

**The University of Texas at El Paso
Department of Physics
Syllabus**

COURSE INFORMATION

PHYS 5371: Solid State Physics

CRN: 20999

Spring 2024

Delivery Method: In-person

Meeting Day and Time: Tuesday and Thursday, 1:30 – 2:50 pm

Location: Hudspeth 213

INSTRUCTOR INFORMATION

Rajendra Zope, Professor

Written Communication: email

Phone Number: (915) 747-8742

Office Location: Physical Science, Room 116

Office Hours: Wed 12:00 – 1:30 p.m. or through appointment (preferred)

Course Information: What this class is about and what we will do

COURSE DESCRIPTION

COURSE OBJECTIVES OR EXPECTED LEARNING OUTCOMES

The course aims to give students a fundamental understanding of solid state physics concepts through the use of introductory quantum mechanics. The course will show how simple quantum mechanical models can be used to better understand solids' electrical, structural, and vibrational properties. Students will be required to solve some textbook problems and related tasks that test their understanding of the techniques taught in the course. Classroom questions, quizzes, assignments, and exams will be utilized to evaluate learning. Students are highly encouraged to participate in class discussions.

REQUIRED TEXTBOOK

Introduction to Solid State Physics, C. Kittel, 8th edition Wiley.

(First 7 chapters and a few select topics from other chapters)

COURSE ASSIGNMENTS AND GRADING

The students will be required to solve textbook problems using the techniques they learn during the course. The assessment will be made based on quizzes, homework, and tests.

The grades will be determined from three tests including the final (midterms 25%, final 45%, quiz-classwork (15%), and homework (15%). Quizzes will be based on class work and home-works.

TECHNOLOGY REQUIREMENTS

Some course content and assignments are delivered via the Internet through the Blackboard learning management system. Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. Google Chrome and Mozilla Firefox are the best browsers for Blackboard; other browsers may cause complications. When having technical difficulties, update your browser, clear your cache, or try switching to another browser.

You will need to have access to a computer/laptop. You will need to download or update the following software: Microsoft Office, Adobe Acrobat Reader, 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 do not have word-processing software, you can download Word and other Microsoft Office programs (including Excel, PowerPoint, Outlook and more) for free via UTEP's Microsoft Office Portal. Click the following link for more information about [Microsoft Office 365](#) and follow the instructions.

IMPORTANT: If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP [Help Desk](#) as they are trained specifically in assisting with technological needs of students. Please do not contact me for this type of assistance. The Help Desk is much better equipped than I am to assist you!

Course Communication: How we will stay in contact with each other

- **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, be 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.
- **Discussion Board:** If you have a question that you believe other students may also have, please 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.
- **Announcements:** Check the Blackboard announcements frequently for any updates, deadlines, or other important messages.

ATTENDANCE AND PARTICIPATION

Our class meetings are in-person at Hudspeth Rm 213, every Tuesday and Thursday from 1:30 p.m. to 2:50 pm, beginning January 16 through May 2, 2024.

Attendance in the course is determined by participation in the learning activities of the course. Your participation in the course is important not only for your learning and success but also to create a community of learners. Participation is determined by the completion of the following activities:

- Reading/Viewing all course materials to ensure understanding of assignment requirements
- Participating in engaging discussions with your peers
- Other activities as indicated on Blackboard.

Because these activities are designed to contribute to your learning each week, they cannot be made up after their due date has passed.

ILLNESS PRECAUTIONS

Please stay home if you have symptoms of a communicable illness. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations.

***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.

DEADLINES, LATE WORK, AND ABSENCE POLICY

Assignments

- Complete the assignments by the deadline given on Blackboard. No late work will be accepted if the reason is not considered excusable.

MAKE-UP WORK

Make-up work will be given *only* in the case of a *documented* emergency. Note that make-up work may be in a different format than the original work, may require more intensive preparation, and may be graded with penalty points. If you miss an assignment and the reason is not considered excusable, you will receive a zero. It is therefore important to reach out to me—in advance if at all possible—and explain with proper documentation why you missed a given course requirement. Once a deadline has been established for make-up work, no further extensions or exceptions will be granted.

ALTERNATIVE MEANS OF SUBMITTING WORK IN CASE OF TECHNICAL ISSUES

I strongly suggest that you submit your work with plenty of time to spare in the event that you have a technical issue with the course website, network, and/or your computer. I also suggest you save all your work (answers to discussion points, quizzes, exams, and essays) in a separate Word document as a backup. This way, you will have evidence that you completed the work and will not lose credit. If you are experiencing difficulties submitting your work through Blackboard, please contact the UTEP Help Desk. You can email me your backup document as a last resort.

INCOMPLETE GRADE POLICY

Incomplete grades may be requested only in exceptional circumstances after you have completed at least half of the course requirements. Talk to me immediately if you believe an incomplete is warranted. If granted, we will establish a contract of work to be completed with deadlines.

***ACCOMMODATIONS POLICY**

The University is committed to providing reasonable accommodations to students with documented disabilities. 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. To make a request, please register with the UTEP Center for Accommodations and Support Services (CASS). Contact CASS at 915-747-5148, email them at cass@utep.edu, or apply for accommodations online via the CASS portal.

***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](#).

***GUIDANCE ON ARTIFICIAL INTELLIGENCE**

AI prohibited

Use of AI technologies or automated tools, particularly generative AI such as [ChatGPT](#) or [DALL-E](#), is **not allowed** for assignments in this class. Each student is expected to use critical and creative thinking skills to complete tasks and not rely on computer-generated ideas. Any direct use of AI-generated materials submitted as your own work will be treated as plagiarism and reported to the Office of Student Conduct and Conflict Resolution (OSCCR).

Course Resources: Where you can go for assistance

UTEP provides a variety of student services and support. Please refer to the QR code below for a listing of campus resources or visit https://www.utep.edu/advising/student_resources/student-success-resource-hub.html.

Course Schedule: Test dates (tentative)
Midterm I: Feb. 20
Midterm II: Mar. 28
Final : According to UTEP Final Schedule.