Ball State University

Course Syllabus for Explorations in Physical Science and Engineering (PHYC 118)

Fall 2025

Lecture: Monday 12:00 PM – 12:50 PM, Cooper Science Building 311

Lab: Section 1: Thursday 10:00 AM – 11:50 AM, Cooper Science Bldg 409

Section 2: Thursday 12:00 PM – 1:50 PM, Cooper Science Bldg 409

Instructor: Dr. Michael J. Skoby
mjskoby@bsu.edu
Office: CS 430B

Office Hours (subject to change):

Tuesday 4:00 PM – 5:00 PM
Wednesday 10:00 AM – 11:00 AM
Friday 1:00 PM – 2:00 PM
Or by appointment

Catalog Description:

Introduction to knowledge and skills essential for the successful completion of undergraduate programs in astronomy, physics, physics teaching, and pre-engineering preparation. Interactive lectures and laboratory investigations will provide experiences in designing, conducting, analyzing, and reporting scientific investigations; the engineering design process; the development and interpretation of scientific models; the mathematical skills necessary for success in physical science and engineering; the exploration of issues related to the nature of science; and opportunities for research within the department and future careers.

Required Materials:

Subscription to ALEKS: Math Prep for Physics

Course Grading:

Your final grade will be weighted as follows:

Activities/Labs:	50%
Homework/Quizzes:	30%
Final Project:	10%
ALEKS:	5%
Attendance:	5%

Below is the grading scale. The letter grade thresholds may be lowered at the instructor's discretion, but the thresholds will not be raised. For example, if you get at least 90% you will be guaranteed to receive an A- or possibly better.

A	93-100%
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-72%
D+	67-69%
D	63-66%
D-	60-62%
F	Below 60%

Activities/Labs:

Lab sessions will be used for additional lecture material, experiments, and other active learning activities. Some activities will be carried out individually; however, experiments will be performed in groups of 2 and only one lab report will be submitted per group. Each group member must equally contribute to completing the experiment and the lab report. Lab reports are generally due a week after the experiment was carried out. Late lab reports will not be accepted. If you miss a lab session for a valid reason (e.g., illness), then you will be given an opportunity to make it up by special arrangement. However, you must contact the instructor before missing class for an excused absence.

Homework/Quizzes:

Homework is generally due a week after it is assigned. Late homework will not be accepted.

From time-to-time quizzes will be assigned to demonstrate comprehension of lectures and lab activities.

Final Project:

Towards the end of the semester you will complete a final project that will include a poster presentation. The details of the project requirements will be related at a later date.

ALEKS:

We will use an online assessment and tutoring program called ALEKS: Math Prep for Physics to help us ensure that you have the necessary mathematical skills needed to succeed in your future physical science and engineering courses. The details associated with this portion of your grade will be given in class.

Attendance:

Students are expected to be present for every lecture and assigned lab section. Only exceptional cases (e.g., illness) will be considered excused, and students are still responsible for homework assigned and all material covered in class. *You must contact the instructor before missing class for an excused absence and you may be required to provide the instructor with supporting documentation.*

Please be on time and only leave when dismissed.

Classroom Policy:

Distractions in the classroom are not allowed. No cell phones may be used for any purpose during class except when given permission by the instructor. You may use a laptop for the purpose of taking notes.

University Statement:

We are committed to ensuring that all members of the community are welcome, through valuing the various experiences and worldviews represented at Ball State and among those we serve. We promote a culture of respect and civil discourse. If you need course adaptations or accommodations because of a disability, please contact the instructor of record as soon as possible. Ball State's Disability Services Office coordinates services for students with disabilities; documentation of a disability needs to be on file in that office before any accommodations can be provided. Disability Services can be contacted at 765-285-5293 or dsd@bsu.edu.

Freedom of Expression:

In this course, we are committed to fostering a learning environment that values intellectual diversity, encourages free expression, and promotes open inquiry. As members of the Ball State Community, we treat each person in the Ball State community with civility, courtesy, compassion, and dignity and respect and learn from differences in people, ideas, and opinions. Please review Ball State University’s Statement on Freedom of Expression, the resources on Ball State’s Freedom of Expression webpage, and Ball State’s Beneficence Pledge.

Academic Dishonesty:

"To maintain its credibility and reputation, and to equitably assign evaluations of scholastic and creative performance, Ball State University is committed to maintaining a climate that upholds and values the highest standards of academic integrity." Refer to the following BSU web site for more information: https://www.bsu.edu/about/administrativeoffices/vice-provost/student-services/academic-integrity

Class Schedule:

The class schedule will depend on the availability of guest speakers throughout the semester.

We will not have class on the following days:

Monday, September 1 (Labor Day)
Monday, October 6 (Fall Break)
Thursday, November 27 (Thanksgiving Break)

There is no final exam, but we will meet **Wednesday, December 10 at 12:00 PM to 2:00 PM.**

Disclaimer:

This syllabus is subject to change.