

Special study in an area of interest related to automotives; generally research in nature. The content to be determined by the need of the student under signed contract with the instructor.

AT 197 Topics in Automotive (.5-3)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture and/or laboratory may be scheduled by the department. Refer to Class Schedule.

Note: May be taken 4 times

Transfer acceptability: CSU

Topics in automotive technology. See Class Schedule for the specific topic offered. Course title will designate subject covered.

AT 210 Specialized Automotive Electronics (3)
2 hours lecture - 3 hours laboratory

Recommended preparation: AT 105 or 110

Transfer acceptability: CSU

Electronic principles as they pertain to the automobile. Identification, diagnosis, repair, and verification of malfunctioning electronic components is the major objective of the course. Computer controls fundamentals and diagnosis of GM systems, 1981-1990.

AT 215 Automotive Emission Control (3)
3 hours lecture - 2 hours laboratory

Recommended preparation: AT 110 and 115

Transfer acceptability: CSU

Auto emission controls as prescribed by Federal Law and California Air Resources Board. Analysis and testing of emission controls will be presented. Study of current laws for state exam preparation.

AT 220 Advanced Automotive Transmissions (3)
2 hours lecture - 3 hours laboratory

Prerequisite: A minimum grade of 'C' in AT 120

Transfer acceptability: CSU

Advanced specialized training in automatic transmissions currently in use in General Motors vehicles with an emphasis on the 3T40 transaxle.

AT 225 Automotive Engine Rebuilding (3)
2 hours lecture - 4 hours laboratory

Transfer acceptability: CSU

The complete rebuilding of at least one automobile engine using the machine tools and techniques of industry.

Aviation Sciences (AVIA)

Contact the Earth, Space, and Aviation Sciences Department for further information.

(760) 744-1150, ext. 2512

Office: NS-110G

For transfer information, consult a Palomar College Counselor.

Associate in Arts Degrees -

AA Degree requirements are listed in Section 6 (green pages).

• Aviation Operations and Management

• Aircraft Commercial Pilot

Certificates of Achievement -

Certificate of Achievement requirements are listed in Section 6 (green pages).

• Aviation Operations and Management

• Aircraft Commercial Pilot

PROGRAMS OF STUDY

Aviation Operations and Management

For students interested in the business or piloting aspects of aviation. Transfers to some four year programs in this field.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
AVIA 100	Introduction to Aviation Sciences	3
AVIA 105	Basic Pilot Ground School	3
AVIA 120	Aviation Weather	3
BUS 205	Business Writing	3
ECON 101	Principles of Economics (Macro)	3
ECON 102	Principles of Economics (Micro)	3
Elective Courses (Select 15 units minimum)		
ACCT 103 and	Financial Accounting	4
ACCT 104	Accounting Spreadsheet Concepts	2
AVIA 106	Commercial Pilot Ground School	3
AVIA 107	Instrument Pilot Ground School	3
AVIA 145	Glass Cockpits and GPS Navigation	1
BUS 115	Business Law	3
BUS 155	Marketing	3
BMGT 110	Human Resource Management	3
BMGT 115	Organizational Theory and Design	3
CSIT 105	Computer Concepts and Applications	3
GEOG 110	Meteorology: Weather and Climate	3
MATH 115	Trigonometry	3
MATH 120	Elementary Statistics	3
PHYS 120	General Physics	4
PHYS 121	General Physics	4
CE 100	Cooperative Education	1, 2, 3, 4
TOTAL UNITS		33

Flight training is the sole responsibility of each student and is contracted with an F.A.A. approved flight school at the student's own expense. The Palomar Community College District accepts no responsibility or liability for the student's flight training program.

Aircraft Commercial Pilot

Prepares students for employment as commercial pilots in air taxi and other field related flying operations. Transfers to some four year programs in this field.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
AVIA 75	Private Pilot Certification	2
AVIA 80	Instrument Rating Certification	2
AVIA 85	Commercial Pilot Certification	3
AVIA 100	Introduction to Aviation Sciences	3
AVIA 105	Basic Pilot Ground School	3
AVIA 106	Commercial Pilot Ground School	3
AVIA 107	Instrument Pilot Ground School	3
AVIA 120	Aviation Weather	3
AVIA 145	Glass Cockpits and GPS Navigation	1
TOTAL UNITS		23

COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

AVIA 75 Private Pilot Certification (2)

1 hour lecture - 3 hours laboratory

Note: Pass/No Pass grading only

Upon presentation of a Private Pilot Certificate, the student will be given credit (no grade). Flight training is to be completed off campus with an F.A.A. certified flight instructor of the student's choice and at the student's own expense. The Palomar Community College District accepts no responsibility or liability for the flight training obtained from private instructors. The student should register for this course in the semester during which the training is to be completed.

AVIA 80 Instrument Rating Certification (2)*1 hour lecture - 3 hours laboratory***Note:** Pass/No Pass grading only

Upon presentation of an Instrument Rating, the student will be given credit (no grade). Flight training is to be completed off campus with an F.A.A. certified flight instructor of the student's choice and at the student's own expense. The Palomar Community College District accepts no responsibility or liability for the flight training obtained from private instructors. The student should register for this course in the semester during which the training is to be completed.

AVIA 85 Commercial Pilot Certification (3)*1 hour lecture - 6 hours laboratory***Note:** Pass/No Pass grading only

Upon presentation of a Commercial Pilot Certificate, the student will be given credit (no grade). Flight training is to be completed off campus with an F.A.A. certified flight instructor of the student's choice and at the student's own expense. The Palomar Community College District accepts no responsibility or liability for the flight training obtained from private instructors. The student should register for this course in the semester during which the training is to be completed.

AVIA 100 Introduction to Aviation Sciences (3)*3 hours lecture***Transfer acceptability:** CSU

A survey of the aerospace field including the functions and operations of various federal and state regulating aviation agencies and airport based companies such as air carrier, general aviation, aviation maintenance, flight schools, and other major occupational and supportive areas.

AVIA 105 Basic Pilot Ground School (3)*3 hours lecture***Transfer acceptability:** CSU

A study of Federal Aviation Regulations, flight data, aerodynamics, weather and navigation, radio communications, aircraft and engine operation, flight instruments, and aircraft performance. Prepares the student for the Federal Aviation Administration's Private Pilot written examination.

AVIA 106 Commercial Pilot Ground School (3)*3 hours lecture***Prerequisite:** Private Pilot Certificate or AVIA 105 with concurrent or prior flight training**Transfer acceptability:** CSU

A comprehensive study of aircraft performance, Federal Aviation Regulations, navigation, flight charts and graphs, radio navigation and communications, meteorology, emergency procedures, aerodynamics, flight instruments, and multi engine procedure. Prepares the student for the Federal Aviation Administration's Commercial Pilot written examination.

AVIA 107 Instrument Pilot Ground School (3)*3 hours lecture***Prerequisite:** Private Pilot Certificate or AVIA 105 with concurrent or prior flight training**Transfer acceptability:** CSU

The rules and regulations for instrument flight, interpretation of flight instruments, air navigation, meteorology, instrument flight techniques, air traffic control, and flight planning. Prepares the student for the Federal Aviation Administration's Instrument written examination.

AVIA 120 Aviation Weather (3)*3 hours lecture***Transfer acceptability:** CSU

Basic principles relating to weather with particular emphasis placed upon the relationship of weather to aviation. Practical instruction is given in the use and interpretation of weather reports, forecasts, and charts.

AVIA 145 Glass Cockpits and GPS Navigation (1)*1 hour lecture***Transfer acceptability:** CSU**Prerequisite:** A minimum grade of 'C' in AVIA 105 or Private Pilot Certificate

A practical examination of glass cockpit technology and global positioning system navigation in aviation.

Biology (BIOL)

Contact the Life Sciences Department for further information.

(760) 744-1150, ext. 2275

Office: NS-207A

Associate in Arts Degrees -

AA Degree requirements are listed in Section 6 (green pages).

- Biology - General
- Biology - Preprofessional

Certificates of Achievement -

Certificate of Achievement requirements are listed in Section 6 (green pages).

- Biology - General
- Biology - Preprofessional

PROGRAMS OF STUDY**Biology – General**

Provides intensive lower division preparation for pursuing advanced studies in the Biological Sciences leading towards a Bachelor's Degree and beyond.

**A.A. DEGREE MAJOR OR
CERTIFICATE OF ACHIEVEMENT****Program Requirements**

BIOL 200	Foundations of Biology I	5
BIOL 201	Foundations of Biology II	5
CHEM 110	General Chemistry	3
CHEM 110L	General Chemistry Laboratory	2

Group One (Select a minimum of 1 unit)

BIOL 114L	Ecosystem Biology (Laboratory)	1 - 2
BIOL 195A	Field Studies in Natural History	1 - 3
BIOL 195B	Field Studies in Ecology	1 - 3
BIOL 195C	Field Studies in Marine Biology	1 - 3
BIOL 195D	Field Studies in Island Ecology	1 - 3
BIOL 195E	Field Studies in Tropical Biology	1 - 3
BOT 195	Field Study of Native Plants	1 - 3
ZOO 195A	Field Study of Marine Invertebrates	1 - 3
ZOO 195B	Field Study of Marine Vertebrates	1 - 3
ZOO 195C	Field Study of Terrestrial Vertebrates	1 - 3
ZOO 195D	Field Study of Birds	1 - 3
ZOO 195E	Field Study of Terrestrial and Aquatic Invertebrates	1 - 3
ZOO 195F	Field Study in Animal Ecology	1 - 3

Group Two (Select a minimum of 16 units)

BOT 100	General Botany	4
	or	
BOT 101	General Botany Lecture and	3
	General Botany Laboratory	1
BIOL 110	Human Genetics	3
BIOL 114	Ecosystem Biology (Lecture)	3
BIOL 118	General Ecology (Lecture)	3
BIOL 118L	General Ecology (Laboratory)	1
BIOL 130	Marine Biology	4
	or	
BIOL 131	Marine Biology (Lecture) and	3
	Marine Biology (Laboratory)	1
BIOL/ ZOO 135	Biology of Marine Mammals	3
BIOL/ FCS 185	Science of Human Nutrition	3
BIOL 295	Directed Study in Life Science	1 - 3
MICR 200	Fundamentals of Microbiology	4
ZOO 100	General Zoology	4
	or	