¹ | 4 | CHEM 1315 | General Chemistry (Core II) ⁴ | 5 |
| | PHYS 1205 | Introductory Physics I for Physics Majors (Core II-Lab) ² | 5 | MATH 2924 | Differential and Integral Calculus II (Core I) ¹ | 4 |
| | | First-Year Experience (Core V) ⁵ | 3 | PHYS 1215 | Introductory Physics II for Physics Majors ² | 5 |
| | ENGR 1411 | Pathways to Engineering Thinking ³ | 1 | | | |
| | CREDIT HOURS | | 16 | CREDIT HOURS | | 17 |
| SOPHOMORE | MATH 2934 | Differential and Integral Calculus III ¹ | 4 | MATH 3413 | Physical Mathematics I | 3 |
| | HIST 1483 or HIST 1493 | United States to 1865 (Core IV) or United States, 1865 to the Present | 3 | | Engineering Elective (2000-4000 level) | 3 |
| | PHYS 2203 | Introductory Physics III: Modern Physics | 3 | ENGR 2002 | Professional Development | 2 |
| | PHYS 2303 | Electronics | 3 | PHYS 3043 | Physical Mechanics I | 3 |
| | C S 1313 or C S 1323 | Programming for Non-Majors with C or Introduction to Computer Programming for Programmers | 3 | | Approved Elective: Social Science (Core III) ⁵ | 3 |
| | | | | P SC 1113 | American Federal Government (Core III) | 3 |
| | CREDIT HOURS | | 16 | CREDIT HOURS | | 17 |
| JUNIOR | MATH 3423 | Physical Mathematics II | 3 | PHYS 3302 or PHYS 3312 | Advanced Lab I or Advanced Lab II | 2 |
| | PHYS 3053 | Physical Mechanics II | 3 | PHYS 3803 | Introduction to Quantum Mechanics I | 3 |
| | PHYS 3183 | Electricity and Magnetism I | 3 | AME 3153 or CEES 2223 | Fluid Mechanics or Fluid Mechanics | 3 |
| | | Engineering Elective (2000-4000-level) | 3 | | Engineering Elective (2000-4000-level) | 3 |
| | | Approved Elective: Artistic Forms (Core IV) ⁵ | 3 | | Engineering Elective (Design Sequence 1) ⁶ | 3 |
| | CREDIT HOURS | | 15 | CREDIT HOURS | | 14 |
| SENIOR | PHYS 4310 | Senior Research Project I | 2 | PHYS 4320 | Senior Research Project II | 2 |
| | PHYS 4153 | Statistical Physics and Thermodynamics | 3 | | Approved Physics Elective | 3 |
| | | Engineering Elective (Design Sequence 2) ⁶ | 3 | | Engineering Elective (Design Sequence 4) ⁶ | 3 |
| | | Engineering Elective (Design Sequence 3) ⁶ | 3 | | Engineering Elective (Design Sequence 5) ⁶ | 3 |
| | | Technical Elective ⁷ | 3 | | Engineering Physics Elective ⁸ | 3 |
| | | Approved Elective: World Culture (Core IV) ⁵ | 3 | | Approved Elective: Western Culture (Core IV) ⁵ | 3 |
| | CREDIT HOURS | | 17 | CREDIT HOURS | | 17 |

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

² With approval of advisor, PHYS 2514, PHYS 2524, and PHYS 1311 and PHYS 1321 may substitute for PHYS 1205, PHYS 1215.

³ Engineering transfer students may take ENGR 3511 in place of ENGR 1411.

⁴ CHEM 1315 can be substituted with CHEM 1335 (Fall only).

⁵ 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.

⁶ The 15 hours of engineering electives in an engineering discipline must emphasize engineering design. Electives must be approved by advisor.

⁷ A course numbered 3000 or above from engineering, physics or mathematics. Co-op students may substitute 3 hours of Engineering Co-op Program, on approval of advisor. A 2000-level engineering course may be used if prerequisite for engineering design sequence. Must be approved by advisor.

⁸ A course numbered 3000 or above from engineering or physics. A 2000-level engineering course may be used if it is a prerequisite of a design sequence and the technical elective is not a 2000-level course. **Electives must be approved by Advisor.**

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 list.