Introduction to Meteorology 11:670:101 Section 1
Course Syllabus and Class Schedule
Spring 2020
Tuesday, 6:10-9:00 PM, Rutgers Academic Building 2125

Instructor Contact Information:

Colleen McHugh  E-mail: cem199@envsci.rutgers.edu
Office hours by appointment only

Course Description:
This course provides an overview of current weather maps; the structure of the atmosphere; the role of moisture in the development of dew, clouds, and precipitation; air masses, fronts, cyclones, thunderstorms, tornadoes, and hurricanes; and elements of weather forecasting, instrumentation and communication.

Prerequisites: None
Credits: 3 hours
Satisfies: Gen Ed for Physical Sciences (Area II) for SEBS student
SAS core curriculum for Natural Sciences (Area II) for SAS students

Course Learning Goals:
Upon completion of the course, students will be able to:
1. Exhibit critical thinking when confronting new information
2. Interpret basic weather forecasts as presented on television/radio/Internet
3. Explain basic atmospheric phenomena from a physical perspective
4. Apply the physical foundations of meteorology to solve problems using analytical methods
5. Know whether they might enjoy pursuing further study in the atmospheric sciences.

This course also satisfies these SAS Core Curriculum Learning Goals:
II: Areas of Inquiry
A: Natural Sciences
   e. Understand and apply basic principles and concepts in the physical and biological sciences.
   f. Explain and be able to assess the relationship among assumptions, method, evidence, arguments, and theory in scientific analysis.
   z. ITR (technology)
Required Materials:
Ahrens, D.C. Essentials of Meteorology: An Invitation to the Atmosphere. 7th edition
Available at the Rutgers University Bookstore
(Earlier editions may vary slightly. Study guide not required.)

iClicker Reef application. The smart phone app or web based program can be
installed on your computer or smart phone. This app is also compatible with an
iClicker remote. Purchasing a new remote is not necessary.

Webpage:
Canvas will be used for the course website. From Canvas you can obtain exam
grades, lectures, announcements, and submit assignments.

Lectures:
Each class will begin with a short weather discussion based on real-time
observations, satellite, radar, and computer model data. The weather discussions
are intended to show how the concepts taught in the course play out in the real
world. The discussions are an opportunity to talk about current weather events and
show how meteorology impacts the natural world and human society.

There will be a reading assignment for each lecture that should be completed prior
to coming to class. The remainder of each class will be devoted to the topics
covered in the reading assignment. The format of the lectures will be open and
students are highly encouraged to think critically about the course material, ask
questions, share their thoughts and opinions, and participate in discussions.

Extra assistance:
Email is available for asking questions. Students may arrange office hours with the
instructor by request. Students may also form study groups and are encouraged to
study together.

How you will be evaluated:
Exams:
There will be three (3) exams, each contributing 25% to your total course average.
The exams will be based on the materials presented in the lectures and in the
course textbook. The exams are “stand-alone” and are not cumulative.

The exams will be multiple-choice format. Students are allowed to bring a calculator
for the exams, but smart phones are strictly prohibited.

There are no make up or rescheduled exams for unexcused absences. Missed
exams will only given a make-up with an appropriate letter from your Dean or your
personal physician.
Assignments
There will be several graded assignments throughout the semester contributing 20% of your total course average. Assignment instructions will be posted at a later date in the semester or provided in class. Assignments must be submitted on time except for those with a letter from the Dean or personal physician. Assignments that are submitted one day late will be at most worth 50% of the total grade. Assignments submitted more than one day late will not be graded.

Class Attendance
Class attendance is required in this course. Your attendance will account for 5% of your total grade. Attendance will be graded via iClicker questions asked during class and will be based on participation in the class polls. Full credit will be given to students who attend at least 80% of classes. Students are required to create an iClicker account and download the iClicker Reef polling app or use the web-based interface for in class polls. Absences will be excused with an appropriate letter from your Dean or personal physician.

To create an iClicker account, please visit https://www.iclicker.com/ and click “Create an Account”. Once you have created an account, please sign in and click the “+” button on the upper right-hand side of the page that is titled “Courses”. Add “Rutgers University New Brunswick” as the institution and search “Introduction to Meteorology” as the course name. Click the course with my name listed as the instructor and click “Add this course.”

If you already have a physical iClicker remote, you can link your remote with the iClicker Cloud. Please follow the instructions above to create an iClicker account. Once you have created an account and signed in, click the menu button on the upper left-hand corner, then click “Profile”, then “Register Remotes.”

Grade Adjustment Policy
If a student would like to dispute a grade or an absence, it must be done within one week after the grade has been posted. Grades will not be adjusted after this point.

Course Grade Breakdown:
Class Attendance: 5%
Assignments: 20%
Exam 1: 25%
Exam 2: 25%
Exam 3: 25%
Total: 100%
Letter Grade Assignments:
Letter grades will be assigned based on the course grade breakdown above. Below is the approximate letter grade breakdown. However, this is subject to change based on exam curves.

A: 90-100%
B+: 87-89%
B: 80-86%
C+: 77-79%
C: 70-76%
D: 60-69%
F: < 59%

Course Policies:
Classroom Courtesy:
You are expected to be respectful of fellow students and me. Examples of courtesy include:
- Making every effort to attend lectures
- Doing the reading assignments ahead of time
- Coming to class prepared to discuss the materials
- Not distracting your classmates by talking or making other noises
- Not surfing the web or checking email or texting

Academic Integrity:
The University policy about academic integrity can be found at website http://academicintegrity.rutgers.edu/. Academic dishonesty will not be tolerated.

Special Needs:
To ensure that disability-related concerns are properly addressed from the beginning, students with disabilities who require reasonable accommodations to participate in this class are asked to see the instructor as soon as possible with the appropriate documentation.
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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading Assignment</th>
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<tbody>
<tr>
<td>Tue 1/21</td>
<td>The Earth’s Atmosphere</td>
<td>Ch. 1</td>
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<tr>
<td>Tue 1/28</td>
<td>Warming the Earth and the Atmosphere</td>
<td>Ch. 2</td>
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<td>Tue 2/4</td>
<td>Air Temperature</td>
<td>Ch. 3</td>
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<td>Tue 2/11</td>
<td>Humidity, Condensation, and Clouds</td>
<td>Ch. 4</td>
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<td><strong>Tue 2/18</strong></td>
<td><strong>EXAM 1</strong></td>
<td>Study for exam</td>
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<td>Tue 2/25</td>
<td>Cloud Development and Precipitation</td>
<td>Ch. 5</td>
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<td>Tue 3/3</td>
<td>Air Pressure and Winds</td>
<td>Ch. 6</td>
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<td>Atmospheric Circulations</td>
<td>Ch. 7</td>
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<td>Tue 3/10</td>
<td>Air masses, Fronts, and Cyclones</td>
<td>Ch. 8</td>
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<td>Tue 3/17</td>
<td>No Class – Spring Break</td>
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<td>Tue 3/24</td>
<td>Weather Forecasting</td>
<td>Ch. 9</td>
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<td><strong>Tue 3/31</strong></td>
<td><strong>EXAM 2</strong></td>
<td>Study for exam</td>
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<td>Tue 4/7</td>
<td>Thunderstorms and Tornadoes</td>
<td>Ch. 10</td>
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<td>Tue 4/14</td>
<td>Hurricanes</td>
<td>Ch. 11</td>
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<td>Tue 4/21</td>
<td>Air Pollution</td>
<td>Ch. 14</td>
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<td>Tue 4/28</td>
<td>Light, Color, and Atmospheric Optics</td>
<td>Ch. 15</td>
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<td>Tue 5/5</td>
<td>No Class – Reading Day</td>
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<td><strong>Thu 5/7</strong></td>
<td><strong>FINAL EXAM 8-11PM</strong></td>
<td>Study for exam</td>
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Subject to revisions; Last updated 1/19/2020