

# San Jose State University

## Aviation 110 (AVIA 110), Aviation Meteorology

### Spring 2018

#### Course and Contact Information:

Instructor: Bob Van Wagenen  
Office Location: Industrial Studies 216 (IS 216 - or other location)  
Telephone: (831) 251-4810 (mobile), (831) 476-1915 (phone/fax)  
Email: ecoscan@aol.com  
Office Hours: Tuesdays 4:00 to 4:30 PM or by appointment  
Web Page: [http://www.met.sjsu.edu/~osh/Metr\\_110](http://www.met.sjsu.edu/~osh/Metr_110) (previous instructor)  
Lectures: Tuesdays & Thursdays 4:30pm to 5:20pm - Industrial Studies 216 (IS 216)  
Lab: Tuesdays and Thursdays 5:30pm to 6:45pm – Industrial Studies 216 (IS 216)  
Final Time/Date: Industrial Studies 216, Thursday, May 17th at 2:45pm to 5pm

#### Required Text:

**Aviation Weather (4th Edition) by Peter F. Lester (Jeppesen):** May be new, used or rented. (Use the cheapest method to obtain the text, but please use expedited shipping so it is available for class work, homework, and studying as soon as possible.)

#### Supplemental Texts:

**Aviation Weather Services Handbook** AC00-45H By the FAA and NWS @  
[http://www.faa.gov/regulations\\_policies/advisory\\_circulars/index.cfm/go/document.information/documentID/215166](http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/215166)

**Pilot's Handbook of Aeronautical Knowledge** FAA-H-8083-25B by FAA@  
[http://www.faa.gov/regulations\\_policies/handbooks\\_manuals/aviation/pilot\\_handbook/](http://www.faa.gov/regulations_policies/handbooks_manuals/aviation/pilot_handbook/)

**Recommended Equipment:** Electronic Calculator, Flight Computer (mechanical or electronic).

#### Course Description:

AVIA 110 is an introduction to meteorology with emphasis on aviation applications.

#### Course Objectives:

- 1.) Students will be able to describe the causes of weather. They will be able to describe the interaction of the Sun, the Earth's water, the Earth's land and the Earth's atmosphere to produce weather phenomena.
- 2.) Students will be able to describe the characteristics of common weather phenomena, their formation and their impact on aviation.
- 3.) Students will be able to describe the units and instruments that are used to specify and measure the characteristics of weather.
- 4.) Students will be able to use the various weather services to determine current and forecasted weather along a flight path.
- 5.) Students will be able to describe local climates of specific locations and their impact on aviation.

## **Methods for Accomplishing These Objectives:**

The students will accomplish the above objectives by studying text assignments, listening to and discussing the topics they have read in their text and other topics brought up by the teacher and other students. The students will reinforce this learning through both in class and homework assignments. The each student will prepare a flight plan focusing on in flight weather for a course assigned by the teacher.

*Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of forty-five hours over the length of the course (**normally 3 hours per unit per week with 1 of the hours used for lecture**) for instruction or preparation/studying or course related activities including but not limited to internships, labs, clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.*

## **Students Grade Determination:**

The students grade will be determined as follows:

- |                                                             |     |
|-------------------------------------------------------------|-----|
| 1) Attendance (attendance taken each class)                 | 10% |
| 2) Take Home Quizzes ( <b>due following class</b> ):        | 20% |
| 3) Lab Assignments/Flight Plans ( <b>due as assigned</b> ): | 20% |
| 4) Take Home Midterm/Final                                  | 10% |
| 5) Mid-Term Examination (chapters 1-10):                    | 15% |
| 6) Final Examination (Cumulative - Chapters 1-17):          | 25% |

## **Academic Integrity:**

Your own commitment to learning, as evidenced by your enrollment at San José State University, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty are required to report all infractions to the Office of Judicial Affairs. The policy on academic integrity can be found at: <http://www2.sjsu.edu/senate/S04-12.pdf>

## **Disabilities and Special Needs:**

If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities register with DRC to establish a record of their disability. See <http://www2.sjsu.edu/senate/s97-10.htm>

## **Grading Method**

Grades will be based on the percentage of total points earned in the class:

A = 93% - 100%,	A- = 90% - 92%	
B+ = 87% - 89%	B = 83% - 86%	B- = 80% - 82%
C+ = 77% - 79%	C = 73% - 76%	C- = 70% - 72%
D+ = 67% - 69%	D = 60% - 67%	F = 0% - 59%

## **LATE WORK and TESTS:**

Late assignments will be reduced in grade: 1 class late-maximum grade of 85%, 2 classes late - 75%. >3 - 65% Missed Tests may be made up within a week if prior excuse for the absence is obtained. Unexcused test absences may be made up within a week of the test date with a 10% penalty. Unexcused test absences made up after a week of the test date may have up to a 20% penalty. Test may not be made up after 2 weeks of the original date.

## SJSU – AVIA 110 - Lecture Schedule - Spring 2018

LEC. NUM.	DATE	TEXT Chp.,Sec.	SUBJECTS	ASSIGNMENTS DUE DATES
<b>Part 1 - Aviation Weather Basics</b>				
1	Thurs., Jan. 25	1 A-C	Intros, Class Description, Aviation Licenses/Ratings/Weather	
2	Tues., Jan. 30	1 A-C	Atmospheric Composition, Properties and Structure	
3	Thurs., Feb. 1	2 A-B	Atmospheric Energy Transfer, and Temperature	
4	Tues., Feb. 6	3 A-D	Atmospheric Pressure, Altitude and Density	
5	Thurs., Feb. 8	3 A-D	Atmospheric Pressure, Altitude and Density	T/H Quiz #1 ASSIGN
6	Tues., Feb. 13	4 A-F	Wind Terminology, Causes, Coriolis Effects and Friction	T/H Quiz #1 DUE
7	Thurs., Feb. 15	4 A-F	Wind Terminology, Causes, Coriolis Effects and Friction	
8	Tues., Feb. 20	5 A-C	Vertical Motion, Stability and Effects	
9	Thurs., Feb. 22	6 A-C	Atmospheric Moisture, Clouds and Precipitation	T/H Quiz #2 ASSIGN
10	Tues., Feb. 27	6 A-C	Atmospheric Moisture, Clouds and Precipitation	T/H Quiz #2 DUE
<b>Part 2 - Atmospheric Circulation Systems</b>				
11	Thurs., Mar. 1	7 A-C	Atmospheric Circulation, Global Scale, Climatology	
12	Tues., Mar. 6	8 A-B	Airmasses, Fronts and Cyclones	
13	Thurs., Mar. 8	8 A-B	Airmasses, Fronts and Cyclones	T/H Quiz #3 ASSIGN
14	Tues., Mar. 13	9 A-E	Thunderstorms, Convection, Structures, Environment, RADAR	T/H Quiz #3 DUE
15	Thurs., Mar. 15	10 A-B	Winds-Thermally Driven, Mountain Waves and Downslope	T/H Midterm ASSIGN
16	Tues., Mar. 20		Take Home Midterm Review	T/H Midterm DUE
17	<b>Thurs., Mar. 22</b>	<b>Ch. 1-10</b>	<b>MIDTERM – Chapters 1-10</b>	
	Mar. 26 - 30		<b>SPRING BREAK</b>	
<b>Part 3 - Aviation Weather Hazards</b>				
18	Tues., Apr. 3	11 A-B	Wind Sheer Defined, Causes	
19	Thurs., Apr. 5	12 A-B	Turbulence Defined, Causes, Types	
20	Tues., Apr. 10	13 A-E	Icing Hazards, Types, Patterns, Reporting, and Encounters	
21	Thurs., Apr. 12	13 A-E	Icing Hazards, Types, Patterns, Reporting, and Encounters	T/H Quiz #4 ASSIGN
22	Tues., Apr. 17	14 A-C	Instrument Conditions-Background, Causes and Climatology	T/H Quiz #4 DUE
23	Thurs., Apr. 19	15 A-E	Additional Weather Hazards	
<b>Part 4 - Applying Weather Knowledge</b>				
24	Tues., Apr. 24	16 A-C	Aviation Weather Resources-Observations and Forecasts	
25	Thurs., Apr. 26	16 A-C	Aviation Weather Resources-Observations and Forecasts	
26	Tues., May 1	17 A-B	Pre-Flight Weather Briefing and Evaluation	T/H Final ASSIGN
27	Thurs., May 3	17 A-B	Pre-Flight Weather Briefing and Evaluation	
28	Tues., May 8		Take Home Final Review – Part 1	T/H Final DUE
29	Thurs., May 10		Take Home Final Review – Part 2	
30	<b>Thurs., May 17</b>	<b>Ch. 1-17</b>	<b>FINAL - Comprehensive IS 216 – 2:45 to 5:00pm</b>	

**Deadlines:**

**Monday, February 5th**  
**Monday, February 12th**  
**Wednesday, April 25th**

**Last Day to DROP the Class without Transcript Record**  
**Last Day to ADD the Class/Register Late, Last day for**  
**Last Day to Withdraw from Class, After this date either a**

**No “W” on record**  
**C/NC Grade**  
**Grade or “Inc.”**

