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

Course #:	SCI1301, CRN 15447
Course Title:	Inquiry in Math and Science – The Physics One that Dr. B teaches: Matter, Energy, Becoming a Scientist, Curiosity and Critical Thinking
Credit Hrs:	3.0
Term:	Fall 2023
Course Meetings & Location:	TuThu 9:00-10:20 AM, GEOL 404
Instructor:	**Dr. José Leo Bañuelos**
Office Location:	PSCI 215C
Contact Info:	Phone # : (915) 747-7535
E-mail address:	jlbanuelos@utep.edu
Fax #:	(915) 747-5447
Emergency Contact:	(915) 747-5715
Office Hrs:	Mondays 10:00AM – 11:00 AM, and by appointment
Materials:	-composition/laboratory notebook -scientific calculator (with at least sin, cos, tan functions) -ruler, protractor, compass -graphing paper -necessities to keep a plant alive for the semester -Links to online resources to be provided

Course Objectives (Learning Outcomes):
In this course, students will build on their critical thinking skills and explore how fundamental concepts in the natural sciences describe the molecular machinery of life, and are leveraged by scientists to pursue an understanding of nature from its most precise features to its immense complexity. We will see how our scientific forebearers came to astonishing realizations about the natural world which impact our current understanding of the interactions between matter and energy.

Students will be introduced to mathematical descriptions used to treat waves, vibrations, and other periodic phenomena. Students will gain experience carrying out data analysis and practice basic computer programming tasks. Students will develop practical usage of scientific methods and scientific communication by carrying out a semester-long project which will investigate the physical conditions required to maintain a healthy, living plant. The topics of weekly assignments will range from aspects of honing scientist skills, to research on specific topics related to the semester project. Most assignments will be submitted via Blackboard, students will maintain a laboratory notebook which will be collected and graded every 2-3 weeks, students are expected to participate in in-class activities, to submit corresponding assignments, and to deliver small presentations/updates on their project throughout the semester.

Attendance & Make-Up Policy
Attendance is critical for your success in this class. Please arrive on time and prepared for the day's activities. Please notify me of any extenuating circumstances that may prevent your attendance. In the event of an absence, it is the student's responsibility to find out if anything needs to be made up. Any missed work must be submitted within one week from the absence. It is the student's responsibility to contact the professor, teaching assistant, or peers immediately to find out how to make up any missing work.

Grading

In-Class Activities	30%
Homework Assignments	30%
Laboratory Notebook	20%
Presentations	20%

Communication
Office Hours: I have office hours (posted above) for your questions and comments about the course. **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.
Announcements: Check the Blackboard announcements frequently for any updates, deadlines, or other important messages.

In-class Participation
You are expected to attend class every session and participate in all group and individual activities. In class assignments will be occasionally collected and iClicker questions will sometimes be used.

Tentative Format:
We will spend time each week discussing fundamental elements of scientific research, the historic and current roles of modern physics, understanding mathematical foundations of vibrations and waves, and doing in-class exercises and practice problems to develop mastery of the concepts introduced during the week.

Short quizzes will be given occasionally in class, or assigned to be completed online before class. These will be based on pre-class assigned reading or short videos. If not announced in the previous session, these may be announced via email so please check your email often.

Topics to be covered during the semester

- Literature searches, keeping a lab book
- Particles, forces, fields, atoms & molecules, vector algebra
- Wave properties
- Forms of Energy and energy conservation
- Sources of CO2, impact of CO2 on climate, methods to manage/decrease CO2 in the environment
- Quantum Properties of matter, light, and their interactions
- Nanoscience
- Careers in physics and interdisciplinary fields
- Scientific Communication, oral and written.

Academic Integrity Policy:
A fundamental principle for any educational institution, academic integrity is highly valued and seriously regarded at The University of Texas at El Paso. More specifically, students are expected to maintain absolute integrity and a high standard of individual honor in scholastic work undertaken at the University.

Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

> *More information: University policy states that suspected acts of alleged scholastic dishonesty must be referred to the Dean of Students for investigation and appropriate disposition. Students and faculty are prohibited from arranging a reduced grade instead of being charged with scholastic dishonesty.*
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> ***Plagiarism** means the appropriating another person's ideas, processes, results, or words without giving appropriate credit. Some examples include intentionally, knowingly or carelessly: 1) presenting the work of another as one's own, 2)failing to give credit to sources used in a scholarly work (including the internet, databases, or other resources), or 3) attempting to receive credit for work performed by another.*

Please see: https://www.utep.edu/student-affairs/osccr/student-conduct/academic-integrity.html for more information and the UTEP Handbook of Operating Procedures: https://www.utep.edu/vpba/hoop/

Civility Statement:
Cell phones and any other possible distractions must be eliminated/minimized during class time.

Disability Statement:
If you have a disability and need classroom accommodations, please contact the Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East Building, Room 106. For additional information, please visit the CASS website at https://www.utep.edu/student-affairs/cass/. The student is responsible for presenting to the instructor any accommodation letters and instructions.

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.

COVID-19 PRECAUTIONS
Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms, or are sick with any other contagious illness. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID 19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org.