

# GEOL 101 - Introductory Geology Laboratory Syllabus

Section 12 : T, Th 4:00 pm – 5:15pm

Semester Dates: Fall 2022 - 8/25/22 – 12/21/22

Lab Room: Hunter North 1021

Instructor: Tom Carboni

Office: Room 1032 Hunter North

Office Hours: T, Th 7 – 8pm or 15 mins before class

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\*This course will be fully in person.

**Contact Policy:** You may email me with any questions you have regarding the laboratory material. You must include GEOL 101 in the subject line and sign your full name as it appears in CUNYfirst. You can expect to have your email messages returned within 24 - 48 hours usually. If I do not respond within that time frame, feel free to forward the same email to me again.

## Brief description/purpose of course:

GEOL 101, Introductory Geology Lab, is a hands-on laboratory science course. GEOL 101 assists you, in learning and expanding your understanding of the scale of the Earth and the forces that shape it with hands-on laboratory and field experiences. This course will serve as an introduction to the earth sciences and will prepare you for further coursework in the Environmental Studies program. It will also give you a working knowledge and vocabulary to take other physical geography and geology courses. Moreover, it will introduce you to some of the cutting-edge technologies used in the earth sciences, potentially drawing some of you into an earth science related career path. In general, there will be a 1:2 ratio between lecture and lab work over the course of each week.

The objectives and goals of this course include:

- An understanding of the nature of science and the scientific method.
- The importance of thinking critically about scientific data.
- A basic understanding of the rocks and minerals that make up the earth and the ability to identify the most important types of rocks and minerals and how they are formed (the rock cycle).
- A basic understanding of plate tectonics.
- An understanding of the vastness of geologic time, the Principle of Uniformitarianism and how geologists assess the ages of geologic features.
- An understanding of the formation and distribution of natural resources and the costs and benefits of their extraction.

\*\*This course will fulfill the **Common Core Requirement for category C, Life and Physical Sciences**.

## Learning Outcomes:

By the end of this course, students will be able to:

- interpret data by learning to read and create scientific graphs, test physical and quantitative models of isostasy and apply them to the Earth system
- define and discuss Plate Tectonic Theory
- identify the common minerals using basic tools of observation
- classify and identify igneous, sedimentary and metamorphic rocks
- apply the principles of relative and absolute dating to analyze the geologic history of an outcrop/region

## Required textbook(s):

AGI/NAGT *Laboratory Manual in Physical Geology*, 10th ed. Richard M. Busch, ISBN-10: 0321944518; ISBN-13 9780321944511

## Course evaluation/grading:

Assignments	Weighting
8 labs	40% (5% per lab)
3 exams	45% (15% per exam)
Participation	10%
Group / Individual Project	10%

Do NOT miss an exam. Make-up exams will NOT be given except under the most extraordinary circumstances such as documented illness, documented death in the family, documented alien abduction, etc. Make up exams will be given at a mutually convenient time and while they will cover the same information as the original exam, the questions and/or practical materials will be different.

Participation is a smaller but still significant part of your final course grade. Your participation will be evaluated by your involvement in lab activities, attention in class, and questions you may ask during a lecture or lab activity.

The Group / Individual Project will be discussed in more detail towards the middle of the semester. In short, it will be a short 2-3 page paper on a topic related to Geology which will also require the creation of a powerpoint presentation. Suggested topics will be given when the assignment is discussed in more detail around the midpoint of the semester but you will not necessarily be restricted to these.

The Hunter College grading system will be used in this class and can be viewed in the latest undergraduate catalog available online at <http://catalog.hunter.cuny.edu/>.

A final grade of IN (incomplete) is not normally given in this course except, again, under the most extraordinary and documented circumstances. You must contact me within 48 hours before the scheduled day/time of the final exam and complete a Contract to Resolve an Incomplete Grade. Otherwise, I will average your laboratory, exam, and participation grades and record what you have earned.

For the most up to date Pass / No Credit Policy, please check the following link for details:  
<https://hunter.cuny.edu/students/registration/register-for-classes/credit-no-credit/>

As per CUNY policy, an **Unofficial Withdraw (WU)** is assigned to students who attended a minimum of one class and cease attendance at some point in the semester. It is important to understand the definition of a WU and the difference between this grade and an F grade. The conditions for assigning the WU grade include:

1. A student's enrollment has been verified by the course instructor, and
2. The student has severed all ties with the course at any time before the final exam week and, consequently, has failed to complete enough course work -- as specified in the course syllabus -- to earn a letter grade, and
3. The student has not officially withdrawn from the course by completing the process for a W grade, or made arrangements to receive an INC.

## Laboratory Preparation:

Come to class prepared. This means you are expected to have read the laboratory exercise listed for each class *prior* to the beginning of that class period and also have all materials printed out or have the book present in class. Laboratory exercises are complex, and if you do not read them before class you will have difficulty turning them in on time.

### **Lab Homework:**

Some of the laboratory exercises will be completed after class hours. As outlined in the syllabus, you are required to complete one laboratory approximately every 2-4 classes, and since the laboratory exercises will count for 40% of your total course grade, it is important for you to do the assigned work.

For each lab you will type up a conclusion which summarizes the main concepts gone over in the lab. You will submit this with your lab activities on blackboard.

Grading of your laboratory exercises will be based on the quality and accuracy of the observations, explanations, answers to questions and conclusions. I will grade you on a scale of 0 – 100. You will automatically lose points if your laboratory exercise is sloppy or if your answers lack clarity.

### **When are lab exercises due?**

Lab exercises are due, in lab, at the beginning of your next class meeting – when you start the next lab (see tentative schedule below). **You will lose 5 points per day if the lab is late.** Submitting the lab after the start of class on the same day it is due is considered late as well and will be subjected to a small penalty. This policy will be strictly enforced. If you miss a class session, do not wait until the next meeting to hand in your lab assignment. If I am not available to accept your late lab, please send me pictures of each completed lab page showing me it is complete. This will “stop the clock.”

**Hunter College statement on Academic Integrity:** Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures. Plagiarism, dishonesty, or cheating in any portion of the work required for this course will be punished to the full extent allowed according to Hunter College regulations.

**ADA Policy:** In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical, and/or Learning) consult the Office of AccessABILITY, located in Room E1214B, to secure necessary academic accommodations. For further information and assistance, please call: (212)772-4857 or (212)650-3230.

### **Hunter College Policy on Sexual Misconduct**

In compliance with the CUNY Policy on Sexual Misconduct, Hunter College affirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationship. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

- a. **Sexual Violence:** Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, on contacting the College’s Public Safety Office (212-772-4444)
- b. **All Other Forms of Sexual Misconduct:** Students are also encouraged to contact the College’s Title IX Campus Coordinator, Dean John Rose ([jtrose@hunter.cuny.edu](mailto:jtrose@hunter.cuny.edu) or 212-650-3262) or Colleen Barry ([colleen.barry@hunter.cuny.edu](mailto:colleen.barry@hunter.cuny.edu) or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

**Tentative Schedule of Topics and Assignments**

DAY	DATE	CLASSWORK	LAB DUE
Th	25-Aug	Syllabus Review & Lab 2 – Plate Tectonics & the Origin of Magma	
Tu	30-Aug	Lab 2 – Plate Tectonics and the Origin of Magma	
Th	1-Sep	Lab 2 – Plate Tectonics and the Origin of Magma	
Tu	6-Sep	Lab 2 – Plate Tectonics and the Origin of Magma	
Th	8-Sep	Lab 16 – Earthquake Hazards and Human Risks	Lab 2
Tu	13-Sep	Lab 16 – Earthquake Hazards and Human Risks	
Th	15-Sep	Lab 3 – Mineral Properties, Identification, and Uses	Lab 16
Tu	20-Sep	Lab 3 – Mineral Properties, Identification, and Uses	
Th	22-Sep	Lab 3 – Mineral Properties, Identification, and Uses	
Tu	27-Sep	No Classes at Hunter College	
Th	29-Sep	No Class for our GEOL 101 Section – Monday Schedule	
Tu	4-Oct	No Classes at Hunter College	
Th	6-Oct	Lab 3 – Mineral Properties, Identification, and Uses	
Tu	11-Oct	Lab 3 – Mineral Properties, Identification, and Uses	
Th	13-Oct	<b>Exam 1 - Minerals</b>	Lab 3
Tu	18-Oct	Lab 5 – Igneous Rocks and Processes ; Paper Topics	
Th	20-Oct	Lab 5 – Igneous Rocks and Processes	
Tu	25-Oct	Lab 5 – Igneous Rocks and Processes	
Th	27-Oct	Lab 6 – Sedimentary Processes, Rocks, and Environments	Lab 5
Tu	1-Nov	Lab 6 – Sedimentary Processes, Rocks, and Environments	
Th	3-Nov	Lab 6 – Sedimentary Processes, Rocks, and Environments	
Tu	8-Nov	Lab 7 – Metamorphic Rocks, Processes, and Resources	Lab 6
Th	10-Nov	Lab 7 – Metamorphic Rocks, Processes, and Resources	
Tu	15-Nov	Rock Exam Review	
Th	17-Nov	<b>Exam 2 - Rocks</b>	Lab 7
Tu	22-Nov	Central Park / UES / Mineral Shop Field Trip!	
Th	24-Nov	No Classes at Hunter College	
Tu	29-Nov	Lab 8 – Dating of Rocks, Fossils, and Geologic Events	“Lab x” - Trip
Th	1-Dec	Lab 8 – Dating of Rocks, Fossils, and Geologic Events	
Tu	6-Dec	Lab 8 – Dating of Rocks, Fossils, and Geologic Events	
Th	8-Dec	Presentations	Lab 8
Tu	13-Dec	Presentations	
Th	15-Dec	No Classes – Beginning of Finals (But not our Final!)	
Tu	20-Dec	Final Exam : 1:45 – 3:45 (Note: Different time than class time!)	