

**REQUIREMENTS FOR THE BACHELOR OF PHYSICS**  
**DODGE FAMILY COLLEGE OF ARTS AND SCIENCES**  
**THE UNIVERSITY OF OKLAHOMA**

Academic Year	General Requirements	Program
For Students Entering the Oklahoma State System for Higher Education <b>Summer 2024 through Spring 2025</b>	Minimum Total Credit Hours ..... 120 Minimum Upper-Division Hours ..... 48 Major Hours ..... 45 <b>Minimum Retention/Graduation Grade Point Averages:</b> Overall - Combined and OU ..... 2.00 Major - Combined and OU ..... 2.00	<b>Physics (Professional)</b>  <b>B781</b>  Bachelor of Physics
OU encourages students to complete at least 30 hours of applicable coursework each year to have the opportunity to graduate in 4 years.		

**Minimum Total Credit Hours:** 120  
**Major Hours:** 45  
**Minimum Upper-Division Hours:** 48

**Overall GPA - Combined and OU:** 2.00  
**Major GPA - Combined and OU:** 2.00

**Program Code:** B781

## General Education and College Requirements

Courses for fulfillment of General Education and Dodge College of Arts & Sciences requirements must be from the approved General Education course list published in the Class Schedule or at <http://www.ou.edu/gened/courses>. **Courses graded P/NP will not apply.**

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

Code	Title	Credit Hours
<b>Core Area I: Symbolic and Oral Communication</b>		
<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 (0-13 hours in the same language)</i>		
The college requirement cannot be met by high school coursework.		
	Beginning Course	0-5
	Beginning Course, continued	0-5
	Intermediate Course (2000 level) <sup>1,2</sup>	0-3
<i>Mathematics (3 hours)</i>		
	Choose one course from the General Education Mathematics list	3
<b>Core Area II: Natural Science (7 hours, including one laboratory component)</b>		
<i>Biological Science</i>		
	Choose an approved General Education Natural Science course with one of the following prefixes: BIOL, HES, MBIO, or PBIO <sup>1</sup>	3-4
<i>Physical Science</i>		
	Choose an approved General Education Natural Science course with one of the following prefixes: AGSC, ASTR, CHEM, GEOG, GEOL, GPHY, METR, or PHYS <sup>1</sup>	3-4
<b>Core Area III: Social Science (6 hours)</b>		
P SC 1113	American Federal Government	3
	Choose one course from the General Education Social Science list	3
<b>Core Area IV: Arts and Humanities (18 hours)</b>		

#### Artistic Forms

Choose one course from the General Education Artistic Forms list 3

#### Western Culture

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 1483/1493) 3

#### World Culture

Choose one course from the General Education World Culture list 3

#### Additional Core IV Upper-Division Arts & Humanities courses

Choose one course from Artistic Forms, Western Culture, or World Culture <sup>1,3</sup> 3

Choose one course from Artistic Forms, Western Culture, or World Culture <sup>1,3</sup> 3

#### Core Area V: First Year Experience (3 hours)

Choose one course 3

**Total Credit Hours** 56

<sup>1</sup> College of Arts and Sciences Requirements: college requirements are not automatically fulfilled by a previous degree.

<sup>2</sup> One course at the intermediate level or demonstrated competency at that level

<sup>3</sup> 6 upper-division hours, 2 courses, at the 3000- 4000-level. **Must be outside the major.**

## Free Electives

Electives to bring total applicable hours to the minimum total required for the degree including 48 upper-division hours.

- A grade of C or better must be earned in each required Physics and Mathematics course.

## Major Requirements

- Some courses required for the major may also fulfill University General Education and/or Dodge College of Arts & Sciences Requirements.

A total of 45 hours in Physics is required, including the courses listed below.

Code	Title	Credit Hours
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
PHYS 3312	Advanced Lab II	2
PHYS 3803	Introduction to Quantum Mechanics I	3
PHYS 4153	Statistical Physics and Thermodynamics	3
PHYS 4310	Senior Research Project I	2
PHYS 4320	Senior Research Project II	2
Choose two of the following:		6
PHYS 4183	Electricity and Magnetism II (strongly recommended)	
PHYS 4213	Nuclear and Particle Physics	
PHYS 4243	Solid State Physics	
PHYS 4803	Introduction to Quantum Mechanics II (strongly recommended)	
PHYS 4813	Atomic Physics	
<b>Total Credit Hours</b>		<b>45</b>

## Major Support Requirements

Code	Title	Credit Hours
Choose one of the the following:		0-5
CHEM 1315	General Chemistry	
One year of high school chemistry		
MATH 1914	Differential and Integral Calculus I <sup>1</sup>	4
MATH 2924	Differential and Integral Calculus II <sup>1</sup>	4
MATH 2934	Differential and Integral Calculus III <sup>1</sup>	4
MATH 3413	Physical Mathematics I	3
MATH 3423	Physical Mathematics II	3
Choose 3 upper-division elective hours in mathematics		3
<b>Total Credit Hours</b>		<b>21-26</b>

<sup>1</sup> MATH 1823, MATH 2423, MATH 2433 and MATH 2443 may also be used to meet this requirement.

## Information Concerning General Rules, Regulations and Minimum Requirements

**Arts and Sciences Hours:** At least 80 semester hours of liberal arts and sciences courses are required for a BA degree. At least 55 semester hours of liberal arts and sciences courses are required for a BS degree.

**Pass/No Pass Enrollment:** A maximum of 16 semester hours of free elective credit may be attempted under this option.

**Individual Studies (e.g., courses titled "Independent Study"):** A maximum of 12 total semester hours may be counted toward graduation, excluding Honors Reading and Honors Research.

**P.E. Courses:** No physical education activity courses will be counted toward the 120 semester hours of acceptable credit for graduation.

**Senior Institution Hours:** A minimum of 60 semester hours applied toward graduation must be earned at senior (4-year) institutions.

### Residency:

- At least 15 of the final 30 hours applied toward the degree or at least 50 percent of the hours required by the institution in the major field must be satisfactorily completed at the awarding institution.
- At least 15 semester hours of upper-division major work must be completed in residence at OU.
- OU correspondence courses are *not* considered resident credit.

**Grade Point Averages:** Students must earn a minimum over all 2.00 for each of the following: Combined Retention GPA (all college grades), OU Retention GPA, GPA for all major courses, and GPA for all major courses taken at OU. Some schools and departments of the College have higher minimum grade point averages required for their students.

## Suggested Semester Plan of Study

This plan shows one possible grouping of courses that would allow students to graduate in four years. Please refer to the front of the degree checklist for official requirements. Students must consult with Dodge College of Arts and Sciences and/or Department of Physics and Astronomy academic advisors to verify that courses selected each semester fulfill the recommended plan and satisfy University, College of Arts and Sciences, and Physics major requirements.

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	4	MATH 2924	Differential and Integral Calculus II	4
	PHYS 1205	Introductory Physics I for Physics Majors	5	PHYS 1215	Introductory Physics II for Physics Majors	5
		First Year Experience (Core V)	3		Beginning Language (Core I)	5
	<b>CREDIT HOURS</b>		<b>15</b>	<b>CREDIT HOURS</b>		<b>17</b>
SOPHOMORE	MATH 2934	Differential and Integral Calculus III	4	CHEM 1315	General Chemistry	5
	PHYS 2203	Introductory Physics III: Modern Physics	3	HIST 1483 or HIST 1493	United States to 1865 ( Core IV ) or United States, 1865 to the Present	3
	PHYS 2303	Electronics	3	MATH 3413	Physical Mathematics I	3
		Beginning Language (continued) (Core I)	5	PHYS 3043	Physical Mechanics I	3
	<b>CREDIT HOURS</b>		<b>15</b>	<b>CREDIT HOURS</b>		<b>17</b>
JUNIOR	MATH 3423	Physical Mathematics II	3		MATH Support Elective, upper-division (3000-4000-level)	3
	PHYS 3053	Physical Mechanics II	3	PHYS 3312	Advanced Lab II	2
	PHYS 3183	Electricity and Magnetism I	3	PHYS 3803	Introduction to Quantum Mechanics I	3
	PHYS 3302	Advanced Lab I	2		PHYS Major Elective, 4000-level	3
		Artistic Forms (Core IV) <sup>2</sup>	3		Western Culture (Core IV) <sup>2</sup>	3
	<b>CREDIT HOURS</b>		<b>14</b>	<b>CREDIT HOURS</b>		<b>14</b>
SENIOR	PHYS 4153	Statistical Physics and Thermodynamics	3	PHYS 4320	Senior Research Project II	2
	PHYS 4310	Senior Research Project I	2	P SC 1113	American Federal Government ( Core III )	3
		PHYS Major Elective, 4000-level	3		Arts & Humanities, upper-division, outside major (Gen. Ed.)	3
		Arts & Humanities, upper-division, outside major (Gen. Ed.)	3		Social Science (Core III) <sup>2</sup>	3
		World Culture (Core IV) <sup>2</sup>	3			
		Biological Science without lab (Core II)	3			
	<b>CREDIT HOURS</b>		<b>17</b>	<b>CREDIT HOURS</b>		<b>11</b>

<sup>1</sup> Students may substitute MATH 1823, MATH 2423, MATH 2433 and MATH 2943 calculus sequence instead of MATH 1914, MATH 2924, and MATH 2934.

<sup>2</sup> At least 4 hours of upper-division General Education will be required to complete the 48 hour upper-division requirement.