

Kingsborough Community College
The City University of New York
Department of Physical Sciences
EPS 3100 – METEOROLOGY (WITH LABORATORY)
Syllabus

EPS 3100 – METEOROLOGY (4 crs. 6 hrs.) Fundamental physical and chemical structure of the atmosphere including weather, climate, meteorological instrumentation, and air pollution. ---Prerequisites: Passed, exempt, or completed developmental course work for the CUNY Assessment Tests in Reading, Writing, and ACCUPLACER CUNY Assessment Test in Math or Department Permission---- Required Core: Life and Physical -----Sciences Flexible Core: Scientific World (Group E)

Section: SECTION NUMBER Time: LECTURE AND LABORATORY SCHEDULE FOR SECTION
Room: ROOM (S) FOR SECTION
Instructor: INSTRUCTOR FOR SECTION Email: EMAIL ADDRESS FOR INSTRUCTOR FOR SECTION
Office Hours: OFFICE HOURS FOR INSTRUCTOR FOR SECTION

Source materials: Required textbook: Frederick K. Lutgens and Edward J. Tarbuck, *The Atmosphere: An Introduction to Meteorology, 13th edition with Mastering Meteorology Webtool*. Scientific calculator – You may not use a cell phone as a calculator on an exam!

Student Learning Outcomes Students will:

- Describe the composition and structure of the layers of the earth's atmosphere.
- Understand the methods and role of energy transfer behind seasons, the water cycle and eventually weather.
- Describe the interrelationships between atmospheric pressure gradients, Earth’s rotation, and resulting atmospheric circulation.
- Predict changes in the atmosphere’s conditions given the appropriate atmospheric data.
- Describe the structure and prognosis of major storms.
- Discuss climate and climate change; past, present, and future
- Explain the physical laws governing the structure and evolution of atmospheric phenomena 4. Describe, analyze and create graphical depictions of meteorological information.
- Demonstrate critical and analytical skills to interpret and predict weather systems using weather products (model results, maps, satellite imagery, etc.).

Topical Outline Lecture: (Approximate and subject to change upon notification)

Week	Topics	Book Chapter(s)
1	Introduction to Mastering Meteorology Introduction to the Atmosphere	1
2	Heating Earth's Surface and Atmosphere	2
3	Temperature	3
4	Moisture and Atmospheric Stability	4
5	Forms of Condensation and Precipitation	5
6	Air Pressure and Wind	6
7	Circulation of the Atmosphere	7
8	Air Masses	8
9	Mid-latitude Cyclones	9
10	Thunderstorms and Tornadoes	10
11	Hurricanes	11
12	Weather Analysis and Forecasting	12
13	Final Exam - As per official College Final Schedule	

Laboratory

Date	Topic	Requirements
Lab 1	Vertical Structure of the Atmosphere	Hand in
Lab 2	Earth's Rotation about Its Axis and Revolution about the Sun	Hand in
Lab 3	Isotherm Maps	Hand in
Lab 4	Weather Water Tanks	Hand in
Lab 5	Cloud Classification	Hand in
Lab 6	Isobar Maps	Hand in
Lab 7	El Ni~no, La Ni~na, and the Southern Oscillation	Hand in
Lab 8	Interpreting the Weather Map	Hand in
Lab 9	Fronts	Hand in
Lab 10	Thunderstorms and Tornadoes	Hand in
Lab 11	Hurricanes	Hand in
Lab 12	Station Models	Hand in

Evaluation:

- 3 Exams – 20% each

Exams are definition, problems, short answer, and essay. One side of a 3x5 index card filled with notes may be created and used for an exam.

- Online Homework - 20%
Mastering Meteorology Web-tool

- Laboratory - 20%

You are responsible for being in laboratory on time. Laboratory assignment cannot be made up. Laboratory reports, unless otherwise specified, must be turned in at the end of class. As part of your laboratory final, you may bring all laboratory reports to class to assist you on your final.

Grades will be awarded as follows: 93% or above=**A**; 90-92.99%=**A-**; 87-89.99%=**B+**; 83-86.99%=**B**; 80-82.99%=**B-**; 77-79.9%=**C+**; 73-76.99%=**C**; 70-72.99%=**C-**; 67-69.99%=**D+**; 63-66.99%=**D**; 60-62.99%=**D-**; <60%=**F**

Missed Exam/Laboratory/Lecture/Assignment Policy

Attending all classes is mandatory. The textbook is a guide for the course additional material will be covered during lecture meetings. If you miss class, you will miss out on taking notes and this will affect your ability to study for tests and quizzes. If you miss an opportunity to demonstrate your knowledge of the subject matter by missing a duly scheduled exam, laboratory or other assignment, the grading scheme does not apply. Your grade will be determined at the discretion of the instructor. By missing a duly scheduled exam, laboratory or other assignment, you accept and recognize that the instructor must determine your grade within the context of determining the grade of students who did not miss a duly scheduled exam, laboratory or other assignment. Instructor Make-up Policy: SUGGESTED: NO MAKE-UP EXAMS, NO MAKE-UP LABORATORIES OR NO MAKE-UP OTHER ASSIGNMENTS. FINAL EXAM WEIGHTED WITH PENALTY (0-100%) FOR MISSED WORK

Conduct: Students are required to follow *The Student Code of Conduct* as stated in the *Student Handbook*.

Accessibility: Access-Ability Services (AAS) serves as a liaison and resource to the KCC community regarding disability issues, promotes equal access to all KCC programs and activities, and makes every reasonable effort to provide appropriate accommodations and assistance to students with disabilities. You must contact Access-Ability Services if you require such accommodations and assistance. Your instructor will make the accommodations you need, but you must have documentation from the Access-Ability office for any accommodations.