

AVIATION SCIENCE, ASSOCIATE IN SCIENCE DEGREE

Banner Code: 1_AS_AVSC

Control Number: 03978

Financial Aid Eligible

This program of study prepares students for careers in aviation and aerospace operations. Students can tailor their curriculum based on career goals. The course of study is primarily focused on those students who wish to become professional pilots. However the academic areas of study can also prepare students for careers in flight operations management, aircraft dispatch, aircraft scheduling and Fixed Base Operations support. For those students focusing on careers in aircraft dispatch, aircraft flight operations management, scheduling, airport management and Fixed Base Operations management the program consists of 32 hours of academics which provides students with an overview of aviation and aircraft operations coupled with a background in basic business. To earn an Associate of Science degree students must also complete the Associate of Science degree requirements as outlined in the Graduation Requirements section of the catalogue. The flight operations specialization requires no in-flight training thus program costs are for college tuition, books and fees only.

For those focusing on professional piloting careers the program consists of 32 credit hours of focused ground school academics along with in-flight instruction. Upon successful completion students will be prepared for federal licensing as multi and single engine Commercial pilots with the instrument rating. To earn an Associate of Science degree students must also complete the Associate of Science degree requirements as outlined in the Graduation Requirements section of the catalogue.

The curriculum is designed for students with no flying experience. Courses will systematically prepare individuals academically to meet the aeronautical knowledge requirements to test for the certificates and ratings required to operate aircraft as a commercial pilot. In addition, flight lab courses are offered as suggested electives enabling the student to complete all aspects of their training under the auspices of the college and to meet aeronautical experience and flight hour requirements necessary for federal licensing as a commercial pilot. Please note that although students may complete certificates without flight activities (flight labs), students seeking FAA certificates and ratings must participate in flight activities and meet aeronautical experience requirements as defined under Federal Aviation Regulation (FAR) Part 61 for the rating desired. In addition to meeting experience requirements, the student must perform each maneuver within the parameters established in the applicable Practical Test Standard. This may require training beyond the specified minimum number of hours for a certificate or rating.

The course of study can be tailored to meet individual requirements. The small business owner who only needs to use an aircraft for personal transportation can end their training with the Private Pilot Certificate of Achievement (semester 1) or continue on to prepare for the instrument rating. A student seeking a career as a professional pilot would progress through the curriculum to earn the Airline Transport Pilot Certificate of Specialization.

All training is conducted in accordance with Federal Aviation Regulation (FAR) Part 61 and Part 141. All flight training labs are conducted in accordance with an approved FAR Part 141 syllabus. Please note that all costs are estimated as of the date of this publication and are subject to change.

Eligibility requirements for federal licensing as a Private Pilot (FAR 61.103)

1. You must be at least 17 years of age
2. Be able to read, speak and converse fluently in English
3. Obtain at least a 3rd Class FAA medical certificate
4. Receive and log ground training from an authorized instructor
5. Pass a written knowledge test
6. Accumulate at least 40 hours of flight experience, 20 of which must be with an authorized instructor and at least 10 of which must be solo flight time. 7) Complete a practical test administered by an FAA inspector or FAA designated Examiner.

Estimated cost for flight training

Estimated cost of completion will depend on student aptitude and the aircraft selected for training. A student training in college owned aircraft and completing the syllabus of instruction in the minimum number of flight hours can expect to pay approximately \$13,000 for training through the Private Pilot certificate, however, most students do not complete training in 40 hours. The national average is approximately 70 hours of instruction. This places the cost of training for the Private Pilot Certificate for most students at upwards of \$20,000.

Eligibility requirements for the Instrument Rating (FAR 61.65)

1. Hold at least a Private Pilot certificate
2. Be able to read, write and converse fluently in English
3. Hold a current FAA medical certificate
4. Receive and log ground training
5. Pass an FAA instrument rating knowledge test
6. Accumulate the following flight experience:
 - a. 50 hours of cross-country flight time
 - b. 40 hours of actual or simulated instrument time
7. Demonstrate flight proficiency
8. Pass a practical test administered by an FAA inspector or FAA designated examiner.

Estimated cost for flight training (Instrument rating)

Estimated cost of training will depend on student aptitude and aircraft selected for training. Students who meet the aeronautical experience requirements found under FAR 61.65 (d) prior to the start of training can expect to pay approximately \$9,000 for the instrument rating. If students exceed the minimum hour requirements, as represented by the national average, of FAR 61.65 (d) costs can be as high as \$15,000.

Eligibility requirements for federal licensing as a Commercial Pilot (FAR 61.123)

1. Be at least 18 years of age
2. Hold a Private Pilot certificate
3. Be able to read, speak and understand the English language
4. Meet the following aeronautical experience requirements:
 - a. at least 250 hours of piloting time in the areas of operation specified in FAR 61.129 for the class rating being sought.
5. Complete the FAA aeronautical knowledge test

6. Pass a practical test administered by an FAA inspector or FAA designated examiner

Estimated cost for flight training hours

Estimated cost of training will depend on student aptitude and aircraft selected for training. Total cost for addition of the commercial rating is \$12,000.

Total program cost

In addition to normal tuition fees, books and equipment (approximately \$4,500 for residents) the student can expect to pay between an additional \$35,000 to \$58,000 for flight training.

Program Outcomes

1. Students will develop the analytical and critical thinking skills necessary for completion of aviation flight training and successful completion of federally administered knowledge and practical tests.
2. Students will develop the analytical and critical thinking skills necessary for completion of aviation ground school academic courses giving them the background knowledge necessary to enter the air transportation industry as professionals in non-flying capacities such as: ground operations, customer services, gate attendants, aviation sales, flight crew attendants, and charter flight coordinators.

Review Graduation Requirements (<https://catalog.cccd.edu/orange-coast/graduation-requirements/associate-degree/>) and General Education (<https://catalog.cccd.edu/orange-coast/general-education-patterns/>).

Course	Title	Units
Required Courses		
APT A130	Private Pilot Aviation Ground School	5
APT A132	Aviation Navigation	3
APT A133	Aviation-Meteorology	3
APT A146	Advanced Aircraft & Engines	3
APT A180	Basic Air Transportation	3
<i>Select a Track:</i>		9
Track 1:		
APT A134	Instrument Pilot Aviation Ground School	
APT A138	Aerodynamics	
APT A139	Commercial Pilot Aviation Ground School	
Track 2:		
APT A110	Introduction to Airport Operations	
APT A115	Introduction to Flight Operations	
APT A145	Airline Transport Pilot Ground	
<i>Restricted Electives</i>		6
Select 6 units (courses used above may not fulfill elective units):		
APT A110	Introduction to Airport Operations	
APT A115	Introduction to Flight Operations	
APT A120	Private Pilot Flight Lab	
APT A121	Instrument Pilot Flight Lab	
APT A122	Commercial Pilot Flight Lab	
APT A123	Private Pilot Advanced Flight Lab	
APT A124	Advanced Commercial Pilot Flight Lab	
APT A126	Multi-Engine Aircraft Operations Lab	
APT A140	Flight Instructor Ground School	

Course	Title	Units
APT A145	Airline Transport Pilot Ground	
APT A192	Human Factors and Crew Resource Management	
ACCT A101	Financial Accounting	
or ACCT A101H	Financial Accounting Honors	
ACCT A102	Managerial Accounting	
or ACCT A102H	Managerial Accounting Honors	
ECON A170	Microeconomics	
or ECON A170H	Microeconomics Honors	
ECON A175	Macroeconomics	
or ECON A175H	Macroeconomics Honors	

Total Units 32

Requirement	Units
Program Major Units	32
AS General Education Option 1, 2, or 3	Varies
Transferable electives to satisfy unit requirement	Varies
Total Degree Units	60

Program Sequence

These sequences at Orange Coast College are general course curriculum maps for students to finish all major and general education requirements for two-year completion of degrees, and/or fulfillment of transfer requirements. The course sequence may include course prerequisites and other placement requirements. **Students are advised to meet with an Orange Coast College Counselor to review course selections and sequences to ensure that completion of this program will meet a student's transfer and career goals.**

Select one of the following tracks:

Track 1

Course	Title	Units
Year 1		
Semester 1		
APT A130	Private Pilot Aviation Ground School	5
APT A133	Aviation-Meteorology	3
OCC AS GE AREA A1- CHOOSE ONE		3
ELECTIVE (DEGREE APPLICABLE)		3
Units		14

Semester 2

APT A134	Instrument Pilot Aviation Ground School	3
APT A180	Basic Air Transportation	3
OCC AS GE AREA A2- CHOOSE ONE ¹		3-4
Select one of the following or satisfy Math competency (completion of High School Algebra 2 with a "C" or better): ²		3-4
MATH A030	Intermediate Algebra	
or MATH A045	or Combined Elementary and Intermediate Algebra	
OCC AS GE AREA C2- CHOOSE ONE		3
Units		15-17

Year 2

Semester 1

APT A139	Commercial Pilot Aviation Ground School	3
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Course	Title	Units
APT A146	Advanced Aircraft & Engines	3
AS MAJOR ELECTIVES (See Requirements)		3
OCC AS GE AREA C1- CHOOSE ONE		3
OCC AS GE AREA B- CHOOSE ONE		3-4
Units		15-16
Semester 2		
APT A132	Aviation Navigation	3
APT A138	Aerodynamics	3
AS MAJOR ELECTIVES (See Requirements)		3
OCC AS GE AREA D- CHOOSE ONE		3
ELECTIVE (DEGREE APPLICABLE) ³		4
Units		16
Total Units		60-63

1

OCC AS GE AREA A2 - Required if 100-level MATH will not be taken to meet Math competency. If MATH A100 or higher will be taken, then needs to take 3-4 degree applicable elective units

2

Math A030 or higher OR take 3-4 degree applicable elective units if math competency was met through completion of High School Algebra 2 with a "C" or better; *100-level Math courses satisfy AS Math Requirement and OCC AS GE AREA A2

3

VARIES TO REACH MINIMUM 60 DEGREE APPLICABLE UNITS

Track 2

Course	Title	Units
Year 1		
Semester 1		
APT A130	Private Pilot Aviation Ground School	5
APT A133	Aviation-Meteorology	3
OCC AS GE AREA C1- CHOOSE ONE		3
OCC AS GE AREA A1- CHOOSE ONE		3
Units		14
Semester 2		
APT A180	Basic Air Transportation	3
AS MAJOR ELECTIVES (See Requirements)		3
OCC AS GE AREA A2- CHOOSE ONE ¹		3-4
Select one of the following or satisfy Math competency (completion of High School Algebra 2 with a "C" or better): ²		3-4
MATH A030 or MATH A045	Intermediate Algebra or Combined Elementary and Intermediate Algebra	
AS MAJOR ELECTIVES (see list below)		3
Units		15-17
Year 2		
Semester 1		
APT A110	Introduction to Airport Operations	3
APT A115	Introduction to Flight Operations	3
APT A146	Advanced Aircraft & Engines	3
OCC AS GE AREA B- CHOOSE ONE		3-4
AS MAJOR ELECTIVES (See Requirements)		3
Units		15-16
Semester 2		
APT A132	Aviation Navigation	3
APT A145	Airline Transport Pilot Ground	3
OCC AS GE AREA C2- CHOOSE ONE		3
OCC AS GE AREA D- CHOOSE ONE		3
ELECTIVE (DEGREE APPLICABLE) ³		4
Units		16
Total Units		60-63