

San José State University
College of Engineering
Department of Aviation and Technology
Avia 194, Pilot Avionics and General Aviation Systems
Section 01 (Lecture) Spring 2017

Instructor:	Daniel L. Neal
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Office Hours:	At RHV 106 Prior to, and after class, and Reference the Flash Appointment System for additional hours at Main Campus
Class Days/Times:	Section 1 (lecture) Wednesdays 3pm to 5:45pm
Classroom:	Lectures are held at RHV-120
Prerequisites:	Avia 42, Avia 43

Canvas

Copies of the course materials such as the syllabus, major assignment handouts, etc. may be found on SJSU's Canvas system.

Course Description

Students will learn operational and analytical aspects of key aircraft systems such as flight control, electrical, and hydraulic systems, oxygen and pressurization systems, landing gear, instrumentation, and fire detection/protection systems. Additional topics will cover modern avionics such as Global Positioning Systems (GPS), Automatic Dependent Surveillance – Broadcast (ADS-B) and Flight Management Systems (FMS).

Course Goals and Student Learning Objectives

Upon completion of the course, students will be able to:

- Understand the installation and function of avionics in modern general aviation (GA) and turboprop/turbofan aircraft. Avionics include navigation, flight management systems (FMS), global positioning systems (GPS) and automatic dependent surveillance – broadcast(ADS-B)
- Understand the function of hydraulic and electro-mechanical on-board systems as they pertain to flight control and landing gear systems
- Understand fuel systems and the function of fuel systems components
- Understand environmental systems on GA and light turbine aircraft
- Be knowledgeable with the regulations governing aircraft systems and understand how to operate an aircraft within those regulations
- Demonstrate the ability to communicate effectively

Required Texts/Readings

Avionics Training: Systems, Installation and Troubleshooting By Len Buckwalter

In addition, course materials are posted sequentially on the Canvas shell entitled SP17: AVIA-194 Sec 01 – Pilot Avionics and General Aviation Systems

Other Readings

1. FAR/AIM Federal Aviation Regulations (2017 revision) (this publication is available at no cost online at the FAA website in pdf format)
2. Airframe & Powerplant Mechanics Airframe Handbook AC 65-15A. FAA (this publication is available at no cost online at the FAA website in pdf format)
3. Airframe & Powerplant Mechanics General Handbook AC 65-9A. FAA (this publication is also available at no cost online at the FAA website in pdf format)

Classroom Protocol

Students are expected to refrain from cell phone use and text messaging while in class and lab.

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](http://info.sjsu.edu/static/catalog/policies.html) section at <http://info.sjsu.edu/static/catalog/policies.html>. Add/drop deadlines can be found on the current academic calendar which is located at the following web page:

<http://www.sjsu.edu/provost/docs/2016-2017%20AY%20Calendar.pdf>

The [Late Drop Policy](http://www.sjsu.edu/aars/policies/latedrops/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](http://www.sjsu.edu/advising/) at <http://www.sjsu.edu/advising/>.

Assignments and Grading Policy

Quizzes will typically be at the beginning of class; the instructor reserves the right to give quizzes without being announced.

Evaluation

	<u>Points</u>	<u>Percentage</u>
Quizzes & Problem sets	120	30%
Term Paper/Presentation	80	20%
2 Midterms exams	100	25%
Final exam	100	25%
TOTAL	400	100%

The first two midterm exams will cover the first and second thirds of the semester respectively and the final exam will be comprehensive.

Average	Grade
93-100	A
90-93	A-
87-90	B+
83-87	B
80-83	B-
77-80	C+
73-77	C
70-73	C-

60-70	D
below 60	F

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>

Consent for Recording of Class and Public Sharing of Instructor Material

[University Policy S12-7](#), requires students to obtain instructor's permission to record the course.

- Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor's permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.
- Permission to record course content is to be granted on a class-by-class basis.
- Should there be a guest speaker, permission to record content shall be requested from the guests as well.
- Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.

Key dates

2/7/17 – last day to drop courses without entry onto the student's permanent record.

2/14/17– last day to add a course for the Spring 2017 term.

5/24/17 - Final exam for this class - Wednesday, May 24 at 12:15pm

Avia 194 – Pilot Avionics and General Aviation Systems - Course Schedule

Meeting #	Date	Topic	Notes
1	2/1/2017	Introduction, syllabus review, ADS-B topics	
2	2/8/2017	ADS-B project	
3	2/15/2017	Fluid Power Systems	Project Proposals Due
4	2/22/2017	Fluid Power Cont'd	Project Assignments
5	3/1/2017	Fluid Power Cont'd	
6	3/8/2017	Midterm #1	
7	3/15/2017	Electro Mechanical Systems	
8	3/22/2017	Continue Electrical System Topics	Project Status Reports
Spring Break March 27-31			
9	3/29/2017	Continue Electrical System Topics	
10	4/5/2017	Fuel Systems & Fuel System Management	
11	4/12/2017	Midterm #2	
12	4/19/2017	Fuel Systems & Fuel System Management	
13	4/26/2017	GPS Systems	Project Presentations
14	5/3/2017	Flight Management Systems	Project Presentations
15	5/10/2017	Flight Management Systems Final Exam Review	Project Presentations
Last day of instruction - Tuesday May 16			
Final exam for this class - Wednesday, May 24 at 12:15pm			