ATMO 202: Atmospheric Science Laboratory  
Section 504

Lab: 11:10 -- 1:00 R, O&M 1107  
Professor of Record: Dr. Courtney Schumacher  
sschu@tamu.edu  
Laboratory Instructor: John Orcutt, 1013 O&M  
jmo94@tamu.edu  
Office Hours: 3:00 - 4:00 M, 10:00 -- 11:00 WF (or by appointment)

Course Description

The atmosphere is a complex and fascinating physical system, and its behavior can have important impacts on both societies and individuals. In ATMO 202, students will explore atmospheric processes by working hands-on with real-world weather and climate data. By the end of this course, students should be able to:

- Analyze data on pressure, temperature, humidity, and winds, and use this data to infer the state of the atmosphere.
- Use upper-air and surface meteorological charts to interpret and explain the evolution of weather systems.
- Identify cloud types, and explain how certain types are associated with specific weather patterns.
- Summarize the operation, accuracy and precision of the various instruments used to take meteorological data.

Core Curriculum Objectives

Critical Thinking: The atmosphere is a complex system, requiring contributions from a number of physical and chemical disciplines. In the present course, students are introduced to the basic principles of the atmosphere and then asked to apply this understanding to interpret real-world weather events. Weekly exercises are given in which students must analyze and interpret data from actual, observed weather systems and/or climate trends.

Communication: Students are asked to make at least one brief, in-class oral presentation on a current or historical weather event of their choice. The presentation must include an analysis of a map or other appropriate visual, including video. Weekly exercises and exams are given including numerous short-answer questions, asking students to explain in writing and through the use of graphics the reasoning behind their responses.
**Empirical and quantitative skills:** Students are introduced to a variety of quantitative physical and chemical relationships, and then use these relationships to make inferences and predictions. Data is presented in a variety of formats, including tables, line graphs, contour and gradient plots, vector plots, meteograms, and isosurfaces.

**Teamwork:** Students will work together in small groups to prepare short in-class oral presentations on weather events. Students are also encouraged to work together on weekly lab assignments, with some exercises requiring consensus answers from a group. Team members evaluate each other and make suggestions on how to improve cooperation and collaboration.

**Textbooks:** A Laboratory Manual for this course is available for purchase from the campus bookstore. Please purchase the manual before the second week of class.
Access to a basic meteorology text (such as your ATMO 201 textbook) may be helpful, but is not required.

**Course Webpage:** [http://atmo.tamu.edu/courses/atmo202/](http://atmo.tamu.edu/courses/atmo202/)

**Grading:** Please write legibly when answering questions. To assign a grade, I must be able to read your answers. Your class average will be based on the assignments and exams, according to the following percentages:

- Avg. of Exercises: 40%
- Exam 1: 20%
- Exam 2: 20%
- Exam 3: 20%

Your final grade for the course will be based on the standard grading scale, as given by:

- 90 – 100: A
- 80 – 89: B
- 70 – 79: C
- 60 – 69: D
- < 60: F

I reserve the right to adjust the grade cutoffs downward if necessary, to achieve a fairer distribution of grades.

**Late policy:** Lab assignments are due at the beginning of the first class following the week in which the assignment is introduced. Late assignments (including those turned in at the end of class) will be accepted with a penalty of 20%. In the case of excused absences, late assignments will be accepted without penalty until one week after the last day of the excused absence.

**Missed exams:** Make-up exams will only be allowed for excused absences, as defined at [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07).
Plagiarism: You are encouraged to work together on the lab exercises, but you should nonetheless do your own work. There is a significant difference between working in groups and copying from a fellow classmate. Mindlessly copying another student’s answers will not be tolerated and will result in zero credit. Dividing up an assignment and swapping answers will also be considered cheating and will also result in zero credit.

As required by University policy, all incidences of plagiarism or other academic dishonesty will be reported to the Honor Council.

Americans with Disabilities Act (ADA) Policy Statement
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities in Room B118 of Cain Hall, or call 845-1637. For additional information visit http://disability.tamu.edu

Copyright Policy:
All materials used in this class are copyrighted. These materials include but are not limited to quizzes, exams, homework assignments, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless permission is expressly granted.

Academic Integrity Statement and Policy:
"An Aggie does not lie, cheat, or steal or tolerate those who do." Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Ignorance of the rules does not exclude any member of TAMU community from the requirements or the processes of the Honor System. Students who violate the University rules on academic dishonesty may be assigned a failing grade for the course and face additional sanctions as described in the University Regulations.

For additional information: please visit: http://aggiehonors.tamu.edu/

See schedule on back page!
### Section 504 Schedule:
Thursday 11:10 AM – 1:00 PM

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/19</td>
<td>Introduction &amp; Clouds</td>
</tr>
<tr>
<td>2</td>
<td>1/26</td>
<td>Finish Clouds</td>
</tr>
<tr>
<td>3</td>
<td>2/2</td>
<td>Visual and Graphical Tools in Meteorology I</td>
</tr>
<tr>
<td>4</td>
<td>2/9</td>
<td>Visual and Graphical Tools in Meteorology II</td>
</tr>
<tr>
<td>5</td>
<td>2/16</td>
<td>Temperature &amp; Radiation</td>
</tr>
<tr>
<td>6</td>
<td>2/23</td>
<td>EXAM I (Clouds &amp; Visual Tools I &amp; II)</td>
</tr>
<tr>
<td>7</td>
<td>3/1</td>
<td>Pressure</td>
</tr>
<tr>
<td>8</td>
<td>3/8</td>
<td>Upper Air Charts / Surface Charts (two labs; due at end of class)</td>
</tr>
<tr>
<td>9</td>
<td>3/15</td>
<td>Spring Break</td>
</tr>
<tr>
<td>10</td>
<td>3/22</td>
<td>Atmospheric Moisture</td>
</tr>
<tr>
<td>11</td>
<td>3/29</td>
<td>EXAM II (Temperature, Pressure, Upper Air &amp; Surface Charts)</td>
</tr>
<tr>
<td>12</td>
<td>4/5</td>
<td>Wind and Pressure</td>
</tr>
<tr>
<td>13</td>
<td>4/12</td>
<td>Forecasting</td>
</tr>
<tr>
<td>14</td>
<td>4/19</td>
<td>Severe Weather (Due at end of class)</td>
</tr>
<tr>
<td>15</td>
<td>4/26</td>
<td>EXAM III (Moisture, Wind &amp; Pressure, Forecasting, Severe Weather)</td>
</tr>
</tbody>
</table>

**Schedule subject to change**