

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 2022 through Spring 2023

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.

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

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	Freshman Engineering Experience 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.**

³ Engineering 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/>).

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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	Freshman Engineering Experience 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

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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.