Course Syllabus

- **Course Number:** PHYS128L

- **Course Title/Modality:** Intro to Physical Sciences / Online

- **Credit Hours:** 5 (3 Lecture, 2 Lab)

- **Semester:** Spring 2026

- **Faculty Name:** Jacob Cheverie

- **Phone/Email Address:** jcheverie@ccsnh.edu

- **Office Location:** N/A

- **Office Hours:** Before and after class, or by appointment.

- **Prerequisites:** Successful completion of MATH 0610 or competence as demonstrated on the math placement exam.

- **Course Description:** This fast-paced course covers the major concepts of physics and uses them in explaining how our world actually works. These concepts are developed through demonstrations and experiments and require a minimum of mathematics. What is required is the ability to conceptualize the big underlying ideas, the ability to overcome notions about what we think we see versus what is actually happening, and the ability to combine and apply previously learned concepts to explain technology. The physics content covers motion, mechanics, work and energy, thermodynamics, waves, electricity, magnetism, light, and radioactivity.

Text/Instructional Materials and Equipment Required:

- *Conceptual Physics,* 12th edition by Paul Hewitt (Not required, strongly recommended)
- Scientific Calculator

- **Grading:**

  - Exams 1, 2, 3 – Each of these exams will cover the material since the previous exam (they will **not** be cumulative exams). Exams will consist of multiple-choice questions and short answers. Exams will be graded out of 100 points.

  - Lab Assignments – Lab assignments will include written responses to questions on the lab handouts and the overall completion of the lab activity.

  - Lesson Reflections – Each lesson will be followed by a reflection assignment; this is an open response question that should be answered in a paragraph or two.

- Module Problem Sets – Each module will contain a problem set, which will be a collection of problems from each lesson. It's strongly recommended that these problems are worked on as each lesson is studied.

Exam 1	15%
Exam 2	15%
Exam 3	15%
Lab Assignments	20%
Lesson Reflections	15%
Module Problem Sets	20%

Grading Scale:

A	93-100	B	83-86	C	73-76	D	63-66
A-	90-92	B-	80-82	C-	70-72	D-	60-62
B+	87-89	C+	77-79	D+	67-69	F	0-59

- **Course Learning Outcomes/Competencies:**

1. Identify the key concepts of the scientific method.
2. Understand the concept of a vector.
3. Accurately differentiate between mass and weight.
4. Understand Newton's Laws of motion.
5. Be able to explain how the ways in which frictional forces arise and how they affect the motion of objects.
6. Understand the motion of an object under the influence of a gravitational field in one-dimension (free-fall) and in two-dimensions (projectile motion).
7. Understand the concepts of momentum and impulse and apply them when considering collisions between objects.
8. Differentiate between work, power, and energy.
9. Understand Conservation Laws (Law of Conservation of Energy, Momentum, and Charge).
10. Be able to explain rotational motion using concepts such as torque, angular kinematics, and rotational inertia.
11. Differentiate between the different states of matter and explain their properties in terms of constituent particle motion.
12. Understand the structure of an atom and be able to differentiate between the particles contained within an atom.
13. Understand the concepts of density and Archimedes' Principle.
14. Be able to explain heat transfer and changes of phase.
15. Understand the concepts governing wave motion.
16. Understand basic principles of radioactivity.
17. Be able to explain the differences and similarities between electricity and magnetism.
18. Understand basic principles of optics (reflection and refraction).
19. Understand the concept of Einstein's Special and General Theories of Relativity.

- **Late Work Policy:**

One day late	10% Deduction from grade
Two days late	20% Deduction from grade
Three days late	30% Deduction from grade
More than three days late	Grade of 0

- **Academic Integrity, Cheating, and Plagiarism**

Honesty is expected of all LRCC students. In academic matters this includes the submission of work that clearly indicates its sources. Dishonest acts include cheating and plagiarism, as well as other forms of academic misconduct.

Cheating is defined as copying or otherwise using material from others, or using sources not approved by faculty.
Plagiarism is defined as using the work (ideas, words, artwork, etc.) of another person as one's own. The failure to cite sources or the extensive use of others' work in written material are the most common types of plagiarism.

Cheating, plagiarism, and other forms of academic misconduct are considered serious disciplinary matters and are subject to the same penalties and procedures as other LRCC disciplinary matters. Students should be aware that penalties levied in substantiated cases of cheating or plagiarism may include, but are not limited to, the issuance of a grade of F, which may in turn lead to delay of graduation. Repeated offenses may lead to dismissal from a program or from the college.

Refer to the Academic Honesty Policy in the Student Handbook.

- **Non-Discrimination Policy**
  Lakes Region Community College does not discriminate in the administration of its admissions and educational programs, activities, or employment practices on the basis of race, color, religion, national origin, age, sex, disability, gender identity and expression, genetic information, veteran status, sexual orientation, or marital status. This statement is a reflection of the mission of the Community College System of New Hampshire and LRCC and refers to, but is not limited to, the provisions of the following laws:

  - Titles VI and VII of the Civil Rights Act of 1964
  - The Age Discrimination Act of 1967
  - Title IX of the Education Amendment of 1972
  - Section 504 of the Rehabilitation Act of 1973
  - The Americans with Disabilities Act of 1990 (ADA)
  - Section 402 of the Vietnam Era Veteran's Readjustment Assistance Act of 1974
  - NH Law Against Discrimination (RSA 354-A)
  - NH Law RSA 188-F:3-a
  - Genetic Information Nondiscrimination Act of 2008

  LRCC degree, certificate, and career training programs are designed to meet the educational and workforce needs of the Lakes Region. Career and Technical Education (CTE) opportunities will be offered regardless of race, color, religion, national or ethnic origin, age, sex, sexual orientation, marital status, disability, gender identity or expression, genetic information, or veteran status. LRCC reduces barriers to future career and educational opportunities for area residents by helping them upskill with general academic and technical education, as well as customized business and industry training. View the CTE program details at LRCC.edu.

  Inquiries regarding discrimination may be directed to Laura LeMien, Associate Vice President of Academic & Student Affairs and Title IX Coordinator, at LLeMien@ccsnh.edu

Course Schedule/Additional Information

Intro to Physical Sciences (PHYS 128L) – Class Schedule Spring 2026
100% ONLINE
Always refer to Canvas for the most up-to-date list of assignments.

Module	Date	Topics	Assignments	Targeted Outcomes
1	January 20, 2026 – February 25, 2026	Scientific Method Motion – Displacement, Velocity, Acceleration Newton's Laws of Motion Work, Power, Energy Momentum, Impulse Force Rotational Motion Torque Rotational Inertia Angular Momentum **EXAM 1**	Inclined Plane Lab Power Lab Equilibrium Lab Applicable Lesson Reflections Module Problem Set	Meets outcomes 1 – 10.
2	February 26, 2026 - April 3, 2026	Density Pressure & Liquid Pressure Buoyancy Archimedes' Principle Atomic Nature of Matter Atomic Structure Periodic Table Isotopes Temperature Heat Specific Heat Capacity Thermal Expansion Heat Transfer Phases of Matter / Phase Change Waves Doppler Effect **EXAM 2**	Density Lab Pressure Lab Atom Worksheet Applicable Lesson Reflections Module Problem Set	Meets outcomes 11 – 15.
3	April 4, 2026 - May 9, 2026	Electrostatics Electric Current Series and Parallel Circuits Magnetism Light Color Reflection Refraction Radioactivity Special Theory of Relativity General Theory of Relativity **EXAM 3**	Circuit Worksheet Applicable Lesson Reflections Module Problem Set	Meets outcomes 16 – 20.

It is my sincere hope that this course meets your expectations as a challenging, engaging, and rewarding learning experience. If you find this not to be the case, I would welcome the opportunity to address your concerns. Should we fail to arrive at a mutually satisfactory understanding, please refer the matter to my immediate supervisor Matt Simon (msimon@ccsnh.edu).

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