

Fall 2024

## PHYS 203A - All: The Earth in Space Lab

Physics Department

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INSTRUCTOR	Name: TBA and E-mail: TBA
OFFICE HOURS	Hours and Location: TBA
TEXTBOOK	Earth Science Laboratory Manual (Physics 203A), sold by NJIT bookstore.
DESCRIPTION	PHYS 203A is a laboratory course associated with The Earth in Space course (PHYS 203). The manual is also used as a lab report.
HELP	<ul style="list-style-type: none"> <li>- Visit or email your instructor if you are having trouble with the lab course.</li> <li>- If you need an accommodation due to a disability, please contact Scott Janz (scott.p.janz@njit.edu 973-596-5417), Associate Director of the Office of Accessibility Resources and Services, Kupfrian Hall 201 to discuss your specific needs.</li> </ul>
GENERAL INFORMATION	<ul style="list-style-type: none"> <li>- There is no exam in the lab course.</li> <li>- No make-up for missing labs is allowed.</li> <li>- No eating or drinking in the laboratory room.</li> <li>- Experiments are a group effort.</li> <li>- Laboratory reports should be individual ones submitted by each student.</li> <li>- Lab computer login method: Username: your UCID and Password: your UCID password</li> </ul>
DELIVERY MODE	<p>Face-to-Face:</p> <p>Delivery of instruction is structured around in-person classroom meeting times. Instruction is delivered in person and students are expected to attend class.</p>
LEARNING OBJECTIVES	<ul style="list-style-type: none"> <li>- Students will master basic physics concepts by performing an experiment relevant to corresponding course work.</li> <li>- Students will gain hands-on experiences with experimental processes.</li> <li>- Students should develop collaborative learning skills by working in a group.</li> </ul>
LEARNING OUTCOMES	<ul style="list-style-type: none"> <li>- Students will demonstrate basic experimental skills by practicing setting up and conducting an experiment.</li> <li>- Students will demonstrate an understanding of the analytical methods required to interpret and analyze results and draw conclusions as supported by their data.</li> <li>- Students will demonstrate basic communication skills by working in groups on laboratory experiments and the thoughtful discussion and interpretation of data.</li> </ul>
ATTENDANCE	<ul style="list-style-type: none"> <li>- Attendance policy is very strict. It is a student's responsibility to confirm his/her attendance with the Lab instructor.</li> <li>- It is required for students to attend all lab experiments since grading is based on attendance, participation, and lab report.</li> <li>- It is required for a student to sign the attendance sheet in every lab class. If a student fails to sign it, it is treated as being absent.</li> <li>- Attendance will be checked in the beginning and middle of each class by your instructor.</li> <li>- If a student does not appeal and resolve his/her attendance within 7 days, no further complaint will be accepted.</li> <li>- If a student makes more than 3 unexcused absences, the student is very likely to fail the lab course.</li> <li>- If a student has excusable absences, the student should contact the Office of the Dean of Students to email an official excuse to his/her lab instructor.</li> <li>- Students can check their Attendance and Participation grade by appointment with the TA</li> <li>- There might be a camera recording by a lab instructor for attendance and participation (It is required for <b>the students to sign a waiver acknowledging that they are being recorded</b>).</li> </ul>
GRADING POLICY	<ol style="list-style-type: none"> <li>1. The grading guidelines are as follows: Attendance (20%); Participation (20%); Laboratory Report (60%)</li> <li>2. A grade of zero (0) will be given for any missed experiment with no excuse.</li> <li>3. It is required to submit a lab report at the end of each lab – penalty for lateness is 10 % per day.</li> </ol>

GRADING SCALE	90 - 100 % = A, 85 – 89 % = B+, 80 – 84 % = B, 75 – 79 % = C+, 65 – 74 % = C, 50 – 64 % = D, 0 – 49 % = F
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## LAB COURSE SCHEDULE

Week	Period	Experiment
1*	9/3(T) - 9/9(M)	Introduction
2	9/10(T) - 9/16(M)	Earth's Geography I
3	9/17(T) - 9/23(M)	Earth's Geography II
4	9/24(T) - 9/30(M)	Rock Identification
5	10/1(T) - 10/7(M)	Properties of Water: Latent Heat of Fusion
6	10/8(T) - 10/14(M)	Earthquakes: Locating the Epicenter
7	10/15(T) - 10/21(M)	Understanding Density
8	10/22(T) - 10/28(M)	The Archimedes Principle
9	10/29(T) - 11/4(M)	The Acceleration due to Gravity
10**	11/5(T) - 11/11(M)	Properties of Water: Specific Heat
11	11/12(T) - 11/18(M)	Properties of Water: Dissolved Oxygen
12	11/19(T) - 11/25(M)	Properties of Water: Salinity
13***	11/26(T) - 12/4(W)	The Ideal Gas Law: Determining the Absolute Zero of Temperature
14	12/5(R) - 12/11(W)	No Lab

\* 9/9 (Mon.) Last Day to add/drop a class

\*\* 11/11 (Mon) Last Day to Withdraw from Classes

\*\*\* 11/26 (Tue) Thursday classes meet

\*\*\* 11/27 (Wed) Friday classes meet

\*\*\* 11/28 (Thurs.) and 11/29 (Fri.) Thanksgiving Recess Begins. No classes

## Physics Laboratory Safety

- Food and drink are not permitted during class in the lab at any time.
- Wear safety glasses all the time during lab experiments.
- Do not come into the lab room early unless the instructor is present.
- Do not wear loose hair or clothing around moving equipment.
- Do not set equipment too close to the edge of the table.
- Do not activate any electric circuit or apparatus until the instructor inspects it.
- Never touch a possibly live circuit and do not touch electrical equipment with wet hands.
- Only use laboratory equipment for the instructional purpose for which it was intended.
- Never look directly at the beam of a laser and light from a lamp used for experiment.
- All trash and waste materials should be disposed of in the proper container. Do not pour chemicals into the laboratory sink.
- Do not shorten the electrical leads on any equipment.
- Any equipment except computers not in use should be turned off.
- Do not take apart any apparatus or piece of equipment.
- All damaged equipment and chemical spills should be immediately reported to a laboratory instructor or laboratory staff.
- Accidents and emergencies must be immediately reported to the laboratory instructor. (NJIT Emergency call number: 911)
- Be aware that fire extinguishers are in Rooms 406T and 407T.