

**Earth Systems Science I Lab**  
**PGEOG 25000 Lab**  
**Section 1L01: Monday 1:30-2:20 pm**  
**Section 1L02: Monday 10:30-11:20 am**  
**North Bldg 1090B-2 (both sections)**

**General Information:**

Instructor: Geoffrey Fouad, PhD  
Email: geoffrey.fouad@hunter.cuny.edu  
Office hours: Thursday 10:00-1:00 pm  
Office: North Bldg 1044

**Meeting Information:**

Labs are in person. **If you do not attend, you will not receive help out of class time.**

**Course Description:**

Practical, hands-on inquiry of concepts you learn in Earth Systems Science lecture.

**Prerequisites:** ENGL 12000 and GEOL 10100 or PGEOG 13000 or GEOG 22600

**Course Goals:** Develop the following career competencies in:

- (1) *Critical thinking* by way of “systems thinking” in the context of the earth system, a relevant mode of inquiry in many disciplines, including Earth science.
- (2) *Technology* by conducting computational analysis which can be extended to other coursework (see your senior capstone) and professional work.
- (3) *Communication* by conveying your results in written lab reports and in presentation format preparing you for the professional world in which communication is key.

**Required Material:***Reading*

- Please find required reading in the accompanying lecture of this lab

*Computer lab*

- This refers both to a physical space (North Bldg 1090B-2) and our lab assignments to be completed on computers in that space. To maintain access to the computer lab, **there is no eating or drinking (lab policy)**. The lab assignments are completed using Excel and STELLA® (no prior experience required). You will need to be in the lab to use the latter. Please plan your schedule accordingly

*Blackboard*

- The course is administered on Blackboard at <https://bbhosted.cuny.edu/>

**Grading:**

The lab is 30% of your final grade in the lecture.

Computer labs	Due approximately every two weeks	90% (6 at 18% each*)
Design your own lab	Due last two weeks of class	10%

\*Your top five grades are used to calculate your final lab grade

See the final grade policy in the lecture syllabus (a separate letter grade is not issued for lab).

**Late assignments are not accepted because you have two weeks to complete each lab.**

**No assignments accepted after the last lab date.**

Group work: You are encouraged to work collaboratively in groups to complete computer labs, but you need to complete the work yourself and submit your own files (i.e., please no copy-pasting from each other). This will be obvious and reported to the Office of Academic Integrity.

### *Computer labs*

- Quantitative analysis in six labs in which you gain technical skills and an understanding of how systems work in quantitative terms. Your top five grades are used in the calculation of your final lab grade in which each lab accounts for 18% of your grade
- Design your own lab assignment in which you craft an analysis of your own drawing on the semester's labs, investigate your own question, and present your findings in a class presentation (5% of your grade) and in a written report (5% of your grade)

### **Academic Integrity:**

Academic dishonesty (e.g., plagiarism) is a serious offense in regards to academic integrity which defeats the purpose of a college education. As such, this course enforces the "CUNY Policy on Academic Integrity" and applies Hunter's procedures of "Academic Integrity."

### **Accommodations:**

In compliance with the American Disability Act, Hunter College is committed to ensuring educational parity and accommodations for students with documented disabilities and/or medical conditions. It is recommended that students with documented disabilities (e.g., emotional or physical) consult the Office of AccessABILITY to secure necessary academic accommodations (see <https://hunter.cuny.edu/students/health-wellness/accessibility/>).

### **Sexual Misconduct:**

Sexual misconduct, and more broadly harassment of any variety, is not tolerated, and will be referred to the appropriate compliance office for review. You are urged to refer misconduct to Hunter's Title IX Campus Coordinator, Dean John Rose ([john.rose@hunter.cuny.edu](mailto:john.rose@hunter.cuny.edu)), or see <https://www.hunter.cuny.edu/diversityandcompliance/title-ix>, and seek complimentary (free) assistance at <https://hunter.cuny.edu/students/health-wellness/counseling-and-wellness-services/>.

### **Diversity, equity, inclusion, and pronouns:**

We live in a diverse world in which our diversity should be celebrated. Please notify me of your correct pronouns, and understand that our classroom is an inclusive environment where each of us can come together to learn.

**Class Policies:** The following policies are in place to help you learn.

- (1) Do not copy-paste from classmates (you will not learn doing this)
- (2) During class time, let's focus and limit distractions of any kind
- (3) Please be on time and treat others respectfully
- (4) Complete reading from lecture before class (this will help you finish labs faster)
- (5) Learn by doing and please ask questions (be inquisitive!)

**Schedule:** This schedule is subject to change. Labs 1-2 in Excel and 3-6 in STELLA.

Class	Subject	Deadlines
9/9	Introduction to Excel and mathematical concepts (Lab 1) <sup>2</sup>	<b>Drop (9/3)</b>
9/16	Earth radiation balance in Excel (Lab 2) <sup>1</sup>	
9/23	Lab 2 (continued)	<b>Lab 1</b>
9/30	Introduction to STELLA and dynamic modeling (Lab 3) <sup>2</sup>	<b>Lab 2</b>
10/7	Lab 3 (continued)	
<b>10/15</b>	Thermal damping, response times, and seasons (Lab 4) <sup>1</sup>	<b>Lab 3</b>
10/21	Lab 4 (continued)	
10/28	The carbon cycle (Lab 5) <sup>1</sup>	<b>Lab 4</b>
11/4	Lab 5 (continued)	<b>Withdraw (11/6)</b>
11/11	Stochastic processes in forest succession (Lab 6) <sup>1</sup>	<b>Lab 5</b>
11/18	Lab 6 (continued)	
11/25	Design your own lab in Excel or STELLA <sup>3</sup>	<b>Lab 6</b>
12/2	Present your findings	
12/9	Present your findings (submit written report)	

### **Follows Monday schedule**

<sup>1,2,3</sup>Denote *critical thinking*, *technology*, and *communication* career competencies, respectively

Career competency rubric

	<b>Excellent</b>	<b>Good</b>	<b>Fair</b>
<b>Critical thinking</b>	Conceptualize how parts of a system relate	Conceptualize <i>some</i> parts of a system	Outline only the variables of a system
<b>Technology</b>	Develop solutions independently	Develop solutions using resources (help)	Hesitant to engage in technology (dive in!)
<b>Communication</b>	Clear and concise	Clear but overly long	Needing elaboration