Instructor Information

Instructor: Mr. Jeff Shaw
Office: Building B, room 105B
Mailbox: Science Building main office
Hours: M/W 8-9, 4-5 T/R 8-9
Phone: 501-812-2265
Email: jshaw@uaptc.edu

*All emails and telephone calls will receive a response within two business days.

Chair: Mr. Tom Russell 501-812-2705 trussell@uaptc.edu
Dean: Dr. Howe 501-812-2342 mbryanhowe@uaptc.edu

*If your emails and telephone calls do not receive a response within two business days, the appropriate chain of command is above.

Course Information

Class on campus T/R 9:25– 10:40 Admin building room 137
Lab on campus T ______________ pm Science Lab building room 107

Catalog Description
This is an algebra and trigonometry-based physics course. It is not recommended for physics and engineering majors. Topics include mechanics in one and two dimensions, fluids, thermodynamics and mechanical waves and sound. Lab is required. Prerequisites: MATH 1302 with a grade of “C” or better or high school Trigonometry with a grade of "B" or better and permission of the department chair. 3 lecture hours, 3 lab hours. (4 credit hours/special course fee)

Required Course Materials

1) Online book at Openstax.org: College Physics
   https://openstax.org/details/books/college-physics
2) Lab manual: College Physics II (3rd Ed.) Wood, Bill.
3) Some laboratory write-ups will be available on Blackboard
4) Calculator: TI-30XII or equivalent. Cell phones will not be used as calculators in class.

Mission Statement

University of Arkansas – Pulaski Technical College provides access to high-quality education that promotes student learning and enables individuals to develop to their fullest potential.
Institutional Learning Outcomes and General Education

UA-PTC supports a college-wide institutional learning assessment program which concerns effective instructional methods and promotes student learning achievement by assessing:

1. Communication
2. Critical Thinking
3. Cultural Awareness
4. Information Literacy
5. Professionalism
6. Quantitative Literacy
7. Technology Literacy

For more information, please consult the following website: https://uaptc.edu/sla

Department / Discipline or Program Learning Outcomes

The Physical Science department, consistent with the College’s mission and the Division’s objectives, encourages the success of its students in the health related fields and academic disciplines emphasizing Critical Thinking and Quantitative Literacy by the following program outcomes:

1. Understand temperature conversion and will determine heat flow.
2. Discuss the three laws of Thermodynamics
3. Understand the basics of electrostatics and forces between charged objects
4. Study basic circuits and utilize circuit laws for analysis.
5. Study magnetic fields, forces, and sources of magnetic fields.
7. Trace rays of light through simple geometric optics and mirrors.
8. Differentiate between the particle and the wave nature of light.
9. Study the basics of radiation and radiation decay.
10. Understand the birth of quantum mechanics through the concept of Blackbody Radiation and Photoelectric effect.
Student Learning / Course Outcomes

Continuation of Algebra/Trigonometry-Based Physics I (Physics 2014). Topics include electricity and magnetism, light and optics, and modern physics. Lab required. **This is an algebra and trigonometry-based physics course and it is strongly recommended that the student should have completed both College Algebra and Algebra/Trigonometry-Based Physics I with a “C” or better.**

Expected Student Learning Outcomes:

The student will use algebra and trigonometry in order to be able to explain, describe, discuss, recognize, and/or apply knowledge and understanding of the following:

- Thermodynamics
- Electrostatics
- Electric fields, potential, and energy
- Current and resistance
- DC circuits
- Magnetism
- Induction
- Electromagnetic waves
- Geometric and Physical optics
- Light
- Radiation
- Selected topics in modern physics

Policies

Report a Complaint or Concern

UA-PTC takes very seriously complaints and concerns regarding the institution. Most complaints or concerns of a specific nature should be initiated and resolved at the campus level through normal college processes whenever possible. UA - Pulaski Technical College receives and resolves complaints using a variety of methods. To report a complaint or concern, please follow the link below.

[https://www.uaptc.edu/report-a-concern-complaint](https://www.uaptc.edu/report-a-concern-complaint)

UA-PTC Attendance Policy

Education at UA-PTC requires students’ active involvement in the learning process. Thus, students are expected to attend all classes and actively engage in all learning assignments and/or opportunities provided in their classes. Class attendance should be treated as mandatory by all students as attendance will be taken by all instructors during the first two weeks of class. Additionally, a written policy on student attendance that is tied to course objectives and included in a course syllabus will be provided for each course by instructors.
Course Policies

The UA-PTC Catalog rules and regulations will be enforced in this course at all times. Please consult the following website for more information: https://www.uaptc.edu/catalog

Professional behavior is required. Punctual attendance and intelligent participation are expected. Particulars as determined by the instructor are detailed in the paragraph below.

Appropriate behavior is expected for all communications, including any notes, email messages, or telephone conversations. Some guidelines for communication are included in this syllabus to help you.

Professional behavior is required. Punctual attendance and intelligent participation are expected. Cell phones or other devices with internet access will not be used during class.

Grading Policy

Letter grades will be based on the following scale:

- 90 to 100% A
- 80 to 89% B
- 70 to 79% C
- 60 to 69% D
- 0 to 59% F

Homework: 10%  
Unit Tests: 30%  
Participation: 10%  
Final Exam: 25%  
Labs: 25%

* Instructors have one week to provide feedback and post grades for all assignments unless otherwise noted by a departmental policy that has been approved by the Dean of the School.

Unit tests and final exams

There will be four units tests and a final exam. Each unit test will be equal in graded weight. The lowest of the four unit test grades will be replaced by the final exam grade if the final exam grade is larger. There will be no make-up exams.

Final Exam exemption: If a student meets all four of the following parameters, he/she will be exempt from taking the final exam:  
1) Complete all four unit tests  
2) Average test grade is greater than 89.3% with no individual test grade less than 80%.  
3) Acquire zero absences for class during the semester.  
4) Acquire zero absences for the lab during the semester.

Homework

Each lecture will conclude with a listing of homework problems assigned for the lecture. If you miss a lecture, it is your responsibility to complete the assigned problems before the due date.
**Laboratories:**

Labs will be available online while others will be from your lab manual. Your instructor will specify which labs will be performed. You will work in small groups under the instructor’s supervision, and complete data sheets as well as assigned questions. Even though each member of a group will have the same data, each student is required to perform all calculation individually and turn in their own data sheet at the end of the lab. All calculations must be shown. When in the lab, you agree to work only the assigned experiments in the manner determined by the instructor, and in the safest manner possible. The lab write-up needs to be completed and turned in before the next scheduled lab begins.

Arriving to lab on time is essential. Points will be deducted from the student’s lab, for the current lab session, if he/she arrives late. If you miss a lab session, you will receive a ‘0’ on that particular lab. Do not turn in a lab if you miss that lab session. In order for you to get credit, your attendance is mandatory (as well as arriving on time). There will be no laboratory makeup. The lowest laboratory grade will be dropped. Arriving late, leaving early, or performing other tasks other than the lab will result in points being deducted from your lab.

**Academic Integrity**

It is expected that all students who attend UA-PTC conduct themselves in a manner appropriate for the college experience. Academic integrity is a vital component of collegiate behavior. The UA-PTC catalog states, “The gaining of knowledge and the practice of honesty go hand-in-hand.”

The catalog also states, “The responsibility and authority of initiating discipline arising from violations of the rules against dishonesty during the process of the course are vested in the instructor of that course.”

The complete Academic Integrity Policy is in the UA-PTC code of conduct.

**Accommodation Policy**

Services for Students with Disabilities: UA-PTC is committed to fulfilling all federal requirements as stated in the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and the American with Disabilities Amendments Act (ADAAA) of 2008. Accommodations are available to students who have documented disabilities. Students who request accommodations must register with the Disability Services Office (Main Campus: 501-812-2738 or South Campus: 501-812-2862) and must provide current and relevant documentation.

Students requesting accommodations should inform the instructor at the beginning of the course or as soon as accommodations are approved. It is the student's responsibility to provide their Accommodation Letter to the instructor. Accommodations are not retroactive and will only be provided once your instructor receives the Accommodation Letter.
Student Code of Conduct

All students are expected to abide by the UA-PTC Student Code of Conduct. For the full Student Code of Conduct, access the most current version of the UA-PTC Academic Catalog.
http://uaptc.azurewebsites.net/docs/default-source/course-catalog/2017-18-academic-catalog.pdf?sfvrsn=a08a3038_2

Sexual Misconduct

No person at UA-PTC will, on the basis of gender, be excluded from participation in, be denied benefits of, or be subjected to sex discrimination, sexual harassment or sexual misconduct under any education program or activity. All college administrative policies and procedures regarding sex discrimination, sexual harassment, and sexual misconduct are in compliance with Title IX. Students who feel they are victims of sexual misconduct should contact the UA-PTC Title IX Deputy Coordinator for Students:

Michelle Anderson, Director of Student Life and Leadership
Campus Center Building Room 216
501-812-2756
manderson@uaptc.edu

Course Evaluations

Students may be asked to evaluate their instructor and course near the end of the semester. These student evaluations are very important to the improvement in the quality of instruction and course materials. All results are anonymous and shared with the faculty only after the semester is over and grades have been posted.

Information Literacy

UA-PTC is committed to the Information Literacy Competency Standards for Higher Education as established by the Association of College and Research Libraries and endorsed by the National Forum on Information Literacy. Therefore, all courses will incorporate an information literacy component so that, by graduation, all students will be able to recognize the need for information, then locate, evaluate, synthesize, and communicate information in an ethical manner. Information literacy encompasses critical thinking, research, media, technology, health, business, and visual literacy skills to produce lifelong learners who can make informed decisions in the workplace and in their personal lives.
### Tentative Course Schedule (subject to change)

<table>
<thead>
<tr>
<th>Week 1 and 2: Ch14 – Temperature, Heat and Heat Transfer</th>
<th>Week 10: Ch23 – Induction</th>
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</thead>
<tbody>
<tr>
<td>Week 3: Ch15 - Thermodynamics</td>
<td>Week 11: Ch24 - EM Waves</td>
</tr>
<tr>
<td>Week 4: Ch18 - Electric Charges and Fields</td>
<td>Week 12: Ch25 - Geometric Optics</td>
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<tr>
<td>Week 5: Ch19 - Electric Potential and Electric PE</td>
<td>Week 13: Ch16 and Ch27 - Vision and Wave optics</td>
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<tr>
<td>Week 6: Ch20 - Electric Current and Ohm’s Law</td>
<td>Week 14: Ch31 - Radioactivity</td>
</tr>
<tr>
<td>Week 7: Ch21 - Circuits</td>
<td>Week 15: Ch29 - Intro to Quantum Mechanics</td>
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<td>Week 8 and 9: Ch22 - Magnetism</td>
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</tbody>
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### Laboratory Schedule: (Subject to change)

<table>
<thead>
<tr>
<th>Week 2: Specific Heat</th>
<th>Week 8: *Transformers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 3: Electrical Equiv. to Heat</td>
<td>Week 9: Snell’s Law</td>
</tr>
<tr>
<td>Week 4: Tracing Field Lines</td>
<td>Week 10: *Geometric Optics</td>
</tr>
<tr>
<td>Week 5: *Charging a Capacitor</td>
<td>Week 11: Double Slit Interference</td>
</tr>
<tr>
<td>Week 6: *DC Circuits</td>
<td>Week 12: Diffraction Gratings</td>
</tr>
<tr>
<td>Week 7: *Magnetism</td>
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</tbody>
</table>

Labs with * can be found on Blackboard under Course Content.

### Final Exam Schedule: Thursday May 9th 8:00 am – 10:00 am

Disclaimer: This schedule is a guide for the semester. The instructor reserves the right to amend the schedule as necessary.
Course Agreement Form

Read, complete, and return to instructor:

I have read the course syllabus for Jeff Shaw Physics 2 class at Pulaski Technical College, and I understand its content. I also understand the rules for the class, and I will follow and abide by these rules, including those relating to attendance, assignments, grading criteria, plagiarism, and behavior.

________________________
Semester

________________________
Date

________________________
Print name

________________________
Signature

________________________
UA-UA-PTC Email address

________________________
Telephone