THE UNIVERSITY OF TEXAS AT EL PASO
COLLEGE OF SCIENCE
DEPARTMENT OF PHYSICS

Course #:	PSCI 3304 CRN 21417
Course Title:	Physical Science II
Credit Hrs:	3.0
Term:	Spring 2024
Course Meetings & Location:	Mon & Wed 10:30 a.m. – 12:20 p.m. (Mountain Time) Physical Science Building 220
Instructor:	**Dr. Felicia S. Manciu**
Office Location:	PSCI 221 B
Contact Info:	Phone # : (915) 747 8472
	E-mail address: fsmanciu@utep.edu
	Fax #: (915) 747 5447
	Emergency Contact: (915) 747 5715
Office Hrs:	Mon & Wed 12:20 p.m. – 1:20 p.m. (MT)
Materials:	***The Laboratory Section is mandatory for this course. For this section please purchase two spiral bound lab books,*** "***Electricity"*** and "***Light and Color", from the UTEP Print Shop.*** -Scientific calculator (with at least sin, cos, and tan functions).

Course Objectives and Learning Outcomes:

The objective of the course is to allow you to experience for yourself that some of the theories and laws of physics that you will learn in Physical Science II – PSCI 3304 *do work*, meaning that the physical world around us does indeed behave in the way described by the theories and laws. In Physical Science II, You will learn essential and basic concepts of electricity and geometric optics. Understanding charge and current will allow you to comprehend the phenomena and working principles of electrical devices you encounter daily. While electricity will be the focus of the first half of the course, geometric optics will be the focus of the second half, where you will learn about light and the reflection and refraction laws through mirrors and prisms, respectively. Throughout the course, you will also develop written, interpersonal, and communication skills critical to your future career as a teacher. I hope you are looking forward to working together, learning from each other, and supporting one another's success as much as I am.

Course Structure: The course is face-to-face, including both regularly scheduled on-site classroom meetings dedicated to performing hands-on experiments with your classmates under the instruction of your professor and teaching assistant (85% of the time) and lecture components. The lecture notes presenting theoretical concepts of the course content will be available via Blackboard Ultra. Please review them ahead of the face-to-face class meetings. Lectures for enhancing the experimental findings through these theoretical concepts will also take place at the end of each hands-on experiment.

By the end of the course, students will be able to:

Student Learning Objective	Outcome
Demonstrate the ability to consider different points of view and to work effectively with others to support a shared purpose or goal	 Teamwork Skills

Draw on existing knowledge bases to create "new" or "transformed" knowledge	 Critical Thinking Skills
Engage as a community of future teachers	 Communication Skills
Address the specific, immediate rhetorical situations of individual communicative acts	 Social Responsibility

Grading

Attendance & In-Class Participation	5%
Lab reports (performed in class)	20 %
Quizzes & Homework	15 %
Midterm Exam	25%
Final Exam	25%
Final Presentation of a Scientific Topic of Your Choice	10%

Attendance & Make-up Policy:
Attendance is critical for your success in this class. Please arrive on time and be prepared for the day's activities. Please notify me of any extenuating circumstances that may prevent your attendance. ***In the event of an absence, the student must make up and submit any missed work within a few days of being absent. It is the responsibility of the student to contact the professor immediately to find out how to make up any missing work.***

Laboratory Reports:
Every students should have its own spiral-bound lab books "*Electricity*" and "*Light and Color*" for independent writing of laboratory reports.

Exams:
Exams will consist of problems very similar to the worked example problems and quizzes. Exams will be strictly closed-lab. book and notes. You should bring with you a pocket calculator to work out the answers to numerical problems: **make sure the battery is charged!**

No cell phones allowed in the exams!

The best way to prepare for the exams is to review your lab. reports and study the example problems regularly – this is the best way to ensure your understanding of the material. Feel free to form study groups with your classmates and seek help from your instructor during her office hours as you attempt to solve and understand the concepts and problems. Make sure that you understand the problem solutions and write them up yourself.

Communication:
There are also a number of ways we can keep the communication channels open:

- **Office Hours**: My office hours (posted above) will be held on Physical Science Building room 221B and during the following times:
  Monday(s) and Wednesday(s): 12:20 p.m. – 1:20 p.m. (MT)
- **Email**: UTEP e-mail is the best way to contact me. I will make every attempt to respond to your e-mail within 24-48 hours of receipt. When e-mailing me, ***make sure to email from your UTEP student account and please put the course number in the subject line***. In the body of your e-mail, clearly state your question. At the end of your e-mail, be sure to ***put your first and last name, and your university identification number.***

- **Announcements**: Check the Blackboard Ultra announcements frequently for any updates, deadlines, or other important messages.
- **Discussion Board**: If you have a question that you believe other students may also have, please ask during the class meeting or post it in the Help Board of the discussion boards inside of Blackboard. Please respond to other students' questions if you have a helpful response.

Tentative Schedule for the Semester (this may be modified throughout the semester)

Week #	Module	Date		Course Activities/Assignments:
1	**Introduction**	**W**	17-Jan	-Professor introduce herself to the students. -Getting familiar with the syllabus. -Material required for the course. -Overview of the course topics: "Electricity" and "Light and Color" -Students get familiar with their peers by short personal introduction. -Students divide into groups of their preference.
2	**Electricity Lab 1: Charge**	**M**	22-Jan	-Performing hands-on experiments (2 hours)
	Lecture 1	**W**	24-Jan	-Online lecture on concepts of charge, polarization, types of materials, electric forces, Coulomb's law, and current (lecture notes already posted on Bb) (2 hours).
3	**Electricity Lab 2: Current**	**M**	29-Jan	-Performing hands-on experiments (2 hours) **Report Lab 1 due** **-Quiz**
	Electricity Lab 3: Direction of current	**W**	31-Jan	-Performing hands-on experiments (2 hours) **-Quiz**
4	**Electricity Lab 3: Direction of current**	**M**	5-Feb	-Performing hands-on experiments (2 hours) **Report Lab 2 due** **-Quiz**
	Lecture 2	**W**	7-Feb	-Online lecture on Ohm's law, resistors, resistance, and resistors in series and parallel (lecture notes already posted on Bb) (2 hours).
5	**Electricity Lab 4: Simple circuits (series, parallel)**	**M**	12-Feb	-Performing hands-on experiments (2 hours) **- Report Lab 3 due** **-Quiz**
	Electricity Lab 4: Simple circuits (series, parallel)	**W**	14-Feb	-Performing hands-on experiments (2 hours) -Solving homework problem at the end of lab. manual on resistors in series and parallel.
6	**Electricity Lab 5: Resistance**	**M**	19-Feb	-Performing hands-on experiments (2 hours) **-Report Lab 4 and homework due** **-Quiz**
	Electricity Lab 6: Capacitors	**W**	21-Feb	-Performing hands-on experiments (2 hours) **-Report Lab 5 due**

7	**Electricity Lab 7: Electric circuits**	**M**	26-Feb	-Performing hands-on experiments (2 hours) **-Report Lab 6 due**
	Lecture 3	**W**	28-Feb	-Overview of concepts learned – preparation for the upcoming Midterm Exam (2 hours – face-to-face) **-Report Lab 7 due**
8	**EXAM**	**M**	**4-Mar**	**Midterm Exam on Electricity** (2 hours) (in-person during class schedule)
		W	6-Mar	Review of midterm exam correct solutions (2 hours)
9	**11-15 Mar**			**Spring break – UTEP closed**
10	**Light and Color Lab 1: Light and Illumination**	**M**	18-Mar	-Performing hands-on experiments (2 hours) • How does light leave a bulb? • What are shadows? • What happens to the shadow if there is more than one source of light?
	Light and Color Lab 2: Reflection of Light	**W**	20-Mar	-Performing hands-on experiments (2 hours) • Can you always see mirror reflections? • How does light reflect from a mirror? • Does light reflect from paper? • How can you read a paper if it's hidden from your direct view? **-Report Lab 1 due**
11	**Lecture 4**	**M**	25-Mar	-Online lecture on concepts of light, shadows, pinhole, mirrors, and reflection law (lecture notes already posted on Blackboard) (2 hours).
	Light and Color Lab 2: Reflection of Light	**W**	27-Mar	-Performing hands-on experiments (2 hours) **-Report Lab 2 and homework due** **-Quiz**
12	**Light and Color Lab 3: Refraction and Real Images**	**M**	1-Apr	- Performing hands-on experiments (2 hours) • What does a lens do? • How does light change direction when passing through a transparent material? • Properties of the converging lenses **-Quiz**
	Lecture 5	**W**	3-Apr	-Online lecture on concepts of refraction law, lenses, and human eye (lecture notes already posted on Blackboard) (2 hours).
13	**Light and Color Lab 3: Refraction and Real Images**	**M**	8-Apr	-Performing hands-on experiments (2 hours) **-Report Lab 3 and homework due** **-Quiz**
	Light and Color Lab 4: Images that cannot be formed on screens	**W**	10-Apr	- Performing hands-on experiments (2 hours) • Mirror Images **-Quiz**

14	**Light and Color Lab 4: Images that cannot be formed on screens**	**M**	15-Apr	-Performing hands-on experiments (2 hours) **-Report Lab 4 and homework due** **-Quiz**
	Light and Color Lab 5: The Eye and Achromatic Vision	**W**	17-Apr	-Performing hands-on experiments (2 hours) • Eye elements and their functions • Near sightedness and Far sightedness
15	**Light and Color Lab 6: Color Addition and Color Vision**	**M**	22-Apr	-Performing hands-on experiments (2 hours) • Color Addition and Color Vision • More about Color Vision **-Report Lab 5 and homework due**
	Presentations	**W**	24-Apr	Overview of concepts learned – preparation for the upcoming Final Exam (2 hours) **-Report Lab 6 due**
16	**Lecture 7**	**M**	29-Apr	Overview of concepts learned – preparation for the upcoming Final Exam (2 hours)
	Final Exam Week			

Technology Requirements:
Part of the course content is delivered synchronous via the Internet through the Blackboard Ultra learning management system (LMS). Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. Mozilla Firefox and Google Chrome are the most supported browsers for Blackboard; other browsers may cause complications with the LMS. When having technical difficulties, update your browser, clear your cache, or try switching to another browser.

You will need to have or have access to a computer/laptop, scanner, a webcam, and a microphone. You will need to download or update the following software: Microsoft Office, Adobe, Flashplayer, Windows Media Player, QuickTime, and Java. Check that your computer hardware and software are up-to-date and able to access all parts of the course. If you encounter technical difficulties beyond your scope of troubleshooting, please contact the Help Desk as they are trained specifically in assisting with technological needs of students.

Scholastic Integrity:
Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as ones' own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic

dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) for possible disciplinary action. To learn more, please visit HOOP: Student Conduct and Discipline.

Netiquette: Always consider audience. Respect and courtesy must be provided to classmates and to professor at all times. No harassment or inappropriate behavior will be tolerated. Remember that members of the class and the instructor will be reading any online postings. When reacting to someone else's message, address the ideas, not the person. Post only what anyone would comfortably state in a face-to-face situation. Blackboard is not a public internet venue; all postings to it should be considered private and confidential. Whatever is posted on in these online spaces is intended for classmates and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space. If students wish to do so, they have the ethical obligation to first request the permission of the writer(s).

Military Statement: If you are a military student with the potential of being called to military service and/or training during the course of the semester, you are encouraged to contact the instructor at the beginning of the semester.

Accommodations Policy:

The University is committed to providing reasonable accommodations and auxiliary services to students and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Students who become pregnant may also request reasonable accommodations, in accordance with state and federal laws and regulations and University policy. Accommodations that constitute undue hardship are not reasonable. Students requesting an accommodation based on a disability must register with the UTEP Center for Accommodations and Support Services (CASS). Contact the Center for Accommodations and Support Services at 915-747-5148, or email them at cass@utep.edu, or apply for accommodations online via the CASS portal.

Excused Absences and/or Course Drop Policy:

I will not drop you from the course. However, if you feel that you are unable to complete the course successfully, please let me know and then contact the Registrar's Office to initiate the drop process. If you do not, you are at risk of receiving an "F" for the course.