

SAN JOSE STATE UNIVERSITY
College of Engineering
Department of Aviation & Technology
Aviation 128 – Aviation Safety and Security
Section 01 - Spring 2015

Instructor: Daniel L. Neal

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Office Hours: Mondays and Wednesdays 2pm to 3pm and by appointment

Class Days/Time: Class (Section 1) Mon/Wed 1200-1315

Classroom: IS 216

Prerequisites: Avia 2

COURSE OUTLINE

Course Description:

Safety in aviation design, operation, and maintenance; hazardous materials; airport environment issues; security regulations for aviation. Prerequisite: AVIA 2.

This course is to present an overview of many issues that influence and affect safety in aviation. Topics that will be discussed in this course include: aircraft safety in design, along with operations, and maintenance safety. The subject categories include airworthiness, crash-worthiness, reliability and maintainability quality control and assurance, individual work ethics and legal responsibilities. Aircraft accident reports will be used as examples, along studies of accidents and investigations.

Course Objectives:

1. Comprehend aviation safety and security regulatory framework, structure and regulatory process
2. Discuss structure, functions and workings of the National Transportation Safety Board
3. Understand the reporting and recording of safety data including accident reports
4. Review safety statistics and accident causation models

5. Understand cognitive workload measurement as a function of human factors in aviation.
6. Review the air traffic control system (ATC).
7. Discuss specific safety issues such as runway incursions, terminal, hangars, shops, ramp, fuel, rescue and deicing.
8. Understand important post 911 aviation security measures.
9. Discuss airline carrier prevention and control safety programs.
10. Become familiar with location of aviation data references and their usefulness.

Canvas:

Course materials such as the syllabus, major assignment handouts and lecture notes are available on the Canvas site for the Avia 128 course. Registered students will be added to the Avia 128 Canvas shell.

Required Text:

Wells, Commercial Aviation Safety 5th edition (2011)

Other Reading:

FAR/AIM Federal Aviation Regulations (2014 revision) – this publication is available at no cost online at the FAA website here: <http://www.ecfr.gov/> (use this truncated link and select Title 14 of the CFR for the Federal Aviation Regulations)

Evaluation Criteria & Weights:

Mid-Term Exams (2)	40%
Final Comprehensive Exam	25%
Homework, quizzes, and lab quizzes	10%
Research Project/ Presentation	25%
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Total	100%

A = 100% to 90%

B = 89% to 80%

C = 79% to 70%

D = 69% to 60%

F = < 59%

Classroom and Protocol:

Do not use cell phones during class. It is acceptable to use your tablet or laptop during class to take notes or look up information pertinent to the lecture. It is not acceptable to watch unrelated videos or participate in online gaming during class. Students are expected to attend class regularly, arrive on time and be prepared to participate.

Dropping and Adding:

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester's Catalog Policies section at <http://info.sjsu.edu/static/catalog/policies.html>. Add/drop deadlines are as follows: Tuesday February 3rd – last day to drop without a “W” grade for Spring 2015. The Late Drop Policy is available at <http://www.sjsu.edu/aars/policies/latedrops/policy/>. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the Advising Hub at <http://www.sjsu.edu/advising/>.

Academic Integrity:

Your commitment as a student to learning is evidenced by your enrollment at San Jose State University. The University's Academic Integrity policy, located at <http://www.sjsu.edu/senate/S07-2.htm>, requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at http://www.sa.sjsu.edu/judicial_affairs/index.html.

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU's Academic Policy S07-2 requires approval of instructors.

Campus Policy in Compliance with the American Disabilities Act:

If you need course adaptations or accommodations because of a disability, or if you need to make 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 requesting accommodations must register with the Disability Resource Center (DRC) at <http://www.drc.sjsu.edu/> to establish a record of their disability.

Tentative Lecture/Reading Schedule:

Meeting #	Instr. Day	Date	Lecture Topic(s)	Reading Assignment
1	Mon	2-Feb	Intro to accident analysis	
2	Wed	4-Feb	Intro to cognitive workload measurement, FAA structure	
3	Mon	9-Feb	Intro to ADM, FAA Origins, intro to hazard assessment, CFR Title 14	Chapter 1
4	Wed	11-Feb	Multiple Resource Theory (MRT)	
5	Mon	16-Feb	NTSB, ICAO, Regulatory Framework, MRT measurements	
6	Wed	18-Feb	NTSB - accident process and reporting	Chapter 3
7	Mon	23-Feb	ICAO, OSHA, EPA	Chapter 2
8	Wed	25-Feb	Safety Statistics	Chapter 5
9	Mon	2-Mar	Accident causation models (intro) Review for Midterm #1	Chapter 6
10	Wed	4-Mar	Midterm #1	
11	Mon	9-Mar	Accident causation models (finish)	
12	Wed	11-Mar	Human Factors in Aviation Safety	Chapter 7
13	Mon	16-Mar	Human Factors in Aviation Safety	
14	Wed	18-Mar	Aeronautical Decision Making (ADM)	
		23-Mar	Spring Break 3/23-3/27	
		25-Mar	Spring Break 3/23-3/27	
15	Mon	30-Mar	Aeronautical Decision Making (ADM)	
16	Wed	1-Apr	Aviation maintenance topics, Research Project Assignments	
17	Mon	6-Apr	Aviation maintenance topics	
18	Wed	8-Apr	Air traffic safety systems	Chapter 9
19	Mon	13-Apr	Air traffic safety systems Review for Midterm #2	
20	Wed	15-Apr	Midterm #2	
21	Mon	20-Apr	Airport Safety	Chapter 10
22	Wed	22-Apr	Research Project Presentations	
23	Mon	27-Apr	Aviation security	
24	Wed	29-Apr	Research Project Presentations	
25	Mon	4-May	Safety Management Systems (SMS)	Chapter 13
26	Wed	6-May	Research Project Presentations	
27	Mon	11-May	Airline Safety + SMS	Chapter 12
28	Wed	13-May	Last day of instruction - Final Exam Review	

Final Exam: Thurs May 21 from 0945-1200