San José State University
Department of Aviation and Technology
AVIATION 62 -- Instrument Flight Techniques
Fall Semester – 2016

Course and Contact Information:

Instructor:	Craig Hofstetter
Office Location:	IS-133 (Flight Simulation Lab)
Telephone:	(408) 718-1339
Email:	craig.hofstetter@sjsu.edu
Office Hours:	TU & TH (1400-1500; Other times by appointment)
Class Days/Time:	AVIA 62-01 (50277) (Lecture): TU 1500-1645 AVIA 62-11 (50278) (Laboratory): TH 1500-1745
Classroom:	IS-133 (both Lecture and Lab)
Prerequisites:	AVIA 2

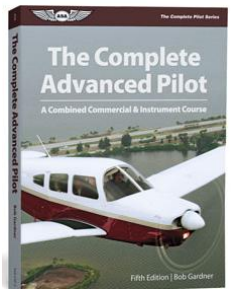
Course Description:
Flight procedures; radio navigation; air traffic control; use of instrument charts; flight simulator exercises on instrument flight maneuvers, departure and approach procedures.

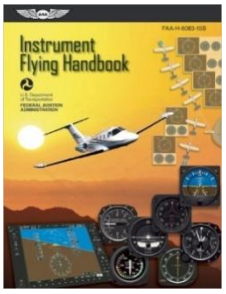
Course Learning Outcomes (CLO):
Upon completion of this course the student will be familiar with current operational procedures used in the instrument flight environment.

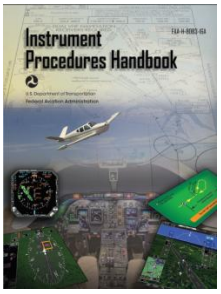
Lecture and Lab:
The entire class meets Tuesday for lecture and Thursday for lab. Lab sessions will be devoted primarily to completing simulator flying assignments ("missions"), although some sessions will be utilized for additional lecture periods.

Simulator Lab:
AVIA 62 is very much a "hands-on" course. SJSU's simulator laboratory contains a number of simulators with varying levels of performance and sophistication. Details surrounding mission completion, simulator operations and after-class scheduling options will be addressed during the first laboratory period.

Required Textbooks:







The Complete Advanced Pilot: A Combined Commercial & Instrument Course
Fifth Edition
By: Bob Gardner; ISBN: 978-1-61954-085-9
Price: ~ $22 (Amazon)
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Instrument Flying Handbook - 2012
U.S. Department of Transportation (FAA); FAA-H-8083-15B
Price (download): Free @ FAA.gov
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Instrument Procedures Handbook - 2015
U.S. Department of Transportation (FAA); FAA-H-8083-16A
Price (download): Free @ FAA.gov

Additional Recommended Readings: (All of these FAA texts are available online and are also found in course CANVAS "Files"):

- Aeronautical Information Manual (2016)
- Advanced Avionics Handbook (2009)
- Aeronautical Chart Users Guide. (2013)
- Airplane Flying Handbook (2004)
- Aviation Weather Services (2014)
- Flight Navigator Handbook (2011)
- Pilots Handbook of Aeronautical Knowledge (2016)

Course Requirements and Assignments: See "Course Progression Schedule"

Grading:

Overall Course Grade: Note: a grade of C- or better is required to pass Aviation classes required for the major.

Percentage	Grade
90-100	A
80-89	B
70-79	C
60-69	D

Grading Breakdown: Grading percentage breakdown is shown in the table below, and …

GRADING	
Exam #1 (Weeks 1-4)	15%
Exam #2 (Weeks 5-9)	15%
Exam #3 (Weeks 10-13)	15%
Final Exam (Comprehensive)	30%
Lab Missions	15%
Lab Checkride	10%
	100%
Extra Credit (1%/unit):	5% Maximum

… is based on the following:

- **Three mid-course Examinations.** Covering the weekly study blocks as shown above.
- **Final Examination.** An FAA-style multiple choice, comprehensive exam (tentatively planned utilizing CANVAS). Students scoring 80% or higher will receive certification of completing the ground training required to take the actual FAA Instrument Knowledge Examination.
- **Seven Laboratory Missions**. Simulator-based profiles covering different aspects of instrument flying
- **Laboratory Checkride.** Profile-based simulator evaluation based on the laboratory missions.
- **Extra Credit:** Students can earn extra credit by completing one or more of the following Aircraft Owners and Pilots Association's (AOPA) Air Safety Foundation (ASF) online Safety Courses. These courses provide additional information on critical aspects of instrument flying, and also enable student's to assess their level of understanding. At Final Exam time, provide me with a copy of your ASF Course Completion Register *(transcript)*, which AOPA maintains under your name and shows the dates of completion of each course, as evidence of timely completion of these courses. Use your pilot certificate number, or SJSU student number to sign-in for the courses, which can be found at: www.aopa.org/Education/Online-Courses

  - *Single-Pilot IFR*
  - *Do The Right Thing: Decision Making for Pilots*
  - *Essential Aerodynamics: Stalls, Spins, and Safety*
  - *GPS for IFR Operations*
  - *IFR Chart Challenge: VOR Approach*
  - *IFR Chart Challenge: RNAV Approach*
  - *IFR Chart Challenge: ILS Approach*
  - *IFR Insights: Charts*
  - *Know Before You Go: Navigating Today's Airspace*
  - *IFR Insights: Regulations*
  - *A Pilot's Guide to Flight Services*

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 at http://www.sjsu.edu/gup/syllabusinfo/"

AVIATION 62 (Fall 2016)

COURSE PROGRESSION SCHEDULE

(LECTURE / READING / LAB)

Aug 15 Revision

		CLASSROOM	LABORATORY				
Week #	Dates	LECTURE	LECTURE	LAB	PREPARATION READINGS		
					Comp Advanced Pilot	Inst Proceed Handbook	Inst Flying Handbook
0	Aug 25 (Th)		Class Introduction + Lab Orientation				
1	Aug 29 - Sep 2	Flight Instruments	Flight Instruments (cont'd) + Attitude Flying (analog)		FI: CH 1 (1-17) AF: CH 2 (5-18)		FI: CH 5 (1-24; 36-38) AF: CH 6 (1-14); CH 7 (1-
2	Sep 5 - Sep 9	Attitude Flying (analog) (cont'd)	Brief Lab #1	#1 (Due WK 5)			
3	Sep 12 - Sep 16	Attitude Flying (EFD) + Airspace	Brief Lab #2	#2 (Due Wk 6)	CH 12 (7,8)		CH 1 (2,3); CH 6 (16-28)
4	Sep 19 - Sep 23	Navigation Systems + Enroute System	Nav Instruments + Intercept Techniques		CH 4 (1-15); CH 8 (1-14)	CH 2 (1-52)	CH 1 (4-11); CH 9 (1-19)
5	Sep 26 - Sep 30	IFR Flight Planning Basics + Departures	Airports + Holding		CH 7 (1-20); CH 8 (17-24); CH 10 (45-47)	CH 1 (1-44); + AIM (CH 2)	CH 10 (1-7; 10-15)
6	Oct 3 - Oct 7	Exam #1	Brief Lab #3	#3 (Due Wk 9)			CH 3 (1-10)
7	Oct 10 - Oct 14	Approach Plate Interpretation + Human Factors	Brief Lab #4	#4 (Due Wk 10)	CH 6 (9-21)		CH 1 (12-32)
8	Oct 17 - Oct 21	Arrivals + ILS Approaches + Missed Approaches	Brief Lab #5	#5 (Due Wk 11)	CH 10 (12-30)	CH 3 (1-20); CH 4 (1-20; 36-56)	CH 10 (8-10; 20-22)
9	Oct 24 - Oct 28	Procedure Turns + Non-Precision Approaches	Brief Lab #6	#6 (Due Wk 12)	CH 10 (1-12)	CH 4 (23-88)	CH 10 (15-18)
10	Oct 31 - Nov 4	Exam #2	RNAV (GPS) Approaches + Aerodynamics		CH 2 (18-24)		CH 4 (1-17)
11	Nov 7 - Nov 11	Weather	Brief Lab #7	#7 (Due Wk 14)	CH 5 (1-49)	CH 4 (2-8)	CH 10 (22-25)
12	Nov 14 - Nov 18	FARs + Miscellaneous Approaches			CH 8 (15-17); CH 12 (1-6); CH 10 (38-43)		
Thanksgiving Week (Nov 21-25) No Lecture or Lab							
13	Nov 28 - Dec 2	Exam #3		Lab Checkride			
14	Dec 5 - Dec 9	IFR Emergencies + Review		Lab Checkride	CH 11 (1-12)	A (1-6)	
FINAL	Tu Dec 20 @ 1445	FAA-style, multiple choice, comprehensive exam (planned utilizing CANVAS)					

LAB EMPHASIS	
1	Basic Airwork (pitch/bank/power settings)
2	Advanced Airwork #1 (+ timed turns; partial panel)
3	Advanced Airwork #2 (+ intercepts; airway work)
4	SIDs + Holding
5	STARS + ILS Approach + Missed Approach
6	Non-Precision Approaches
7	RNAV (GPS) Approaches (+ addl ILS Approaches)
Checkride	Vectors to either VOR, ILS or RNAV (GPS) Approach

Note: This course progression schedule is subject to change with fair notice. The most current version of this schedule can be found in CANVAS under the course "Files" tab.