

ERS 1 03Lab: Weather and Climate
Department of Natural Sciences, LIU Post
Fall 2022

Wednesday 2:00 PM - 4:30 PM

Professor Scott Carlin
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Office: Life Sciences, Room 261A
<http://www.scottcarlin.us>

Classroom: Life Science 131
Phone: 516-299-3404
Office Hours: 12:30 to 2pm
Monday & Wednesday, or Appt.

Department: Natural Sciences, Department Chair, Dr. Sheldon Rothman: (516) 299-2007

Class Website: <http://blackboard.liu.edu> Archive of class notes, syllabus, readings, etc.
Blackboard uses the same login information as your email.

Course Description (LIU Post Bulletin)

This lab is an introduction to physical geography, the Earth and its relationship to the Sun, an introduction to map projections, meteorology and world climates, a consideration of the biogeographical features, world soils and vegetation. Three hours lecture, three hours laboratory; fulfills the Scientific Inquiry and the Natural World thematic cluster requirement in the core curriculum.

Credits: 3

Prerequisites: None

Course objectives:

At the conclusion of this course, students will know how to:

- Work with maps, globes, and map scales.
- Read and perform latitude, longitude calculations.
- Understand differences among map projections; utilize great circles.
- Calculate the noon angle of the sun based on your latitude and where the noon sun is directly overhead.
- Measure day length for each solstice and equinox.
- Calculate the temperature at a different elevation, using the normal lapse rate.
- Read and interpret weather charts.
- Interpret information from weather stations: temperature, precipitation, wind direction and speed, barometric pressure, etc.
- Understand and interpret (hot and cold) air masses and the creation of storm systems.
- Create and interpret climographs (monthly variations in rainfall and temperature) for world regions
- Understand world biomes, defined by the Koeppen-Geiger classification system

Required Reading: Students are required to obtain the textbook used for the lecture portion of this class.

LAB MANUAL: Provided by the Department of Natural Sciences.

Core Curriculum Goals: Scientific Inquiry and the Natural World

Courses within Scientific Inquiry and the Natural World introduce students to the systematic process of exploring the natural and physical world. Students will develop their critical thinking and quantitative reasoning skills as they apply to their subject area. They will make observations and ask questions that lead to the formulation of testable hypotheses, analyze information collected, and draw conclusions. Additionally, courses might investigate the ethical, social, or cultural implications of scientific inquiry. Learning goals: Inquiry and Analysis & Quantitative Reasoning.

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This course will also offer opportunities for students to work on these Core Curriculum skill areas:

- Quantitative Reasoning
- Inquiry & Analysis
- Critical Thinking
- Technological Competency (using Blackboard)
- Oral Communication

Course Hours

This class meets for 45 Hours (15 weeks x 3 hours per week)

50 Hours for Supplementary Assignments

Completion of Labs	30
Final Exam Preparation:	10
Midterm Preparation:	10

Semester Grading:

Exams are 60% of your Lab grade. (Midterm Exam: 24%, Final Exam: 36%).

Class Work is 40% of Lab Grade. Class Work grade is based on student's understanding of the lab and ability to answer questions correctly.

Final grades for the course are determined according to the following scale:

A = 4.00 = 93.0-100	B+ = 3.33 = 87.0-89.9	C+ = 2.33 = 77.0-79.9	D = 60-69.9 pts	F = 0.0 = < 60.0
A- = 3.67 = 90.0-92.9	B = 3.00 = 83.0-86.9	C = 2.00 = 73.0-76.9		
	B- = 2.67 = 80.0-82.9	C- = 1.67 = 70.0-72.9		

POLICIES:

1. Attendance is required. A student who misses more than one lab must submit either an official medical or legal document explaining the absence. Unexcused absences will result in a 10% decrease in the final lab grade for each occurrence.
2. Students are expected to **participate** in class discussions.
3. Students with excused absences will be allowed to make up the lab by attending another lab. Use of electronic devices such as cell phones and computers for other than class work is forbidden in class. During exams hats and hoods must be removed, and leaving the room before turning in the exam is at the discretion of the instructor. Campus policy on academic honesty will be enforced.
4. You will not receive a separate grade for this Lab. Instead, your Lab grade will be submitted to your lecturer. Your final Lab grade will be 25% of your lecture class grade.
5. **Labs 1 through 5 are submitted to your Lab professor for review and grading no later than the start of your Midterm class period.**
6. **Labs 6 through 11 are submitted no later than the start of your Final exam class period.**

Attendance Policy: The Undergraduate Bulletin states: "It is expected that students will attend all class sessions scheduled for the courses in which they are enrolled." Your semester grade will be reduced if you have more than two unexcused absences during the semester. Email faculty if you are not able to attend class. Excused absences require a signed medical note.

Student Rights Regarding Religious Observation:

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Under § 224-a of the NYS Education Law: "Any student in an institution of higher education who is unable, because of his or her religious beliefs, to attend classes on a particular day ... shall be excused from any ... work requirements. It shall be the responsibility of the faculty and of the administrative ... to make available to each student who is absent ... an equivalent opportunity to ... make up any ... work requirements." Students who anticipate being absent because of a religious observance should email faculty in advance of such anticipated absence.

Withdrawal. Registration and program changes are permitted for the first two weeks of the semester. Consult the Registrar's calendar for a complete list of deadlines:

<https://www.liu.edu/CWPost/About/Offices/Registrar/Academic-Calendar.aspx>

University Policies and Information:

LIU's Academic Affairs policies are located on the University website at:

<https://liu.edu/about/LIU-policy/policy-by-category-listing>

LIU Academic Catalogs may be found at:

<https://liu.edu/enrollment-services/registration/academic-catalogs>

The academic policies of Long Island University are described in the campus bulletin under "Academic Policy" in the table of contents.

The LU Academic Calendar may be found at:

<https://liu.edu/enrollment-services/registration/academic-calendar>

The Student Handbook is located at: <https://www.liu.edu/about/university-policies/student-handbooks>

Plagiarism: Your written work on exams and assignments must be your own. Reference all quotations, facts, and ideas from their original source materials. Read the campus Academic Conduct Policies in the Student Handbook (pp. 24-26, accessed 8/5/2022). The penalty for plagiarism is an F on the first assignment. After two instances of plagiarism, you will fail the semester, and a letter will be forwarded to the Dean.

Statement of Student Conduct. I have read this syllabus and I understand that:

- College policies prohibit cheating and plagiarism. The penalty for plagiarism on any assignment is an F. After two instances of plagiarism, I will fail the semester, and a letter will be forwarded to the Dean.
- Copying and pasting text from the Internet is considered plagiarism.
- I may quote text from other sources **only if** it is properly referenced.
- Homework assignments **must** be submitted the day they are due.
- I am familiar with LIU's Plagiarism and Academic Honesty policies in the Student Handbook:
<https://www.liu.edu/about/university-policies/student-handbooks>

LIU Student Support Services

Technology

If you have problems, please contact IT (Library 236A, M-Th 8am-8pm and F 9am-5pm; it@liu.edu; 516-299-3300). You can access online tutorials for Blackboard as needed: <http://www.liu.edu/Information-Technology/Info-Tech/Tutorials> (Step by Step Guides and Videos)

Students with Disabilities

In compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, including changes made by the ADA Amendments Act of 2008, I will make accommodations for students with

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disabilities. It is necessary for those students to provide me with the appropriate DSS Accommodations Form by the end of the second week of classes. Please contact the office of Disability Support Services in the Center for Learning at 516-299-3057 to take appropriate steps to develop an appropriate educational plan.

If you are a student with a documented disability, medical condition, or think you may have a disability, and will need accommodations, academic adjustments, auxiliary aids, or other services, please contact the Office of Disability Support Services by calling 516-299-3057 or emailing Post-LearningSupport@liu.edu to request services, accommodations or for additional information. Additional information is also available on the DSS website: www.liu.edu/post/dss. Location: Post Hall, Lower Level, C10.

The Center for Learning

LIU Post offers free tutoring in subject areas and in writing. For information about how to register for tutoring, contact:

Email: Post-LearningSupport@liu.edu

Phone: 516-299-3057

The Writing Center

Email: Post-WC@liu.edu

Phone: 516-299-2732

The Writing Center at Post provides free writing assistance to all students. Writing assistants can work with you at any point in your writing process from helping to clarify an assignment or prompt, through brainstorming, organizing and developing your ideas, citing your sources, and polishing your writing. To access information about the Writing Center location and hours of operation or find links to writing resources: 1) click on the Community tab in Blackboard, 2) then click on **Writing Center**, 3) **enroll to join the Blackboard Writing Center organization using the enrollment code: Wr1tingC&nter**, 4) then select **Post Writing Center** or visit our blog: <https://postwc.wordpress.com/>. Follow the Writing Center on Instagram for information and updates: @postwc

If you have any questions, please email **Post-WC@liu.edu** or contact the director, Mary Pigliacelli (Mary.Pigliacelli@liu.edu), 516-299-2732.

Post Psychological Services

The Center for Healthy Living offers supportive psychological and nutritional services Monday – Friday 9 a.m. to 5 p.m. and is located in Post Hall, Lower Level – South Entrance (parking lot side of building.) Additional information is available by emailing Post-HealthyLiving@liu.edu or calling (516) 299-3468

Weekly Topics

1. Sept. 7 Lab 1 Maps and Globes.
2. Sept. 14 Lab 2: Seasons and the Changing Angle of the Sun.
3. Sept. 21 Lab 3: Seasons, Changing Daylength, and Insolation.
4. Sept. 28 Lab 4: Temperature and Introduction to Weather Maps.
5. Oct. 5 Lab 5: Surface Weather Maps, Atmosphere Vertical Profile.
6. Oct. 12 **Lab Midterm; Labs 1-5**
7. Oct. 19 Lab 6: Atmospheric Pressure, Winds, Ocean Currents.
8. Oct. 26 Lab 7: Weather Statistics, Weather Station Model Report, and Some Atmospheric Processes.
9. Nov. 2 Lab 8: Atmospheric Moisture, Clouds, and Precipitation.
10. Nov. 9 Lab 9: Air Masses, Cyclonic Storms, Weather Fronts.
11. Nov. 16 Lab 10: Climographs, Climate Regions and Uses of Climate Data; Koeppen A (Tropical) and B (Dry) Climates.
- Nov. 23 Thanksgiving Break
12. Nov. 30 Lab 11: Climographs, Climate Regions and Uses of Climate Data; Part II - Koeppen C (Microthermal), D (Mesothermal), and E (Polar) Climates.
13. Dec. 7 **Lab Final**