SYLLABUS
Natural Science 1110-Physical Science
FALL 2021

Instructor: Chuck Schick
Email: cschick@unm.edu BEST WAY to reach me!!
Office Hours: Wed 4:00pm virtually, or by appointment, email first and we can then go to zoom or some other virtual access.
Class Time: Mon. 4:30 to 7:15pm and virtual materials (MS Teams)

SCHEDULE

WEEK	Week of	TOPICS	Purpose or learning objective
1	Aug 23	Class Introduction Measurement systems and objects, TAKE HOME REVIEW SHEET	To get you accustomed to using units and understanding how units, scalar and vector quantities describe physical properties.
2	Aug 30	Motion, laws and patterns. **LAB #1 Graphing**	Become familiar with Newton's Laws and how they explain motion, gravity and forces observed in our everyday lives. understanding acceleration
3	Sept 6	**LABOR DAY.** No in person Class Monday Motion, laws and Patterns	Force, The relationship between mass and gravity
4	Sept 13	Motion, laws and Patterns **Lab #2 Gravity Laboratory**	Attraction between large bodies
5	Sept 20	WORK and POWER **Lab #3 HORSEPOWER LABORATORY** **Test #1 Review**	Understanding centrifugal force and acceleration in a circle. Calculate your own horsepower.
6	Sept 27	**TEST #1.** **Present assignment #1- Article presentation** Energy and Work.	Understanding potential and kinetic energy. Presentation is to improve your communication of complex ideas in a classroom setting.
7	Oct 4	**Heat and Temperature** **RESEARCH PAPER TOPIC OUTLINE DUE** (1 page outline with 4 references. Due last class of week)	Understanding heat capacity, conduction, convection and insulating properties of matter.
8	Oct 11	**Lab #4** Projectile Motion Laboratory **FALL BREAK!! 10/11-15**	Measuring angle vs Distance and optimization, prediction based upon data collected.
9	Oct 18	Sound, Light and Electricity	Understanding basic wave motion and relationship between frequency and amplitude. Understand basic electricity and measurements
10	Oct 25	**Heat and Temperature** **LAB # 5 Phase Change Lab**	Understanding states of matter and the energy required to change phases.
11	Nov 1	**TEST #2 (first class of the week)** **Present Assignment #2 SOUND LAB**	Understanding the basic formation of minerals as an introduction to chemistry Lab is a chance for you to explore how to incorporate common materials into a teaching environment
12	Nov 8	Periodic Table and ionization states of elements	Provide a working knowledge of how atoms bond to form molecules. Understanding of how complex anions form and are charged.
13	Nov 15	Elements and Basic Chemistry **LAB #6 Mineral Lab**	Creating balanced equations. Limiting reagents, etc.
14	Nov 22	Acid-Base Reactions Balancing Equations **Research assignments are due before**	Understanding, molecular weight, Avogadro's number, moles, limiting reagents. How to know how much ingredients are needed to make a precise product.

		thanksgiving	
15	Nov 29	**TEST #3 (first class of the week)**	Presentations will allow you to present complex ideas and information to your classmates not covered in class.
16	Dec 6	**Presentations of papers or power points** Final Exam Review	Presentations will allow you to present complex ideas and information to your classmates not covered in class.

Course Textbook: Tillery, B. W. PHYSICAL SCIENCE, 11th Ed. Pub. McGraw Hill (or whatever the bookstore is selling). Any edition is OK if you can't afford the most current one. **Just get one!!**

Please obtain and bring to lab class a pair of **SAFETY GLASSES or GOGGLES**. Also **GET A CALCULATOR**... **Not your phone**. A simple one that can do scientific notation.

Assignments: There are two (2) assignments in the schedule. Each is designed to permit the student to explore other sources of information (that means not just the class textbook) and prepare either a presentation or visual aid to be used in the classroom to enforce the material being presented. Each assignment is explained below:

#1 ARTICLE/NEWS ITEM- Find, READ and UNDERSTAND an article from a local paper, national newspaper, magazine or periodical that is related to physical science (astronomy, energy, physics, chemistry, geology, electricity, light, heat, etc.) but not biology or the environment. Prepare a 1-to-2-page summary of the article. Get more information if necessary, by consulting other sources. Learn the pronunciation of key words. You will then present your article and summary to the entire class. You will be graded on both the summary and your presentation. Please include a citation for your article.

#2 SOUND LAB- Use simple materials to prepare a lab for your future students involving sound and the laws covering sound. Wave motion should or can be incorporated into your laboratory. Look for ideas in textbooks (mid and elementary school) and the web. This will allow you to show your creative side. The lab should have a materials list, objectives, directions and evaluation of students work (assessment). You need references (at least one) and YOUR TEXT IS NOT ONE OF THE REFERENCES. You will present the lab, preferably with the materials to OUR ENTIRE CLASS.

RESEARCH PAPER (and Presentation)

During this class we will be covering several topics but not all. The purpose of the paper is to permit you to explore a subject that interests you in greater detail. You will write a paper (10 to 12 pages double-spaced) or create a presentation (such as Power Point, etc.) with 16 to 18 containing audio text and visual content. Your chance to be creative. You will turn in a 1-page summary or your topic (with an outline) and **WITH REFERNCES** for your paper on the date specified in the syllabus. Turn the final product in ON TIME. Late penalties will occur. The summary is designed to get you to think ahead, get references and plan and prepare your paper/presentation. **WIKAPEDIA, ENCARTA or any online encyclopedia) is not considered a REFERNCE.**

Make-up Tests:

No Make-up Exams. See Grading Policy below.

Grading Policy: Approximate

There are Three (3) Tests and a FINAL Examination for a grand total of four (4). These tests count for 60% of your grade. You may drop the lowest test score (Best 3 out of 4 Exams). The research paper will be 15% or your grade. The two (2) Assignments will count for 10%. Homework is worth 10%. Labs are also part of your grade. Poor attendance could RESULT IN YOU BEING DROPPED from the class.

Attendance: The school policy will be followed. Therefore, not showing up for class could result in the "system" dropping you from the class. You should attend class regularly and get your notes. I don't give out notes. Part of your education is to process lecture material and put it into your own

notes. If you are not going to attend class, please let me know **BEFORE CLASS. Lack of attendance will most likely reflect poorly on your final grade.**

COVID 19 ISSUES:

Wear a mask to Class. **NO MASK, NO CLASS.** Check the UNM website for the latest news and information regarding this issue. If you are sick, stay home. Really sick. Please don't abuse the COVID issue and stay home on Monday. Monday's class is crucial to your success. There will probably be changes to our schedules operating conditions. We will adjust, adapt and overcome.

Plagiarism/Cheating:

I encourage you to talk with one another about assignments before, and while, you do them, but all submitted work must be your own. In addition, if you copy information from textbooks, newspapers, the internet or other media sources you must cite them as your source of information. Blatant copying (plagiarism) will result in a score of zero for all students involved. A second offense will result in you receiving an F for this course. I would like to draw your attention to: The University of New Mexico's policy on "Dishonesty in Academic Matters": *"Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, including dismissal, against any student who is found responsible for academic dishonesty. Academic responsibility includes, but is not limited to, dishonesty in quizzes, tests or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; and misrepresenting academic or professional qualifications within or outside the University".*

Access:

If you have a documented learning disability, please provide a copy of your letter from **Equal Access Services** as soon as possible to ensure that your accommodations are provided for in a timely manner.

Electronic Devices:

To the benefit of you, your classmates and the learning environment **please turn off** electronic devices such as cell phones before class begins. If you wish to use a **laptop or tablet** for note-taking **please press mute** to eliminate distracting noises. Your cooperation in these matters is appreciated by all.

Title IX: See http://www2.ed.gov/about/offices/list/ocr/docs/ for information regarding these rules for a safe classroom for both students and teachers. Also, the Office of Equal Opportunity (oce.unm.edu) provides more information regarding these matters.

KEEP A COPY OF THE SYLLABUS

It is a great way to look ahead and see what's going to be discussed. And the best way to read before class and be prepared for any pop quizzes.

NOTE: This schedule is an outline of what is anticipated to be covered this semester. The dates and topics are subject to change if needed. Changes will be related to you ASAP in class.

Tutoring Services

Not sure if you'll need this for our class but the university has asked me to include it. Here is a link to the tutor service on campus if you feel you need more help. The second link is for making an appointment

https://valencia.unm.edu/campus-resources/the-learning-center/learning-center.html

https://esurvey.unm.edu/opinio/s?s=131505