NEW JERSEY CENTER
FOR TEACHING & LEARNING

Progressive Science Initiative® (PSI®)

SCI 6205: Physical Environment

Instructors/Emails:	Dr. Bob Goodman	bob@njctl.org
	Dr. John Ennis	john@njctl.org
	Melissa Axelsson	melissa@njctl.org

Course Credit: 3.0 NJCTL credits

Dates & Times:
This is a 3-credit, self-paced course, covering 6 modules of content. The exact number of hours that you can expect to spend on each module will vary based upon the module coursework, as well as your study style and preferences. You should plan to spend 13-16 hours per module, completing the module slides, readings, short answer assignments, labs, mastery exercises, practice problems, and module exams.

LMS Link: https://moodle.njctl.org/course/view.php?id=105

COURSE DESCRIPTION:
This 3-credit course is designed for those who are currently teaching, or preparing to teach, middle school science. Learners will develop a strong scientific understanding of the science behind phenomena seen in the physical world. Topics include states of matter, air flow & pressure, earth-sun-moon system, seasons, basic chemistry and factors impacting our changing climate.

STUDENT LEARNING OUTCOMES:
Upon completion of the course, the student will be able to:

1. Integrate PSI materials to support student learning and deliver effective instruction.
2. Implement hands-on and virtual labs to promote a deeper understanding of the content.
3. Create a social constructivist learning environment through the use of formative assessment questions.
4. Interpret the results of formative assessment to effectively facilitate student-led discussions that build mental models that support the understanding of the content.
5. Integrate multiple attempts to demonstrate student mastery of content knowledge, as encouraged/fostered by the PSI pedagogy.
6. Implement learning plans that are aligned to NGSS/Common Core standards, incorporate literacy strategies and allow for differentiation.

TEXTS, READINGS, INSTRUCTIONAL RESOURCES:
Required Texts:

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- PSI Physical Environment uses a free digital text book accessible at: https://njctl.org/materials/courses/physical-environment/

COURSE REQUIREMENTS:
In order to receive a Passing grade, the participant must complete the following course requirements:

1. Activities: A number of different learning activities will ensure participant engagement and learning in the course. These include:
   - Engage in video module lessons which demonstrate minimized direct instruction followed by frequent formative assessment
   - Completion of formative assessments aligned to learning objectives which include detailed analysis when answered incorrectly.
   - Interaction with module discussion boards that allow conversation with peers and course instructors about the module's content, delivering that content to students. Discussion boards also serve as a place to ask and answer questions related to the module's content.
2. Mastery Exercises: For each module, these multiple-choice question quizzes assess the content knowledge gained in a module. Participants have the opportunity to retake; random questions are pulled from a larger question bank on each attempt ensuring varied questions.
3. Virtual Labs: In each module, a virtual lab write-up will be submitted. Virtual Labs are interactive lab simulations that promote a deeper understanding of the content knowledge being learned through real-world applications and analysis.
4. Module Exams: Within each module, there are chapter tests which are culminating exams consisting of multiple choice and free response questions aligned to the standards and objectives of the module.
5. Final Exam: At the end of the course, a comprehensive exam consisting of Multiple Choice and Free Response questions assesses the content knowledge learned throughout the course.

GRADE DISTRIBUTION AND SCALE:
Grade Distribution:

Module Exams	65%
Final Exam	15%
Labs	10%
Mastery Exercises	10%

Grade Scale:

A	93 – 100
A-	90 – 92
B+	86 – 89
B	83 – 86
B-	80 – 82
C+	77 – 79
C	73 – 76
C-	70 – 72

D	60.0 – 69.9
F	59.9 or below

ACADEMIC INTEGRITY:
Students must assume responsibility for maintaining honesty in all work submitted for credit and in any other work designated by the instructor of the course. Academic dishonesty includes cheating, fabrication, facilitating academic dishonesty, plagiarism, reusing /re-purposing your own work, unauthorized possession of academic materials, and unauthorized collaboration.

DISABILITY SERVICES STATEMENT:
We are committed to providing reasonable accommodations for all persons with disabilities. Any student with a documented disability requesting academic accommodations should contact the Dean of Students, Dr. Rosemary Knab, additional information to coordinate reasonable accommodations for students with documented disabilities (rosemary@njctl.org).

NETIQUETTE:
Respect the diversity of opinions among the instructor and classmates and engage with them in a courteous, respectful, and professional manner. All posts and classroom communication must be conducted in accordance with the student code of conduct. Think before you push the Send button. Did you say just what you meant? How will the person on the other end read the words?

Maintain an environment free of harassment, stalking, threats, abuse, insults or humiliation toward the instructor and classmates. This includes, but is not limited to, demeaning written or oral comments of an ethnic, religious, age, disability, sexist (or sexual orientation), or racist nature; and the unwanted sexual advances or intimidations by email, or on discussion boards and other postings within or connected to the online classroom.

If you have concerns about something that has been said, please let your instructor know.

CLASS SCHEDULE:

Module	Required Readings	Assignments
1 - Hurricanes	• Presentations within LMS Course	• Short Answer Assignment • Lab • Mastery Exercises • Module Exams
2- Global Climates	• Presentations within LMS Course	• Short Answer Assignment • Lab • Mastery Exercises • Module Exams

3 – Earthquakes, Tsunamis & Volcanoes	• Presentations within LMS Course	• Short Answer Assignment • Lab • Mastery Exercises • Module Exams
4 – Trees: An Introduction to Chemistry	• Presentations within LMS Course	• Short Answer Assignment • Lab • Mastery Exercises • Module Exams
5 – A Changing World	• Presentation within LMS Course	• Short Answer Assignment • Lab • Mastery Exercises • Module Exam
6 – Final Exam	• Review topics as desired	• Final Exam