

**EPSC 2101 Atmospheric Science – Laboratory  
Spring 2011**

Class Location: LBV Science Center, Rm. 108

Instructor: Dr. Kenneth J. Tobin

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Office Hours: MWF 9:30-10:30 am; T 3:30-5 pm; F 3-4:30 pm

**Description:**

Structure, energy, and motions of the atmosphere; climate; fronts and cyclones; atmospheric stability; clouds and precipitation; severe storms. Includes three hours of laboratory per week. Must be taken concurrently with EPSC 2401.

**Student Learning Objectives:** Upon successful completion of this course, students will be able to:

1. Use critical thinking and the scientific method to examine questions relating to atmospheric science.
2. Collaborate effectively on a research project.
3. Communicate scientific information both verbally and through written reports.
4. Define and discuss fundamental earth science principles.
5. Identify and discuss the characteristics of storm systems.
6. Integrate an understanding of how the atmosphere system controls the earth's weather.
7. Describe and distinguish the development of clouds and precipitation systems.

**Core-Curriculum Learning Outcomes:**

1. Critical Thinking: includes creative thinking, innovation, inquiry and analysis, evaluation, and synthesis of information. (SLOs: 1, 4, 5)
2. Communication Skills: Students will demonstrate their ability to communicate effectively by using written communication. (SLOs: 3, 4, 5)
3. Empirical and Quantitative Skills: includes the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. (SLOs: 4,6)
4. Teamwork: includes the ability to work effectively with others to support a shared goal. (SLOs: 2)

**Textbook:**

Weather Studies Textbook and Investigations Manual 2010-2011 and Summer 2011. Publisher: American Meteorological Society.

**Instruction:**

Laboratory exercises, Internet assignments, lecture, class interactions, quizzes and exams.

**Policies of the College of Arts and Sciences**

**Classroom Behavior**

The College of Arts and Sciences encourages classroom discussion and academic debate as an

essential intellectual activity. It is essential that students learn to express and defend their beliefs, but it is also essential that they learn to listen and respond respectfully to others whose beliefs they may not share. The College will always tolerate diverse, unorthodox, and unpopular points of view, but it will not tolerate condescending or insulting remarks. When students verbally abuse or ridicule and intimidate others whose views they do not agree with, they subvert the free exchange of ideas that should characterize a university classroom. If their actions are deemed by the professor to be disruptive, they will be subject to appropriate disciplinary action, which may include being involuntarily withdrawn from the class.

### **Plagiarism and Cheating**

Plagiarism is the presentation of someone else's work as your own. 1) When you borrow someone else's facts, ideas, or opinions and put them entirely in your own words, you must acknowledge that these thoughts are not your own by immediately citing the source in your paper. Failure to do this is plagiarism. 2) When you also borrow someone else's words (short phrases, clauses, or sentences), you must enclose the copied words in quotation marks as well as citing the source. Failure to do this is plagiarism. 3) When you present someone else's paper or exam (stolen, borrowed, or bought) as your own, you have committed a clearly intentional form of intellectual theft and have put your academic future in jeopardy. This is the worst form of plagiarism.

Here is another explanation from the 2010, sixth edition of the Manual of The American Psychological Association (APA):

Plagiarism: Researchers do not claim the words and ideas of another as their own; they give credit where credit is due. Quotations marks should be used to indicate the exact words of another. Each time you paraphrase another author (i.e., summarize a passage or rearrange the order of a sentence and change some of the words), you need to credit the source in the text.

The key element of this principle is that authors do not present the work of another as if it were their own words. This can extend to ideas as well as written words. If authors model a study after one done by someone else, the originating author should be given credit. If the rationale for a study was suggested in the Discussion section of someone else's article, the person should be given credit. Given the free exchange of ideas, which is very important for the health of intellectual discourse, authors may not know where an idea for a study originated. If authors do know, however, they should acknowledge the source; this includes personal communications. (pp. 15-16)

Consult the Writing Center or a recommended guide to documentation and research such as the Manual of the APA or the MLA Handbook for Writers of Research Papers for guidance on proper documentation. If you still have doubts concerning proper documentation, seek advice from your instructor prior to submitting a final draft.

Penalties for Plagiarism: Should a faculty member discover that a student has committed plagiarism, the student will receive a grade of 'F' in that course and the matter will be referred to the Honor Council for possible disciplinary action. The faculty member, however, has the right

to give freshmen and sophomore students a “zero” for the assignment and to allow them to revise the assignment up to a grade of “F” (50%) if they believe that the student plagiarized out of ignorance or carelessness and not out of an attempt to deceive in order to earn an unmerited grade. This option is not available to juniors, seniors, or graduate students, who cannot reasonably claim ignorance of documentation rules as an excuse.

Penalties for Cheating: Should a faculty member discover a student cheating on an exam or quiz or other class project, the student will receive a “zero” for the assignment and not be allowed to make the assignment up. The incident must be reported to the chair of the department and to the Honor Council. If the cheating is extensive, however, or if the assignment constitutes a major grade for the course (e.g., a final exam), or if the student has cheated in the past, the student should receive an “F” in the course, and the matter should be referred to the Honor Council. Under no circumstances should a student who deserves an “F” in the course be allowed to withdraw from the course with a “W.”

A new grade to denote academic dishonesty is now available, a “M” for “Academic Misconduct.” It has the same effect as an “F” but will indicate on the transcript that the failure was due to academic misconduct.

Student Right of Appeal: Faculty will notify students immediately via the student’s TAMIU e-mail account that they have submitted plagiarized work. Students have the right to appeal a faculty member’s charge of academic dishonesty by notifying the TAMIU Honor Council of their intent to appeal as long as the notification of appeal comes within 3 business days of the faculty member’s e-mail message to the student. The Student Handbook provides details.

### **UConnect, TAMIU E-Mail, and Dusty Alert**

Personal Announcements sent to students through TAMIU’s UConnect Portal and TAMIU E-mail are the official means of communicating course and university business with students and faculty – not the U.S. Mail and not other e-mail addresses. Students and faculty must check UConnect and their TAMIU e-mail accounts regularly, if not daily. Not having seen an important TAMIU e-mail or UConnect message from a faculty member, chair, or dean is not accepted as an excuse for failure to take important action. Students, faculty, and staff are encouraged to sign-up for Dusty Alert (see [www.tamtu.edu](http://www.tamtu.edu)). Dusty Alert is an instant cell phone text-messaging system allowing the university to communicate immediately with you if there is an on-campus emergency, something of immediate danger to you, or a campus closing.

### **Copyright Restrictions**

The Copyright Act of 1976 grants to copyright owners the exclusive right to reproduce their works and distribute copies of their work. Works that receive copyright protection include published works such as a textbook. Copying a textbook without permission from the owner of the copyright may constitute copyright infringement. Civil and criminal penalties may be assessed for copyright infringement. Civil penalties include damages up to \$100,000; criminal penalties include a fine up to \$250,000 and imprisonment.

### **Students with Disabilities**

Texas A&M International University seeks to provide reasonable accommodations for all qualified persons with disabilities. This University will adhere to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal education opportunity. It is the student's responsibility to register with the Director of Student Counseling and to contact the faculty member in a timely fashion to arrange for suitable accommodations.

### **Incompletes**

Students who are unable to complete a course should withdraw from the course before the final date for withdrawal and receive a “W.” To qualify for an “incomplete” and thus have the opportunity to complete the course at a later date, a student must meet the following criteria:

1. The student must have completed 90% of the course work assigned before the final date for withdrawing from a course with a “W”, and the student must be passing the course;
2. The student cannot complete the course because an accident, an illness, or a traumatic personal or family event occurred after the final date for withdrawal from a course;
3. The student must sign an “Incomplete Grade Contract” and secure signatures of approval from the professor and the college dean.
4. The student must agree to complete the missing course work before the end of the next long semester; failure to meet this deadline will cause the “I” to automatically be converted to a “F”; extensions to this deadline may be granted by the dean of the college.

This is the general policy regarding the circumstances under which an “incomplete” may be granted, but each college may have variations of this policy to address special circumstances in specific programs.

### **Student Responsibility for Dropping a Course**

It is the responsibility of the STUDENT to drop the course before the final date for withdrawal from a course. Faculty members, in fact, may not drop a student from a course.

### **Independent Study Course**

Independent Study (IS) courses are offered only under exceptional circumstances. Required courses intended to build academic skills may not be taken as IS (e.g., clinical supervision and internships). No student will take more than one IS course per semester. Moreover, IS courses are limited to seniors and graduate students. Summer IS course must continue through both summer sessions.

### **Grade Changes & Appeals**

Faculty are authorized to change final grades only when they have committed a computational error, and they must receive the approval of their department chairs and the dean to change the grade. As part of that approval, they must attach a detailed explanation of the reason for the mistake. Only in rare cases would another reason be entertained as legitimate for a grade change. A student who is unhappy with his or her grade on an assignment must discuss the situation with the faculty member teaching the course. If students believe that they have been graded unfairly, they have the right to appeal the grade using a grade appeal process in the Student Handbook and the Faculty Handbook.

## Final Examination

Final Examination must be comprehensive and must contain a written component. The written component should comprise 20% of the final exam grade. Exceptions to this policy must receive the approval of the department chair and the dean at the beginning of the semester.

<u>Date:</u>	<u>Topics</u>	<u>Investigation</u>
Mon Jan 24	Overview of Web Resources	
	Geography Review	TAMIU #1
Mon Jan 31	Air Pressure and Wind	1A
	Surface Air Pressure Patterns	1B
Mon Feb 7	Surface Weather Maps	2A
	The Atmosphere in the Vertical	2B
Mon Feb 14	Weather Satellite Imagery	3A
	Sunlight Throughout the Year	3B
Mon Feb 21	<b>Quiz #1</b>	
	Temperature and Air Mass Advection	4A
Mon Feb 28	Air Pressure Change	5A
	Local Surface Weather Observations	TAMIU #2
Mon Mar 7	Clouds, Temperature, and Air Pressure	6A
	Rising and Sinking Air	6B
Mon Mar 14	SPRING BREAK – NO LAB	
Mon Mar 21	Precipitation Patterns	7A
	Doppler Radar	7B
Mon Mar 28	<b>Quiz #2</b>	
	Surface Weather Maps and Forces	8A
Mon Apr 4	Westerlies and the Jet Stream	9A
	<b>Balloon Launch Exercise</b>	
Mon Apr 11	The Mid-Latitude Cyclone	10A
	Cyclone Track Weather	10B
Mon Apr 18	<b>Quiz #3</b>	
Mon Apr 25	Thunderstorms	11A
	Tornados	11B
Mon May 2	<b>Lab Final</b>	

### Student Evaluation - Lab: (Lab Grade is 33% of total course grade)

Laboratory Investigations (20 Investigations; 2% each)	40%
Balloon Launch Exercise - <b>On Apr 4</b>	4%
Quizzes (12% each)	36%
Lab Final	20%

Quiz 1 will be based on (Investigations - TAMIU #1, 1A, 1B)

Quiz 2 will be based on (Investigations - 2A, 2B, 3A, 3B, 4A, 5A, TAMIU#2)

Quiz 3 will be based on (Investigations - 6A, 6B, 7A, 7B, 8A)

All late investigations will be docked 10 pts for each day late. All investigations are due at the beginning of the following lab period.