
Physical Sciences Syllabus

PHY 1103

Course Description

Physical Sciences is an introductory course designed to give students an opportunity to explore the basic concepts of physical science. Students will be introduced to the foundations of science, including skills, assumptions, and the role of technology in science. Then, students will learn about matter, atoms, and the periodic table. Students will dive into the chemical side of physical science with an introduction to chemical reactions and the chemistry of carbon and solutions. They will explore motion, forces, work, machines, and energy as well as nuclear energy and thermal energy. Lastly, students will get an introduction to waves, sound, and electromagnetic radiation. The course provides extensive examples and practice for students to explain and apply concepts. This course does not include a laboratory component.

Course Outcomes

- Evaluate and explain the structure and properties of matter including identifying the function and role of atoms, the periodic table, and nuclear energy as it relates to matter.
 - Evaluate and explain chemical reactions including how these reactions relate to energy and matter.
 - Evaluate and explain forces and interactions as they relate to objects and systems of objects.
 - Evaluate and explain energy including the relationship between energy and force, chemical processes, conservation, and transfer.
 - Evaluate and explain waves and electromagnetic radiation as they relate to the history of scientific discovery and current technologies.
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Course Materials

All readings and materials necessary to complete required exercises are provided within the course platform. Links to additional, optional resources on external websites are also provided for each lesson in the Lesson Toolbox.

You have also been enrolled in the TEL Orientation course. It is highly recommended that you complete the orientation course to familiarize yourself with how courses are structured, assignments are submitted, grades are recorded, and much more. This is located on your dashboard with your other courses.

Course Length

This is a self-paced course allowing students to learn according to their personal schedules. Overall, it is estimated that the course will take approximately 172 hours to complete.

It is recommended that students work through the course at a comfortable pace that allows regular, incremental (daily and/or weekly) progress. If assistance is needed with scheduling time in this course, students may refer to the pacing guide provided in the course documents, located on the course page. Please note, there is no penalty for late assignments as this is a self-paced course. However, if a student is enrolled in a TEL course through a school or institution, s/he is required to finish the course according to the academic calendar of the respective school or institution.

Prerequisite(s)

It is highly recommended that students take high school Algebra I and Algebra II prior to this course. The course contains many calculations that require an understanding of algebraic concepts. Students without this mathematical background may not be successful in this course.

Minimum Passing Grade

To earn college credit for this course, students must earn a minimum average grade of 70% or higher. If a high school student receives less than 70% in this course, it is up to the school offering the course to grant high school credit for its completion.

Grading Policies

Grade Weighting

Assignment Category	Number	Grade Percentage
Participation (CYKs, Discussions, & Practice Problems)	67 CYKs 2 Discussions 11 Practice Problem Exercises	10%

Module Quizzes	12	20%
Mastery Assignments	3	15%
Course Exam 1	1	25%
Course Exam 2	1	30%

Assignment Grading Descriptions	
Assignment Category	Description
Participation (CYKs, Discussions, & Practice Problems)	<p>Check Your Knowledge (CYK) - Multiple choice quizzes that are autograded. Students may take these as many times as desired to practice for module quizzes. Students receive full credit for attempting a CYK quiz but must complete it at least once to earn participation credit.</p> <p>Discussions - Twice in the course, students will be prompted with a case study in which they will have to select the best solution to the given problem. Students will be prompted to defend their selection using evidence from the materials learned in the course and will be asked to analyze and evaluate other solutions developed by their peers. At the end of the course, students will be asked to complete a Reflective Evaluation Survey to reflect on their experiences in the student interaction hub and evaluate their participation.</p> <p>Practice Exercises - Exercises are 10 - 20 problems at the end of a module to help students with calculations and other problems related to the module's content. Students may complete these as many times as desired to practice for module quizzes. Students will receive full credit for attempting a practice exercise but must complete it at least once.</p>
Module Quizzes	Multiple-choice quizzes that are auto-graded. Students may use notes and refer back to lessons using a separate browser or the printable versions of lessons. Quizzes are not timed. Students may take only once.
Mastery Assignments	Unit quizzes created to help students understand how to evaluate and analyze case-based scenarios and problems that would commonly appear in the subject area. Questions are more difficult, scenario focused questions that require students to synthesize information they have learned across multiple modules. Students may use notes and refer back to lessons using a separate browser or the printable versions of lessons. Quizzes are not timed. Students may take these only once.
Course Exam 1	Proctored, multiple-choice exam that is auto-graded. Students may take only once.
Course Exam 2	Proctored, multiple-choice exam that is auto-graded. Students may take only once.

Assignment Schedule

Assignment	Module Due
Mastery Assignment 1: Mastering Physical Sciences Quiz	5
Mastery Assignment 2: Mastering Physical Sciences Quiz	8
Mastery Assignment 3: Mastering Physical Sciences Quiz	12

Course Policies

Academic Integrity Policy

TEL students are expected to practice academic integrity. If it is determined that a student has failed to comply with the Academic Integrity Policy, the issue(s) in question will be addressed by TEL, and subsequent action will be taken. TEL retains sole discretion to determine whether student conduct violates TEL's policies, and this policy does not create due process or other appeal rights for students.

Cheating TEL students are expected to refrain from acts of cheating. Examples of cheating include, but are not limited to the following:

- Accessing or attempting to access unauthorized course material
- Providing or attempting to provide unauthorized course material(s) to another person
- Using or attempting to use study aids during an academic exercise or examination unless explicitly authorized by the instructor.
- Copying or attempting to copy another person's work
- Allowing another person to copy or attempt to copy your work
- Allowing someone else to complete your work
- Completing or attempting to complete someone else's work

Plagiarism TEL students are expected to produce original work and refrain from acts of plagiarism. Examples of plagiarism include, but are not limited to the following:

- Copying someone else's work word-for-word
- Adopting someone else's ideas and presenting them as your own
- Using someone else's original work without acknowledging or citing the source

TEL instructors and instructional staff will use plagiarism detection software and other means to check writing assignments for plagiarism.

Appropriate Use of Technology TEL students are expected to use technology appropriately. Examples of the misuse of technology include, but are not limited to the following:

- Bypassing or attempting to bypass proctoring services
- Using or attempting to use unauthorized technology devices for examinations
- Providing or attempting to provide system credentials to an unauthorized person

Action in Response to Academic Misconduct Students who knowingly and willingly engage in academic misconduct will be subjected to disciplinary action. Issues brought to or discovered by TEL will be evaluated on a case-by-case basis. Action stemming from the result of an inquiry may include, but is not limited to the following:

- Issuance of an Academic Integrity Warning
- A grade reduction for the assignment or examination in question
- A zero for the assignment or examination in question
- Dismissal from the course
- Any other disciplinary action deemed appropriate by TEL

Discussions Students are expected to stay on topic and refrain from using vulgar or offensive language. Examples include, but are not limited to, inappropriate acronyms, profanity, derogatory terms, slang, and symbols. Please review the TEL Education [Code of Conduct](#) for more information.

NOTE: This section is not intended to create due process rights for students, does not constitute an exhaustive list of actions TEL may take, and does not constitute a “step-ladder” disciplinary process that escalates from the least to most adverse action. TEL may impose discipline in any manner it deems appropriate to the situation, and is not required to provide warnings or other initial steps prior to taking more severe action, up to and including dismissal.

Grade Discrepancies

Grades are awarded for a student's individual academic work during each semester based upon the student's mastery of the content. Disagreeing with a grader's score of the student's work does not qualify for a grade appeal. Moreover, students caught violating the Academic Integrity Policy must file an appeal if they disagree with the assessment of the student's actions. Therefore, students who wish to appeal a grade to the Learning Experience Team must [submit this form](#) to start the appeals process. Upon the receipt of the appeal, the following process will be observed:

- Grade appeals will be submitted to an alternative, qualified member of our instructional staff. Specific grade discrepancies will be escalated to the office of TEL's Academic Dean for the re-evaluation of the assignment, rubric, and correct answers. At the Dean's request, TEL's Learning Experience Team will conduct a thorough investigation using all evidence provided from the rubric, assignment instructions, notes from the original instructional staff member, and other relevant outsourced information. Academic integrity appeals will be submitted to the Appeal Committee, consisting of TEL's Academic Dean, Director of Curriculum, and Director of Instructional Support.
- The Appeal Committee will evaluate the appeal and all documented evidence. In the case of grade discrepancies, an evaluation of the student's awarded grade will be determined in accordance with the proper policies/standards outlined in the course syllabus.
- The Learning Experience Team will receive the Appeal Committee's assessment and forward this information to the student.
 - Once the Learning Experience Team provides a response to the disputed grade, the student will have the option to accept or to decline. If the student chooses to decline the response, the student's original grade will stand. If the student accepts the response, the grade will be changed, provided that the grade is different from the original grade.
 - In the case of an academic integrity appeal, the student can either accept the assessment and subsequent action or they can restart the course.

NOTE: While TEL will endeavor to follow the foregoing appeals process, it retains absolute discretion to deviate from this process when TEL determines such deviation is justified under the circumstances. Nothing contained herein shall be interpreted to create due process or contractual rights for students.

Exams

In this course, students will take their midterm and final examinations online. These exams are proctored through MonitorEDU. This service provides live online exam proctoring and support. This service records the student's computer webcam, speakers, and desktop during the exam. Students must use TEL's exam-proctoring solution, or have exams proctored by a

school official (approved by TEL), to receive credit for the course.

A Student Quick-Guide will be provided explaining how to use this service in the exam modules.

Technical Requirements

This course is delivered 100% online, and students are required to have access to a computer, laptop, or web-capable mobile device — along with consistent access to the Internet — to access course material and complete assignments.

Required technology:

- Desktop or portable computer, including Windows PC, Macintosh OS, or Chromebook (tablets, cell phones, and iPads are not supported)
- Google Chrome Browser
- Working built-in or external webcam, speakers, and microphone
- Internet speed must be at least 2 Mbps download and 2 Mbps upload. Hot spots are not recommended. Test Internet speed at: <http://www.speedtest.net>.

To access detailed information about the minimum hardware requirements necessary to take full advantage of TEL courses, visit the course home page.

Disability Services Statement

TEL is committed to providing equitable student access to course content and materials by providing reasonable accommodations for all persons with disabilities. TEL also complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Students who need special accommodations must make their requests by contacting the TEL Support Team. TEL's Support Team will coordinate reasonable accommodations upon registration and before the course begins. Students over the age of 18 taking college-level courses require a 504 for special accommodations.

Any student seeking to request academic accommodations on the basis of a documented disability should contact the TEL Support Team at disabilityservices@tel-education.org to

coordinate reasonable accommodations.

Course and Technical Support

Questions about course requirements, technical issues, or other issues while taking this course can be directed to the TEL Support Team via the Red Question Mark Widget button at the bottom right of each course page. The TEL Support Team will prioritize the request and respond accordingly.
