



## SJSU Aviation – Professional Flight Degree Option

### Background:

The Aviation and Technology Department at SJSU provides a Bachelor of Science degree in Aviation. Students can choose one of four degree options:

- Aviation Management
- Aviation Maintenance Management
- Aviation Operations
- Professional Flight

The Professional Flight option offers university credits for earning FAA pilot ratings while attending the university. SJSU has affiliated with two FAA approved flight schools operating at Reid Hillview Airport in San Jose California.

### Flight Training Details:

Each of the affiliated flight schools is FAA approved under the Federal Aviation Regulations (FAR) part 141. Students in the program are required to select one of the flight schools and earn each of three FAA pilot ratings. The costs of flight training are not included in the tuition at SJSU. Each flight student is responsible for managing the training costs with the selected school.

The ratings included in the program are:

- The Private Pilot Certificate
- The Instrument Rating
- The Commercial Pilot Certificate

### Affiliates:

There are currently two affiliates. There are plans in place to add two additional affiliates at Reid Hillview and to affiliate with a helicopter school in Watsonville California.

The current affiliates are:

**Trade Winds Aviation** (<http://www.tradewindsaviation.com/>)



Trade Winds is located at 2505 Cunningham Ave, San Jose, CA 95148. Trade Winds is a Cessna dealership and conducts primary and instrument training in Cessna 172 aircraft. Included in their fleet are two aircraft equipped with the Garmin G1000 cockpit.



Squadron 2 is located at 2655 Robert Fowler Way, San Jose, CA 95148. Squadron 2 maintains a mixed fleet of Cessna, Piper and Beechcraft aircraft. Primary training can be accomplished in a Cessna 152 training aircraft, or if desired a Cessna 172 or Piper PA-28-161.

**Estimated Training Costs:**

The tables below detail an estimate for the cost of training for each of the three ratings. Every student is different so costs will vary. We highly recommend an aggressive training schedule flying three to four times per week. This will reduce the likelihood of a student getting “rusty” and having to re-visit training that has already been completed. Each rating requires mastery of a several skill sets. Instructors at FAA approved schools are required to periodically hand-off their student to the chief pilot for a phase check. The chief pilot will assess the mastery of skills and, if successful, move the student into the next phase of training. The estimates below are based on average pricing among the affiliated (and schools that we are planning to affiliate with in the near future).

**Private Pilot Certificate:**

The traditional training time for a Private Pilot Certificate is 40 hours of training of which 20 are dual (with an instructor) and 20 are solo. FAA approved schools are authorized to release a student for a checkride with 35 hours of training of which 20 are dual and 15 are solo. That being said, the national average number of training hours is around 60 to 70 hours. The reason that it gets that high is that most pilot candidates are working regular jobs and train once per week with an occasional gap. We are requesting that our students fly 3 times per week and should consider the training hours as part of their school week when they plan their university courses. I hope that most of our students will be in the 50 hour range (30 dual and 20 solo). Note that there are usually additional hours of ground instruction before and after each flight. Accordingly, the Private Pilot cost estimate is shown below:

<b>PRIVATE PILOT CERTIFICATE</b>			
<b>Aircraft</b>	<b>Cost/hr</b>	<b>Est. Rental Hours</b>	<b>Cost</b>
Cessna 172SP, Traditional Instruments	\$ 153.00	40	\$ 6,120
Cessna 172SP, G1000 Glass cockpit	\$ 172.00	40	\$ 6,880
FAA certified Flight Simulator	\$ 65.00	10	\$ 650
<b>Instructor</b>	<b>Cost/hr</b>	<b>Est. Instruction Hours</b>	<b>Cost</b>
Average Rate	\$ 70.00	60	\$ 4,200
<b>Miscellaneous</b>			
On-line Part141 Training material, Headset, E6B calculator			\$ 800
Written Exam			\$ 150
Ckeckride			\$ 600
<b>Estimated Totals</b>		Traditional	<b>\$ 12,520</b>
		G1000	<b>\$ 13,280</b>

### Instrument Pilot Rating:

The Instrument Pilot Rating assumes that the student has gained some flight experience after earning a Private Pilot Certificate. Aside from that, an Instrument Rating requires an additional 40 hours of training, some of which can be in a simulator. Some simulator time can be logged in the Instrument Flight course at SJSU, but for budgeting purposes, it is best to assume that all of the training will take place at a flight school. Also note that while the Instrument Rating requires 40 hours of actual or simulated flight time, not all of that has to be with a certified instructor. Simulated instrument time usually means that the student is flying an airplane while wearing a “hood” that blocks the view outside of the windows and allows flight only by use of the aircraft instruments. For planning purposes, it may be best to assume that all of the hours are logged with an instructor. In addition, there will be ground training time before and after each flight, so I have once again doubled the instructor hours. Here is cost/flight hours estimate for the Instrument Rating:

<b>INSTRUMENT PILOT RATING</b>			
<b>Aircraft</b>	<b>Cost/hr</b>	<b>Est. Rental Hours</b>	<b>Cost</b>
Cessna 172SP, Traditional Instruments	\$ 153.00	30	\$ 4,590
Cessna 172SP, G1000 Glass cockpit (preferred)	\$ 172.00	30	\$ 5,160
FAA certified Flight Simulator	\$ 65.00	20	\$ 1,300
<b>Instructor</b>	<b>Cost/hr</b>	<b>Est. Instruction Hours</b>	<b>Cost</b>
Average Rate	\$ 80.00	60	\$ 4,800
<b>Miscellaneous</b>			
On-line Part 141 Training material, Headset, Charts			\$ 400
Written Exam			\$ 150
Ckeckride			\$ 600
<b>Estimated Totals</b>	Traditional		<b>\$ 11,440</b>
	G1000 (preferred)		<b>\$ 12,410</b>

### Commercial Pilot Certificate:

The Commercial Pilot Certificate requires a few additional steps. There is a requirement to have 250 logged flight hours. This number is reduced to 190 for FAA approved schools. In addition, each student will need to master a few additional piloting skills. Accordingly, the training will include:

20 hours of training in a non-complex aircraft such as the Cessna 172 used for the instrument rating

10 hours of training in a complex aircraft with retractable landing gear and a constant speed propeller (such as the Piper Arrow)

10 hours of cross country flight training (there may be some overlap here with other activities, but for worst case cost estimating purposes, assume 10 additional hours of training). The bottom line is that if the student performs well, he/she will have 90 flight hours upon earning the Instrument rating and will receive 40 additional training hours preparing for the Commercial Certificate. That means that a candidate will need 70 additional flight hours outside of the training environment. I have added a line item for this in the estimate below:

<b>COMMERCIAL PILOT CERTIFICATE</b>			
<b>Aircraft</b>	<b>Cost/hr</b>	<b>Est. Rental Hours</b>	<b>Cost</b>
Cessna 172SP, Traditional Instruments	\$ 153.00	30	\$ 4,590
Cessna 172SP, G1000 Glass cockpit	\$ 172.00	30	\$ 5,160
Piper Arrow	\$ 160.00	10	\$ 1,600
Hours building, depending on required time	\$ 153.00	70	\$ 10,710
<b>Instructor</b>	<b>Cost/hr</b>	<b>Est. Instruction Hours</b>	<b>Cost</b>
Average Rate	\$ 80.00	40	\$ 3,200
<b>Miscellaneous</b>			
On-line Part 141 Training material, Charts			\$ 400
Written Exam			\$ 150
Ckeckride			\$ 600
<b>Estimated Totals</b>	Traditional		<b>\$ 21,250</b>
	G1000		<b>\$ 21,820</b>

The overall training cost estimate total is this:

<b>Grand total</b>	<b>Traditional</b>	<b>\$ 45,210</b>
	<b>G1000</b>	<b>\$ 47,510</b>
<b>NOTES</b>		
Price for aircraft may be adjusted for higher fuel cost		
Instructors rates may vary depending on expereince level of the assigned instructor		

### Notes on Total Cost of Flight Training:

We have affiliated with multiple flight schools in order to foster competition, and hopefully keep rates in line with other flight schools in California. That means that the total cost will vary with the selection of flight schools, and with the number of hours each student actually takes to complete each rating. With that in mind, we typically have been telling students to assume a cost of \$45,000 to \$46,000 for flight training. If you were to come in under budget, it would be possible for the student to continue training for things such as a multi-engine rating or possibly to continue training for a flight instructor rating.

### Restricted Airline Transport Pilot Rating:

Earning the Commercial Pilot Certificate is a starting point for an aspiring airline pilot. The eventual goal for most of our students is to be an airline pilot. Most major airlines require two key items to be considered employable: An Airline Transport Pilot Rating (ATP), and a Bachelor's Degree from a university. SJSU provides the required Bachelor of Science degree. In the piloting arena, aspiring pilots must accrue 1500 flight hours to be eligible for the ATP rating.

The FAA has provided a Restricted ATP rating for pilots who have graduated from key universities offering Aviation programs. SJSU has applied to be on that authorized list as of July 2016. We expect to have that authorization by the end of the 2016 school year.

This program allows airlines to hire a pilot with a Restricted ATP rating (RATP). That RATP pilot can serve at a co-pilot. The restrictions are lifted when the pilot accrues 1500 flight hours.

### **Making the Leap from Commercial Pilot to Airline Transport Pilot:**

Commercial pilots can fly for hire, but an Airline Transport Pilot rating is required to fly for a scheduled airline. Graduates from programs like SJSU's Professional Flight program will need to build a substantial amount of experience to apply for an ATP rating. That can be done through by a number of methods:

**Become a Flight Instructor** – many pilots have built their flight time by first obtaining a Certified Flight Instructor rating. They can then instruct primary students. While doing that, the pilot builds hours and is able to earn money. This is the most common method for civilian pilots to build hours. There are additional cost associated with obtaining a flight instructor rating.

**Get a Job as a Pilot** – A commercial pilot can get a job doing many things flying in small aircraft. The jobs include air photo operations, traffic watch, pipeline patrol, and flying corporate aircraft. All of these roles are for hire so the pilot is earning in this career phase rather than spending.

**Fly Recreationally** – Many pilots travel in small aircraft with the primary intent being to build flight time. Most pilots who have a position as a flight instructor or as a corporate pilot also increase their logged flight time by taking trips in a rental aircraft.

**Implementation** – Since we are asking students to pursue an aggressive training pace, we should point out that there is a significant amount of time involved in flight training. A typical lesson is a one hour flight. Instructors expect to spend time prior to the flight to brief the lesson and set expectations to define successful mastery of a skill set. The flight instructors also need to spend time with their student after each flight to provide an after-action session. This will establish the required study material that the student should accomplish prior to the next lesson. Accordingly, a typical lesson will take up to three hours plus travel time from main campus to the flight schools at Reid Hillview. If a student flies for three to four lessons per week, it is a good idea to reduce the class load for university coursework. The faculty recommends that a student take approximately 12 unit hours during semester in which a rating is being started.

It is noteworthy that while we recommend aggressive training, students self-pace their flight training. If a student signs up for one of the flight classes (AVIA 3, AVIA 63 or AVIA 113), we anticipate that many students will not complete the rating by the end of the school semester. In these cases, a grade of Incomplete ("I") will be assigned. University policy allows one year for the student to complete the required coursework. If a student needs more time, he/she can continue training in the winter break or during the summer.