

Pre-Calculus Physics II

PHYS 195, Spring 2026

Instructor	Mark McKinnon	Phone	TBA
Office Location	TBA	Email	mckinnonm@lindsey.edu
Course Meeting Days and Time	Tues/Thur 14:30-17:00	Student Drop-In Office Hours	TBA
Course Mode	In person		

Course Information

Catalog Description:

This course introduces the principles of simple harmonic motion, waves, Coulomb's Law, electric fields and circuits, magnetism, and optics. Quantitative as well as qualitative aspects of the subject are developed utilizing precalculus.

Credit Hour Policy Statement:

Combination of standard lecture and other academic activities: "This class meets the federal credit hour policy through a combination of lecture + laboratory (or lecture + practicum) for a total of 45-75 hours of supervised learning activities for each credit."

Course Learning Outcomes:

During this course, you will develop an understanding of the universe around you and in what way objects interact. You will sharpen your observational skills and your ability to process this information analytically. Finally, you will improve your ability to communicate your analysis and understanding in a concise and logical manner using verbiage and/or graphics. To this end, the course has the following learning objectives:

- The student will be able to accurately predict and clearly communicate the logic behind this prediction for certain electrical and/or magnetic properties when given details of an interaction.
- The student will be able to accurately predict and clearly communicate the logic behind this prediction for mechanical properties of an object (e.g. height, velocity, displacement, etc.) of a body (or bodies) when given details of an electrical and/or magnetic interaction.
- The student will be able to accurately predict and clearly communicate the logic behind this prediction for the interaction details (e.g. type, magnitude, and direction) between two or more bodies (or substances) when given their electrical, magnetic, and mechanical properties.

Required Materials:

Study materials are provided on Blackboard. However, if you would like additional sources of information, the following are recommended:

Paul Hewitt, *Conceptual Physics*.

Wikipedia, ChatGPT (These two sometimes have misinformation, use your critical thinking)

Methods of Instructions:

We will meet twice each week (Tues and Thurs 14:30-17:00) in a "Discussion/ Laboratory," or DL for short. This is a combination of lab activities (predictions, experiments, and observations) and discussions within small groups (SG) or the whole class (WC). I will rarely lecture. Instead, I will ask questions and guide the discussion for you to

develop your own understanding of physical phenomena based on your observations. This process is designed for you to have the opportunity to keep your mind active in the presence of new ideas. Research has demonstrated that an active mind is better able to process and analyze new information than a passive mind (which is the nature of the mind during a lecture). When you encounter new ideas, often they will conflict with your previous understanding. It is important to try to recognize this conflict, bring it to the forefront of your mind and rectify the conflict. When your brain is active by discussions and activities, you are more likely to recognize these conflicts. I encourage you to bring it up for discussion, so we can collaboratively address the issue. I will try to give you as much opportunity as possible.

Withdrawal and Attendance policies:

The learning occurs during the class and through collaboration with your fellow students. Thus, you must attend the classes. Please, do not miss more than three classes. If you have conflicts with the current schedule, meet with the instructor during office hours ASAP.

The last to withdraw from the class is **TBD**.

Grading Criteria:

Grade Scale: Grades will be based on a 5 point scale as follows (Note: There is no curve).

A	B	C	D	F
> 3.99	> 2.99	>1.99	> 0.99	0.99 or lower

Evaluation: (Absence penalties will be assessed after the following calculation):

Exams (one will be dropped) (No make-ups)	= 30%
Quizzes (two will be dropped) (No make-ups)	= 30%
<u>Final Exam (No make-up)</u>	<u>= 40%</u>
Total	= 100%

Alternate Calculation: If you do better on the final than on the other tests:

Exams (one will be dropped) (No make-ups)	= 15%
Quizzes (two will be dropped) (No make-ups)	= 15%
<u>Final Exam (No make-up)</u>	<u>= 70%</u>
Total	= 100%

Extra Credit: Each of the following will raise your grade for the exam by 1/3rd point:

Task	Description
Redo each exam	For each question of the exam for which you did not score 4.0 or better: - Explain what you did wrong - Explain what you were thinking - Provide "A" level response (in your own words)

Note on Curving: The grade for this course is not curved. Therefore, you are not competing with the other students in the class. Please work together as much as possible (except on tests!). Every time you help your fellow student; you will learn the material a bit better yourself.

Make-Up Policy: There are no make-ups for quizzes & exams. If you miss a test, that will be the one you will drop. If you are an inter-scholastic athlete that must miss a class for an event, contact your coach so that s/he can provide a proctor for you to take tests while you are traveling.

Quiz Policy: Each Thursday, there will be a quiz **based on homework, textbook examples, lectures, & laboratory activities**. No make-up quizzes will be given. You have the option to drop your lowest two quiz scores or, equivalently, miss up to two quizzes during the semester.

Exam Policy: Three exams will be held on Thursday during the semester. The tentative dates are TBD. No make-up exams will be given. You have the option to drop your lowest exam score or, equivalently, miss one exam during the semester.

Final Policy: Final Exam will be held on Tuesday, 4/21, and Thursday, 4/23. No make-up final will be given. You must take the final during this time.

Homework: Homework (or “For Next Time” a.k.a. FNT’s) assignments are assigned to engage your understanding from class activities to new (or apparently new) situations. Additionally, problems may be given to stimulate new discussions in anticipation of new physical concepts. It is important that you come prepared to participate in activities and discussions in class. If you have a difficult time with the problem, you should include notes and specific questions about how to go about addressing the problem. These notes and questions can be used to start or enrich the group discussion during class. Failure to do so will cost you significant progress in developing understanding of the physical concepts. Additionally, it robs the other participants your small group from your assistance in tackling the class assignments. Therefore, your progress on the assignments will be checked at the beginning of class.

Honor Code:

All students at the University of Evansville agree to the University honor code: *I will neither give nor receive unauthorized aid, nor will I tolerate an environment that condones the use of unauthorized aid.*

You will be required to sign the following pledge with each test: “On my honor as a student, I have neither given nor received any unauthorized aid on this exam.” Failure to sign this pledge will result in zero for the test. Any suspected cheating will be turned over to the Academic Affairs Office.

Course Schedule:

The actual discussion/lab meeting activities will be posted on Blackboard. There is a quiz every Tuesday and an exam every fourth Tuesday.

Week 1: Review: Conservation of Energy Model, Three-Phase Model

Weeks 2-5: Energy Density and Transport Models (hydraulics, electric circuits, heat flow, etc)

Weeks 5-9: Electromagnetism (fields, forces, potential, potential energy, and electric-magnetic interactions)

Weeks 9-15: Waves (SHO, sound, 2-D, 3-D, interference, light and optics)

University Policy Statements

Disability Policy:

The University of Evansville is committed to providing an accessible and supportive environment for students with disabilities. It is the policy and practice of the University of Evansville to make reasonable accommodations for students with properly documented disabilities. Students should contact Disability Services at 812-488-2663 to seek services or accommodations for disabilities. Written notification to faculty from Disability Services is required for academic accommodations.

Institutional Equity and Title IX

UE is committed to fostering an atmosphere free from harassment and creating an inclusive campus for all members of the University community regardless of their sex, sexual orientation, gender identity, race, religion, ethnicity, country of origin, ability, or veteran status. All Faculty members are considered Responsible Employees and required to report instances of discrimination, harassment, or sexual violence to the Office of Institutional Equity

You may also choose to speak to a Confidential Resource about your experience. Confidential Resources at the University include:

Counseling Services: 812-488-2663, counselingservices@evansville.edu

Crayton E. and Ellen Mann Health Center: 812-488-2033, healthcenter@evansville.edu

Spiritual Formation Coordinator: 812- 488-5265, spiritualformation@evansville.edu

If you or someone you know has been harassed, assaulted, or discriminated against you can find the appropriate resources by contacting the Assistant Director of Institutional Equity and Title IX Coordinator: email titleix@evansville.edu ; phone (812) 488-5261. For more information visit <https://www.evansville.edu/offices/titleix/policy.cfm> .

Non-discrimination Statement

The University of Evansville expects all members of its community to treat each other with respect and civility. Harassing behaviors directed towards any member of our community will not be tolerated. As part of its commitment to non-discrimination, the University specifically prohibits harassment based on any other characteristics set forth in its nondiscrimination statement as follows: including race, color, gender, gender identity and expression, sexual orientation, creed or religion, national origin, age, disability, veteran status and all federally protected groups/classes. Any form of harassment undermines the mission of the University and negatively impacts the University community as a whole. For more information contact the [Center for Inclusive Excellence](#).

Campus Safety

All members of the UE community are automatically enrolled in the Ace Alerts Emergency Alert System. When the system is activated, emergency notification information is sent in the following manner: calls to campus IP phones, text messages, emails, campus housing speaker system, active threat sirens (non-weather related), digital signage, and AlertUS desktop on campus-owned computers.

To contact the Office of Public Safety:

Emergencies: 812-488-6911

Non-emergencies: 812-488-2051

Complaints, Grievances, and Appeals

The University of Evansville seeks to resolve all student concerns in a timely and effective manner through policies and processes documented in the University [Course Catalog](#) and [Student Handbook](#).

Student Resources

Access the links below to connect with departments and resources that are here to support all UE students.

Academic Services: Contact the Center for Academic Advising to connect with academic support services including supplemental instruction, tutoring, and time management and study skills help.

Blackboard Guides: Blackboard is the University of Evansville's course management system for online courses. Guides on using Blackboard can be found within [MyUE](#).

Writing Center : The Writing Center provides access to writing resources, appointments for one-on-one writing help, and assistance with any stage of the writing process.

Counseling Services: Counseling Services provides general, short-term counseling that assists students in identifying barriers and setting goals while improving coping strategies to achieve personal and academic goals.

University Libraries: Conduct research, access resources, and contact librarians for any research related help.