Meteorology – ESCI/ATSC 3403.001  
Department of Physical and Environmental Sciences  
Summer 2017

A. **COURSE INFORMATION**
   - **Course number/section:** ESCI/ATSC 3403.001
   - **Class meeting time:** Monday-Thursday 11:30 am-1:25 am
   - **Class location:** CS108
   - **Course Website:** bb9.tamucc.edu

B. **INSTRUCTOR INFORMATION**
   - **Instructor:** Tommy Winning
   - **Office location:** NRC 3414
   - **Office hours:** Monday/Wednesday 9:00 am-11:00 am
   - **e-mail:** twinning@islander.tamucc.edu
   - **Appointments:** e-mail me to set up a meeting time, or just ask before/after class

C. **COURSE DESCRIPTION**
   Introduction to meteorology and the dynamics of planetary atmospheres. Emphasis on atmospheric accretion, composition, evolution, structure, and dynamics. Lab exercises cover basic measurement techniques, weather maps, and forecasting. Safety training given during a laboratory meeting early in the semester is required for continued participation in this course.

D. **PREREQUISITES AND COREQUISITES**
   - **Prerequisites:** None
   - **Corequisites:**
     - Lab: ESCI 3403.101 or ATSC 3403.101
     - Lab Safety Seminar: SMTE 0096.W01

E. **REQUIRED TEXTBOOK, READINGS AND SUPPLIES**
   - **Required Textbook:**

   Available to rent for the semester on Amazon for around $45 (time is of the essence)

   Used copies are available on Amazon for around $130 (if you are an atmospheric science major, I highly recommended you purchase and keep this book because it will be a great reference for your future courses here).

   Earlier editions (probably no earlier than the 9th edition though) may also be used but there will be some differences in pages, figures, etc.
Optional Textbook(s) or Other References:
None

Supplies:
None

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT
Assessment is a process used by instructors to help improve learning as well as assist in identifying challenging areas for students and adjusting their teaching approach to facilitate learning.

The goal of this course is to provide students with an opportunity to learn about the basics of meteorology/atmospheric science. Students should attend and participate in the lectures and labs. The student will be expected to:
1) Give an overview of the science of meteorology and how it is practiced.
2) Integrate all specific concepts of meteorology into a multidisciplinary analysis of the atmosphere, its currents and resulting climates.
3) Introduce the notions of the nature and structure of Earth’s atmosphere.
4) Define the driving characteristics and physical properties of the atmosphere that control short to long-term processes (i.e. temperature variations, atmospheric moisture, stability, precipitation, etc…).
5) Describe the processes that control the motion of air masses on regional to global scales (wind systems, air masses and fronts, severe storms).
6) Explain the environmental aspects of atmospheric science (i.e. air pollution and pollution transport, climate change).

G. INSTRUCTIONAL METHODS AND ACTIVITIES
1) Classroom presentation of new material and concepts PowerPoints, videos, etc.
2) Class discussion and problem solving analysis using critical thinking techniques.
3) Both individual and collaborative learning assignments to enhance new concepts.
4) Optional discussion time between student and instructor outside the regularly scheduled class time.

H. MAJOR COURSE REQUIREMENTS AND GRADING
There will be a variety of assessments in this course which will comprise the overall grade. There are two exams (a Mid-Term and a cumulative Final Exam) worth 25% each which will consist of multiple choice, fill in the blank, and a few short essay questions. There are ten short quizzes on recent reading/PPT material worth 25% total. These short quizzes are considered “attendance” quizzes and cannot be made up – they may or may not be announced ahead of time (depending on how class attendance is trending), and they will be given at the beginning of the lectures, so make sure to attend class and be on time. Finally,
there are ten labs that are worth 25%. Final grading will be as follows: A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F < 60%. Students are required to take the exams on the announced dates, except in cases of University-excused absences. Makeup exams will be administered only in the case of serious illness or a medical emergency, but you must a) contact me or leave a message with the departmental secretary before the scheduled exam time, and b) provide appropriate documentation for your absence. If you do not contact me before the scheduled exam time, you will not be allowed to take a makeup examination unless you can provide sufficient documentation both for your absence and for not contacting me before the exam. Attendance of lectures is strongly encouraged since complementary material, in addition to required readings, will be presented in lectures and included on examinations. Incompletes will be awarded only in rare circumstances and only when there is a documented medical emergency, family emergency, or legal reason for not completing the required course work by the end of the semester. Awarding an incomplete requires a written agreement between instructor and student outlining how and when the work will be completed.

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<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Exams</td>
<td>50</td>
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<tr>
<td>Quizzes</td>
<td>25</td>
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<td>Lab Reports</td>
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<td>Total</td>
<td>100</td>
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I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Topic</th>
<th>Chapter</th>
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<tbody>
<tr>
<td>1</td>
<td>Structure and Origin of Earth’s Atmosphere</td>
<td>Chapter 1</td>
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<td>2</td>
<td>Energy, Heat, &amp; the Earth’s Energy Budget</td>
<td>Chapter 2</td>
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<td>3</td>
<td>Seasonal and Daily Temperatures</td>
<td>Chapter 3</td>
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<td>4</td>
<td>Atmospheric Moisture</td>
<td>Chapter 4</td>
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<td>5</td>
<td>Condensation</td>
<td>Chapter 5</td>
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<td>6</td>
<td>Stability</td>
<td>Chapter 6</td>
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<td>7</td>
<td>Precipitation</td>
<td>Chapter 7</td>
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<td>8</td>
<td>Atmosphere in Motion</td>
<td>Chapter 8</td>
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<td>9</td>
<td>Small Scale/Local Winds</td>
<td>Chapter 9</td>
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<td>-</td>
<td>Mid-term Exam</td>
<td>July 18, 2017</td>
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<td>10</td>
<td>Global Winds</td>
<td>Chapter 10</td>
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<tr>
<td>11</td>
<td>Air Masses and Fronts</td>
<td>Chapter 11</td>
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12  Mid-Latitude Cyclones  Chapter 12
13  Weather Forecasting  Chapter 13
14  Thunderstorms  Chapter 14
15  Tornadoes  Chapter 15
16  Hurricanes  Chapter 16
17  Air Pollution  Chapter 19
18  Global Climate  Chapter 17
19  Climate Change  Chapter 18
-  Final Exam  August 4, 2017

Note: Above schedule is an outline only, topics are subject to change with short notice. Midterm and the final exam dates are concrete, content will be adapted to subjects that have been covered in class.

*Thursday July 13-a representative from the Corpus Christi NWS office will be giving a guest lecture on hurricane preparedness.

J. COURSE POLICIES

Attendance/Tardiness
Attendance will not be taken for this course. You are all adults; you are paying for your education and are responsible for your own choice on whether to come to class or not. However, attendance is strongly encouraged since complementary material, in addition to required readings, will be presented in lectures and included on examinations. Additionally, quizzes will be given at the start of lectures that cannot be made up if you did not attend the lecture that day.

Late Work and Make-up Exams
Students are required to take exams on the announced dates, except in cases of University-excused absences. Makeup exams will be administered only in the case of serious illness or a medical emergency, but you must a) contact me or leave a message with the departmental secretary before the scheduled exam time, and b) provide appropriate documentation for your absence. If you do not contact me before the scheduled exam time, you will not be allowed to take a makeup examination unless you can provide sufficient documentation both for your absence and for not contacting me before the exam. There will be no makeup of any missed daily quizzes.

Extra Credit
No extra credit opportunities are planned at this time.
Cell Phone Use
Take the time to turn the ringer off and have enough respect to not make it obvious.

Laptop Use
Note-taking only.

Food in Class
Coffee, water, and/or soft drinks only. No food.

Participation
The student is responsible for their level of class participation. The expected workload is two hours of work for every hour of time spent in class. This will vary from week to week with some weeks having more work required and other weeks having less.

K. COLLEGE AND UNIVERSITY POLICIES

- **Academic Integrity (University)**
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

- **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.
Deadline for Dropping a Course with a Grade of W (University)
The grade of W will be assigned to any student officially dropping a course. Please consult with the instructor before you decide to drop to be sure it is the best thing to do. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Should dropping the course be the best course of action, visit the Office of the University Registrar for the Course Drop Form that must submitted. No student is eligible to receive a W without completing the official drop process by this deadline. Please consult the Academic Calendar ([http://www.tamucc.edu/academics/calendar/](http://www.tamucc.edu/academics/calendar/)) for the last day to drop a course.

Grade Appeals (College of Science and Engineering)
As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage at [http://sci.tamucc.edu/students/GradeAppeal.html](http://sci.tamucc.edu/students/GradeAppeal.html). For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

Disability Services
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 call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

[http://disabilityservices.tamucc.edu/](http://disabilityservices.tamucc.edu/)

Statement of Academic Continuity
In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi;
this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

L. OTHER INFORMATION

- Academic Advising
  The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in the Center for Instruction 350 or can be reached at (361) 825-3928.

GENERAL DISCLAIMER
I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.