COURSE INFORMATION
Course number/section: ATSC 2301
Class meeting time: MW 2:00 PM-3:15 PM
Class location: OCNR 255
Course Website: https://bb9.tamucc.edu

INSTRUCTOR INFORMATION
Instructor: Abishek Adhikari (ABI)
Office location: NRC 1102
Office hours: Monday/Wednesday 3:30 PM-4:30 PM,
Tuesday 11:00AM-12:00PM,
or by appointment
Telephone: N/A
E-mail: aadhikari1@islander.tamucc.edu
Appointments: Email or talk to me to make an appointment

PREREQUISITES AND COREQUISITES
None

REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES
Required Textbook
Guide to Meteorological Instruments and Methods of Observation
World Meteorological Organization (WMO, 2008)
**Electronic copy will be provided free of charge

Optional Textbook(s) or Other References
Additional materials for reading and/or homework will be provided as needed.

Supplies
We may talk about surface map contouring at the end of the semester, which would require colored pencils.
 COURSE DESCRIPTION
The intent of this course is to introduce basic concepts by focusing on observations and measurements of the atmosphere, the information they give us, and why they are important. Principles of instrumentation used to measure/observe air temperature, atmospheric pressure, moisture, radiation, precipitation, and other atmospheric related properties will be introduced. Additionally, the difference between surface and upper air observations will be discussed as well the differences between in surface, balloon borne (upper air) and remote sensing observation techniques.

 STUDENT LEARNING OUTCOMES AND ASSESSMENT
The goal of this course is to provide students with the opportunity to learn the history and basic principles of various types of weather observation. Upon conclusion, students should also have an understanding of not only how the data is collected and used, but also possess the ability to explain, discuss, and critique the basic concepts of weather observation. Some of these concepts include but are not limited to:
 Demonstrating the understanding of the mechanisms of various weather instruments.
 Ability to comprehend the information provided by an atmospheric sounding
 Understanding of a contoured surface map (height, parameter, significance)
 General understanding of remote sensing data products
 Importance of weather radar
 The significance of computer speed (data availability, analysis, and communication)

 INSTRUCTIONAL METHODS AND ACTIVITIES
In class discussion, quizzes, and exams

 MAJOR COURSE REQUIREMENTS AND GRADING
The final grade will come from: attendance and participation (5%), homework (45%), midterm (25%), and final exam (25%). Letter grades will be assigned as follows: A = 90-100%, B = 80-89.99%, C = 70-79.99%, D = 60-69.99% F = 0-59.99%.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Exams (Mid-term / Final)</td>
<td>50% (25% each)</td>
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<tr>
<td>Homework</td>
<td>45%</td>
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<tr>
<td>Attendance</td>
<td>5%</td>
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# COURSE CONTENT/SCHEDULE

Tentative schedule of topics, assignments and due dates listed below. Schedule is subject to change. Changes will be announced in class and via e-mail as soon as they are made.

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATE</th>
<th>TOPIC</th>
<th>CHAPTERS</th>
<th>ASSIGNMENTS</th>
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<tbody>
<tr>
<td>1</td>
<td>01-17</td>
<td>Introduction, time standards and short discussion</td>
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<tr>
<td>2</td>
<td>01-22</td>
<td>History of surface weather observation</td>
<td>Fiebrich, 2009</td>
<td>HW 1 Due (1/22)</td>
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<tr>
<td></td>
<td>01-24</td>
<td>Atmospheric pressure</td>
<td>WMO P1: C3</td>
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<tr>
<td>3</td>
<td>01-29</td>
<td>Temperature</td>
<td>WMO P1: C2</td>
<td>HW 2 Due (1/29)</td>
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<td>01-31</td>
<td>Humidity</td>
<td>WMO P1: C4</td>
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<tr>
<td>4</td>
<td>02-05</td>
<td>Surface wind</td>
<td>WMO P1: C5</td>
<td>HW 3 Due (2/5)</td>
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<tr>
<td></td>
<td>02-07</td>
<td>Precipitation</td>
<td>WMO P1: C6</td>
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<tr>
<td>5</td>
<td>02-12</td>
<td>Solar &amp; terrestrial radiation</td>
<td>WMO P1: C7</td>
<td>HW 4 Due (2/12)</td>
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<td></td>
<td>02-14</td>
<td>Clouds</td>
<td>WMO P1: C15</td>
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<td>6</td>
<td>02-19</td>
<td>Surface observation systems</td>
<td>Brock et al., 1995</td>
<td>HW 5 Due (2/19)</td>
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<td></td>
<td>02-21</td>
<td>Surface maps</td>
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<tr>
<td>7</td>
<td>02-26</td>
<td>Principles of radiosondes</td>
<td>WMO P2: C10</td>
<td>HW 6 Due (2/26)</td>
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<td>02-28</td>
<td>Upper air maps</td>
<td>Handout</td>
<td>Midterm 1 cutoff (3/1)</td>
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<td>03-05</td>
<td>Midterm 1 review</td>
<td>Weeks 1-7</td>
<td>HW 7 Due (3/5)</td>
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<td>03-07</td>
<td>Midterm 1</td>
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<td>Midterm 1 (3/7)</td>
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<td>03-12</td>
<td>SPRING BREAK</td>
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<td>03-14</td>
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<td>10</td>
<td>03-19</td>
<td>2nd Half Overview</td>
<td>Aggarwal, 2003</td>
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<td>03-21</td>
<td>Introduction to RS</td>
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<td>11</td>
<td>03-26</td>
<td>Satellite RS II</td>
<td>Handouts</td>
<td>HW 8 Due (3/26)</td>
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<td>03-28</td>
<td>Satellite RS III</td>
<td>Aggarwal, 2003</td>
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<td>04-02</td>
<td>Satellite RS IV</td>
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<td>04-04</td>
<td>NWS Spotter Training</td>
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<td>13</td>
<td>04-09</td>
<td>Satellite Systems: GOES-16</td>
<td>Web links on blackboard</td>
<td>HW 10 Due (4/9)</td>
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<td>04-11</td>
<td>Satellite Systems: TRMM and GPM</td>
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<td>14</td>
<td>04-16</td>
<td>Introduction to weather radar</td>
<td>Web links on blackboard</td>
<td>HW 11 Due (4/16)</td>
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<td>04-18</td>
<td>Weather radar II</td>
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<td>15</td>
<td>04-23</td>
<td>Weather radar III</td>
<td>Web links on blackboard</td>
<td>HW 12 Due (4/23)</td>
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<td>04-25</td>
<td>Observing climate change</td>
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<td>16</td>
<td>04-30</td>
<td>Final Exam Review</td>
<td>Last Day of Class</td>
<td>HW 13 Due (4/30)</td>
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<td>05-02</td>
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<tr>
<td>05-09</td>
<td>Final Exam (1:45 PM)</td>
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<td>Final Exam</td>
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❖ COURSE POLICIES
❖ The university alcohol and drug policies are strictly enforced.
❖ Students are expected to attend all scheduled classes and to participate in class activities.
❖ Group discussions are encouraged. If you choose to work on assignments with a classmate, take care to do your own work as that which is handed in is assumed to be yours.
❖ Late Work and Make-up Exams
Early submission of any assignment is always accepted; however, late assignments will be penalized by a reduction of 5% of the overall score for every day the assignment is overdue. Once the assignment is handed back to the class (within 1 week) submissions will no longer be accepted and the resulting grade for that assignment will be zero.
If you know in advance that you will have an excused absence when an assignment is due, you must turn in that assignment before its due date. You should turn in assignments that were missed because of an unexpected, excused absence as soon as possible. Again, once assignment is returned to the class, submissions will not be accepted and the resulting grade will be zero.
There will be NO make-up exams except in the extremely rare case of an unforeseen emergency or crisis. If you know ahead of time that you have a conflict with the exam schedule, discuss this with me as soon as possible to make arrangements for the exam.
❖ Attendance/Tardiness
Random attendance sheet will be handed out during the semester. The full attendance will earn 10% credit to the final grade.

❖ 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 after the
drop deadline. 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** be submitted in order to make it official. 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:
The College of Science and Engineering Grade Appeals website:
[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**
  Texas A&M-Corpus Christi is committed to providing anyone with a disability an equal
opportunity to access campus facilities, resources and programs. 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/
**If you require specific accommodations, please let me know as soon as possible so
arrangements can be made in a timely manner.

❖ 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.

❖ 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 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 and when necessary. I will announce such changes in a timely
manner during regularly scheduled lecture periods.