

## Aeronautics AERO, FLTEC, ATCAD

### Degrees:

- A.S. – Air Traffic Control
- A.S. – Aircraft Dispatcher
- A.S. – Airframe
- A.S. – Combined Airframe and Powerplant
- A.S. – Flight Technology
- A.S. – Powerplant

### Certificates of Achievement:

- Aircraft Dispatcher
- Airframe
- Combined Airframe and Powerplant
- Flight Technology
- Powerplant

### Division of Advanced Technology

Donnetta Webb  
Technology, room 106  
916-558-2491

## Air Traffic Control

### Associate in Science Degree

#### Program Information

Sacramento City College maintains a Federal Aviation Administration (FAA) Air Traffic Control (ATC) Program. Our two-year degree program is designed to meet the needs of students who want to gain employment with one of the FAA's ATC facilities, work in a contract ATC facility, or work in an ATC facility for the military.

#### Career Opportunities

Employment opportunities exist within the Federal Aviation Administration's National Air Traffic Control system, as well as with numerous contract facilities throughout the country and with the military worldwide.

#### Enrollment Limitations

To be eligible for enrollment in the program, the student must meet the following criteria:

The Federal Aviation Administration requires that all applicants read, write, speak, and understand the English language.

#### Upon completion of this program, the student will be able to:

- perform the duties of an air traffic control (ATC) intern at a local ATC facility.
- interpret Federal Aviation Regulations that pertain to Air Traffic Control procedures.
- utilize correct air/ground communication terminology and phraseology.
- interpret terminal and en-route weather reports.

#### Required Program

	Units
ATCAD 300 Basic Terminal Procedures .....	3.5
ATCAD 301 Advanced Terminal Procedures .....	3.5
ATCAD 302 Basic En Route Procedures .....	3.5
ATCAD 303 Advanced En Route Procedures .....	3.5
FLTEC 100 Introduction to Aviation Careers .....	1
FLTEC 302 Aviation Weather .....	3
FLTEC 304 Safety and Human Factors in Aviation.....	3
FLTEC 306 Federal Aviation Regulations.....	3
FLTEC 310 Instrument Pilot/Instructor Ground School .....	4
FLTEC 312 Air Navigation, Airspace, and Communication.....	3
FLTEC 314 Large Aircraft Systems.....	5
FLTEC 320 Private Pilot Ground School .....	3
FLTEC 321 Commercial Pilot Ground School .....	3
FLTEC 330 Airplane Aerodynamics.....	3
<b>Total Units Required</b>	<b>45</b>

### Associate in Science (A.S.) Degree

The Associate in Science (A.S.) Degree may be obtained by completion of the required program, plus general education requirements, plus sufficient electives to meet a 60-unit total. See SCC graduation requirements.

## Aircraft Dispatcher

### Associate in Science Degree Certificate of Achievement

#### Program Information

Sacramento City College maintains a Federal Aviation Administration (FAA) approved Aircraft Dispatcher (AD) Program. Our one-year certificate and two-year degree programs are designed to meet the needs of students who desire the technical training in order to qualify for the written, oral, and practical tests for the FAA Aircraft Dispatcher Certificate.

All required courses must be passed with a grade of "C" or better. Upon passing the appropriate FAA AD examinations, the graduate is certificated to perform the duties of an aircraft dispatcher.

#### Career Opportunities

Aircraft Dispatchers are employed by all major and regional airlines worldwide. Many jet charter and helicopter air ambulance operators, as well as government agencies and the military, utilize their services.

#### Enrollment Limitations

To be eligible for enrollment in the program, the student must meet the following criteria:

The Federal Aviation Administration requires that all applicants read, write, speak, and understand the English language.

#### Gainful Employment

For more information about program costs, graduation rates, median debt of program graduates, and other important information regarding gainful employment, please visit: <http://www.losrios.edu/gainful-emp-info/gedt.php?major=051658C01>

#### Upon completion of this program, the student will be able to:

- perform the required duties of an Aircraft Dispatcher, as outlined by the Federal Aviation Administration.
- qualify to take the written, oral, and practical examinations for the Federal Aviation Administration's aircraft dispatcher certificate.

Required Program	Units
FLTEC 100 Introduction to Aviation Careers .....	1
FLTEC 302 Aviation Weather .....	3
FLTEC 304 Safety and Human Factors in Aviation.....	3
FLTEC 306 Federal Aviation Regulations.....	3
FLTEC 310 Instrument Pilot/Instructor Ground School .....	4
FLTEC 312 Air Navigation, Airspace, and Communication.....	3
FLTEC 314 Large Aircraft Systems.....	5
FLTEC 320 Private Pilot Ground School .....	3
FLTEC 321 Commercial Pilot Ground School .....	3
FLTEC 330 Airplane Aerodynamics.....	3
ATCAD 310 Aircraft Dispatcher Operations .....	3.5
<b>Total Units Required</b>	<b>34.5</b>

### Associate in Science (A.S.) Degree

The Associate in Science (A.S.) Degree may be obtained by completion of the required program, plus general education requirements, plus sufficient electives to meet a 60-unit total. See SCC graduation requirements.

### Certificate of Achievement

The Certificate of Achievement may be obtained by completion of the required program with grades of "C" or better.

## Airframe

### Associate in Science Degree Certificate of Achievement

#### Program Information

Sacramento City College maintains a Federal Aviation Administration-approved two-year program organized to train students as airframe and powerplant maintenance technicians. The program is designed to meet the needs of students who desire technical training to qualify for the Federal Aviation tests.

The Aeronautics program is governed by regulations established by the Federal Aviation Administration. This Federal Aviation Administration (FAA) approved program fulfills all of the requirements under CFR 14, Federal Aviation Regulation part 147. Completion of this program will allow the graduate to test for the FAA Airframe Mechanic Certificate.

Upon passing the appropriate Federal examinations, the graduate is certificated to work on aircraft as a technician and to supervise the work of others on such craft.

#### Career Opportunities

The Department of Advanced Transportation Technology currently offers courses and/or certificate programs in Aeronautics, Flight Technology, and Nondestructive Testing. This department focuses on new and emerging transportation related courses, as well as traditional training which may lead directly to employment in local, state, and nationally recognized fields.

Airframe Technicians are employed by major/regional airlines, certificated repair stations, fixed based operators, charter services, flight schools, corporate flight departments, agricultural aircraft operators, helicopter operations as well as government agencies and the military. Many experienced technicians opt to operate their own aviation businesses.

#### Gainful Employment

For more information about program costs, graduation rates, median debt of program graduates, and other important information regarding gainful employment, please visit: <http://www.losrios.edu/gainful-emp-info/gedt.php?major=051041C01>

#### Enrollment Eligibility

To be eligible for enrollment in the program, the student must meet the following criteria: Transfers from another Federal Aviation Administration Part 147 approved airframe and powerplant school must provide an official transcript and catalog for evaluation by the department.

### Program Costs

In addition to the normal student expenses, minimal lab expenses may be incurred.

### Recommended High School Preparation

English, mathematics, electronics, science, computers, and industrial shop.

### Upon completion of this program, the student will be able to:

- demonstrate the knowledge and skills to qualify for the General and Airframe portion of the Federal Aviation Administration Airframe Mechanic exam to include the written, oral, and practical tests.
- demonstrate the knowledge and skills to inspect, maintain, repair, and modify airframe structures.

Required Program	Units
AERO 300 General Airframe and Powerplant.....	5
AERO 301 General Airframe and Powerplant Applications .....	3
AERO 302 Basic Electricity and Electrical Systems .....	5
AERO 303 Basic Electricity, Airframe and Powerplant Electrical Systems Applications .....	3
AERO 309 Introduction to Aircraft Mechanics.....	2
AERO 320 Airframe Systems and Components .....	5
AERO 321 Airframe Structures.....	5
AERO 322 Airframe Systems and Components Applications .....	3
AERO 323 Airframe Structures and Systems Applications.....	3
AERO 330 Advanced Airframe and Powerplant Inspection.....	5
AERO 331 Advanced Structures and Systems Inspection.....	5
AERO 332 Advanced Airframe and Powerplant Inspection Applications.....	3
AERO 333 Advanced Structures and Systems Inspection Applications.....	3
<b>Total Units Required</b>	<b>50</b>

### Suggested Electives

AERO 340, 341, 350, 351

### Associate in Science (A.S.) Degree

The Associate in Science degree may be obtained by completion of the required program plus general education requirements. See SCC graduation requirements.

### Certificate of Achievement

The Certificate of Achievement may be obtained by completion of all courses in the required program with grades of "C" or better.

## Combined Airframe and Powerplant

### Associate in Science Degree Certificate of Achievement

#### Program Information

Sacramento City College maintains a Federal Aviation Administration-approved two-year program organized to train students as airframe and powerplant maintenance technicians. The program is designed to meet the needs of students who desire technical training to qualify for the Federal Aviation tests.

The Aeronautics program is governed by regulations established by the Federal Aviation Administration. This Federal Aviation Administration (FAA) approved program fulfills all the requirements under CFR 14, Federal Aviation Regulation part 147. Completion of this program will allow the graduate to test for the FAA Airframe & Powerplant Mechanic Certificate.

Upon passing the appropriate Federal examinations, the graduate is certificated to work on aircraft as a technician and to supervise the work of others on such craft.

#### Career Opportunities

The department of Advanced Transportation Technology currently offers courses and/or certificate programs in Aeronautics, Flight Technology, and Non-Destructive Testing. This department focuses on new and emerging transportation related courses, as well as traditional

training, which may lead directly to employment in local, state, and nationally recognized fields.

Airframe and Powerplant Technicians are employed by major/regional airlines, certificated repair stations, fixed based operators, charter services, flight schools, corporate flight departments, agricultural aircraft operators, and helicopter operations, as well as government agencies and the military. Many experienced technicians opt to operate their own aviation businesses.

### Gainful Employment

For more information about program costs, graduation rates, median debt of program graduates, and other important information regarding gainful employment, please visit: <http://www.losrios.edu/gainful-emp-info/gedt.php?major=051040C01>

### Enrollment Eligibility

To be eligible for enrollment in the program, the student must meet the following criteria: Transfers from another Federal Aviation Administration Part 147 approved airframe and powerplant school must provide an official transcript and catalog for evaluation by the department.

### Program Costs

In addition to normal student expenses, minimal lab expenses may be incurred.

### Recommended High School Preparation

English, mathematics, electronics, science, computers, and industrial shop

### Upon completion of this program, the student will be able to:

- demonstrate the knowledge and skills to qualify for the General, Airframe, and Powerplant portion of the Federal Aviation Administration Airframe and Powerplant Mechanics exam to include the written, oral, and practical tests.
- demonstrate the knowledge and skills to inspect, maintain, repair, and modify airframe structures.
- demonstrate the knowledge and skills to inspect, maintain, repair, and modify reciprocating and turbine engines.

### Required Program

	Units
AERO 300 General Airframe and Powerplant .....	5
AERO 301 General Airframe and Powerplant Applications .....	3
AERO 302 Basic Electricity and Electrical Systems .....	5
AERO 303 Basic Electricity, Airframe and Powerplant Electrical Systems Applications .....	3
AERO 309 Introduction to Aircraft Mechanics .....	2
AERO 310 Powerplant Theory and Maintenance .....	5
AERO 311 Powerplant Theory and Maintenance Applications .....	3
AERO 312 Powerplant Systems and Components .....	5
AERO 313 Powerplant Systems and Components Applications .....	3
AERO 320 Airframe Systems and Components .....	5
AERO 321 Airframe Structures .....	5
AERO 322 Airframe Systems and Components Applications .....	3
AERO 323 Airframe Structures and Systems Applications .....	3
AERO 330 Advanced Airframe and Powerplant Inspection .....	5
AERO 331 Advanced Structures and Systems Inspection .....	5
AERO 332 Advanced Airframe and Powerplant Inspection Applications .....	3
AERO 333 Advanced Structures and Systems Inspection Applications .....	3
<b>Total Units Required</b>	<b>66</b>

### Suggested Elective

AERO 200

### Associate in Science (A.S.) Degree

The Associate in Science degree may be obtained by completion of the required program plus general education requirements. See SCC graduation requirements.

### Certificate of Achievement

The Certificate of Achievement may be obtained by completion of all courses in the required program with grades of "C" or better.

## Flight Technology

### Associate in Science Degree Certificate of Achievement

#### Program Information

Sacramento City College maintains an authorized one-year certificate and two-year degree program organized to offer pilot academic ground instruction. The Flight Technology Program is a 30 unit, 10-course program. All required courses must be passed with a grade of "C" or better.

#### Career Opportunities

Professional Pilots are employed as Charter Pilots, Flight Instructors, Ground Instructors, Agricultural Pilots, Helicopter Pilots, Flight Engineers, Regional Airline/Major Airline Pilots, as well as working for Government Agencies or the Military.

#### Gainful Employment

For more information about program costs, graduation rates, median debt of program graduates, and other important information regarding gainful employment, please visit: <http://www.losrios.edu/gainful-emp-info/gedt.php?major=051350C01>

#### Enrollment Eligibility

To be eligible for enrollment in the program, the student must meet the following criteria: The Federal Aviation Administration requires that all applicants read, write, speak, and understand the English language.

#### Upon completion of this program, the student will be able to:

- demonstrate the required knowledge and skills in order to qualify for the written portions of the Federal Aviation Administration examinations for pilot and instructor.
- perform navigational pre-flight planning.
- review weather terminal and en-route data.
- calculate departure, en-route, and arrival performance data.

#### Required Program

	Units
FLTEC 100 Introduction to Aviation Careers .....	1
FLTEC 302 Aviation Weather .....	3
FLTEC 304 Safety and Human Factors in Aviation .....	3
FLTEC 306 Federal Aviation Regulations .....	3
FLTEC 310 Instrument Pilot/Instructor Ground School .....	4
FLTEC 312 Air Navigation, Airspace, and Communication .....	3
FLTEC 314 Large Aircraft Systems .....	5
FLTEC 320 Private Pilot Ground School .....	3
FLTEC 321 Commercial Pilot Ground School .....	3
FLTEC 330 Airplane Aerodynamics .....	3
<b>Total Units Required</b>	<b>31</b>

#### Suggested Elective

FLTEC 319

#### Associate in Science (A.S.) Degree

The Associate in Science (A.S.) Degree may be obtained by completion of the required program, plus general education requirements, plus sufficient electives to meet a 60-unit total. See SCC graduation requirements.

#### Certificate of Achievement

The Certificate of Achievement may be obtained by completion of all courses in the required program with grades of "C" or better.

## Powerplant

### Associate in Science Degree Certificate of Achievement

#### Program Information

Sacramento City College maintains a Federal Aviation Administration-approved two-year certificate and degree program organized to train students as airframe and powerplant maintenance technicians. The program is designed to meet the needs of students who desire technical training to qualify for the Federal Aviation tests.

The Aeronautics program is governed by regulations established by the Federal Aviation Administration. This Federal Aviation Administration (FAA) approved program fulfills all of the requirements under CFR 14, Federal Aviation Regulation part 147. Completion of this program will allow the graduate to test for the FAA Powerplant Mechanic Certificate.

Upon passing the appropriate Federal examinations, the graduate is certificated to work on aircraft as a technician and to supervise the work of others on such craft.

#### Career Opportunities

The department of Advanced Transportation Technology currently offers courses and/or certificate programs in Aeronautics, Flight Technology, and Nondestructive Testing. This department focuses on new and emerging transportation related courses, as well as traditional training which may lead directly to employment in local, state, and nationally recognized fields.

Powerplant Technicians are employed by major/regional airlines, certificated repair stations, fixed based operators, charter services, flight schools, corporate flight departments, agricultural aircraft operators, helicopter operations as well as government agencies and the military. Many experienced technicians opt to operate their own aviation businesses.

#### Gainful Employment

For more information about program costs, graduation rates, median debt of program graduates, and other important information regarding gainful employment, please visit: <http://www.losrios.edu/gainful-emp-info/gedt.php?major=050827C01>

#### Enrollment Eligibility

To be eligible for enrollment in the program, the student must meet the following criteria: Transfers from another Federal Aviation Administration Part 147 approved airframe and powerplant school must provide an official transcript and catalog for evaluation by the department.

#### Program Costs

In addition to normal student expenses, minimal lab expenses may be incurred.

#### Recommended High School Preparation

English, mathematics, electronics, science, computers, and industrial shop

#### Upon completion of this program, the student will be able to:

- demonstrate the knowledge and skills to qualify for the General and Powerplant portion of the Federal Aviation Administration Powerplant Mechanics exams to include the written, oral and practical tests.
- demonstrate the knowledge and skills to inspect, maintain, repair, and modify reciprocating and turbine engines.

#### Required Program

#### Units

AERO 300 General Airframe and Powerplant.....	5
AERO 301 General Airframe and Powerplant Applications .....	3
AERO 302 Basic Electricity and Electrical Systems .....	5
AERO 303 Basic Electricity, Airframe and Powerplant Electrical Systems Applications .....	3
AERO 309 Introduction to Aircraft Mechanics.....	2
AERO 310 Powerplant Theory and Maintenance.....	5
AERO 311 Powerplant Theory and Maintenance Applications .....	3
AERO 312 Powerplant Systems and Components .....	5

AERO 313 Powerplant Systems and Components Applications .....	3
AERO 330 Advanced Airframe and Powerplant Inspection.....	5
AERO 332 Advanced Airframe and Powerplant Inspection Applications.....	3
<b>Total Units Required</b>	<b>42</b>

#### Suggested Electives

AERO 340, 341, 350, 351

#### Associate in Science (A.S.) Degree

The Associate in Science Degree may be obtained by completion of the required program plus general education requirements. See SCC graduation requirements.

#### Certificate of Achievement

The Certificate of Achievement may be obtained by completion of all courses in the required program with grades of "C" or better.

## Aeronautics (AERO)

*NOTE: The Federal Aviation Administration requires that a grade of "C" or better must be earned in ALL required Aeronautics courses to qualify for certification testing.*

### AERO 200    **Certificated Aircraft Mechanic    1-4 Units** **Preparation**

*Prerequisite: None.*

*Corequisite: AERO 300*

*Hours: 72 hours LEC*

This is a self-paced course in aeronautics tailored to individual student needs in cooperation with the Federal Aviation Administration (FAA). This course meets, in part, the certification requirements of Part 147 of the Federal Aviation Regulations covering Airframe and Powerplant Mechanics. This course may be taken four times for credit. The amount of credit awarded is based on the total number of hours completed (18 hours=1 unit). Credit is earned in one-unit increments over the four semesters. This course will prepare the student for oral, practical, and written portions of the general, powerplant, and airframe sections of the Federal Aviation Administration test.

### AERO 300    **General Airframe and Powerplant    5 Units**

*Prerequisite: AERO 309 with a grade of "C" or better*

*Advisory: Concurrent enrollment in AERO 301*

*General Education: AA/AS Area II(b)*

*Course Transferable to CSU*

*Hours: 90 hours LEC*

This course provides an introduction to sheet metal fabrication, aircraft drawings, fluid lines and fittings, materials and processes (including aircraft hardware identification, gas welding and precision measurement), and aviation math and physics, including theory of flight for fixed wing and rotary wing aircraft. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 301      General Airframe and Powerplant Applications      3 Units**

*Prerequisite:* AERO 309 with a grade of "C" or better; Concurrent enrollment in AERO 300 or completion of AERO 300 with a grade of "C" or better.

*Corequisite:* AERO 300

*Course Transferable to CSU*

*Hours:* 180 hours LAB

This course provides skills projects related to AERO 300 as required by the Federal Aviation Administration. Topics will include sheet metal repair, welding, and hardware identification. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 302      Basic Electricity and Electrical Systems      5 Units**

*Prerequisite:* AERO 309 with a grade of "C" or better

*Advisory:* Concurrent enrollment in AERO 303

*Course Transferable to CSU*

*Hours:* 90 hours LEC

This course provides electrical theory for airframe and powerplant electrical systems (circuits and schematics, ignition and electrical generating systems, instruments, batteries, AC and DC circuit system components). Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 303      Basic Electricity, Airframe and Powerplant Electrical Systems Applications      3 Units**

*Prerequisite:* AERO 309 with a grade of "C" or better; Concurrent enrollment in AERO 302 or completion of AERO 302 with a grade of "C" or better.

*Course Transferable to CSU*

*Hours:* 180 hours LAB

This course provides development projects related to AERO 302 lectures as required by the Federal Aviation Administration to develop skills necessary for an Airframe and Powerplant Technician. Units of instruction include repair and maintenance techniques of airframe and powerplant electrical systems and cover ignition as well as electrical generating systems, instruments, batteries, and AC and DC circuits. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 309      Introduction to Aircraft Mechanics      2 Units**

*Prerequisite:* None.

*Course Transferable to CSU*

*Hours:* 18 hours LEC; 54 hours LAB

This introductory course covers the fundamental theories and practices required of a Federal Aviation Administration certificated Airframe and Powerplant Mechanic.

**AERO 310      Powerplant Theory and Maintenance      5 Units**

*Prerequisite:* AERO 309 with a grade of "C" or better

*Advisory:* Concurrent enrollment in AERO 311

*Course Transferable to CSU*

*Hours:* 90 hours LEC

This course provides instruction in reciprocating and gas turbine engine theory, overhaul, inspection, testing, and operation. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 311      Powerplant Theory and Maintenance Applications      3 Units**

*Prerequisite:* AERO 309 with a grade of "C" or better; Concurrent enrollment in AERO 310 or completion of AERO 310 with a grade of "C" or better.

*Course Transferable to CSU*

*Hours:* 180 hours LAB

This course covers projects related to the AERO 310 lectures as required by the Federal Aviation Administration. These include familiarization and operation of equipment required when overhauling and testing gas turbine and reciprocating powerplants, operation and familiarization of gas turbine powerplant accessories, fire detection/protection systems, and operation of gas turbine powerplants in the test cell environment. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 312      Powerplant Systems and Components      5 Units**

*Prerequisite:* AERO 309 with a grade of "C" or better

*Advisory:* Concurrent enrollment in AERO 313

*Course Transferable to CSU*

*Hours:* 90 hours LEC

This course provides instruction in the theory of reciprocating and gas turbine engines, and related accessories including cooling, ignition, propellers, governors, and fuel metering. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 313      Powerplant Systems and Components Applications      3 Units**

*Prerequisite:* AERO 309 with a grade of "C" or better; Concurrent enrollment in AERO 312 or completion with a grade of "C" or better.

*Course Transferable to CSU*

*Hours:* 180 hours LAB

This course provides skills development projects related to AERO 312 as required by the Federal Aviation Administration. Units of instruction include familiarization and operation of test equipment required in overhauling reciprocating and turbine powerplant components and engine test cell operations. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 320      Airframe Systems and Components      5 Units**

*Prerequisite:* AERO 309 with a grade of "C" or better

*Corequisite:* Concurrent enrollment in AERO 322

*Course Transferable to CSU*

*Hours:* 90 hours LEC

This course provides instruction in the following aircraft airframe systems: fuel, hydraulic, pneumatic, position and warning, air conditioning, heating, oxygen, pressurization, ice and rain control, and fire protection and detection. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 321      Airframe Structures      5 Units**

*Prerequisite:* AERO 309 with a grade of "C" or better

*Corequisite:* Concurrent enrollment in AERO 323

*Course Transferable to CSU*

*Hours:* 90 hours LEC

This course provides instruction in aircraft sheet metal, fabric, dope, and paint processes, plastic, wood, fiberglass, honeycomb, composites, and laminated structures, assembly and rigging, and landing gear systems. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 322 Airframe Systems and Components Applications 3 Units**

*Prerequisite:* AERO 309 with a grade of "C" or better  
*Corequisite:* Concurrent enrollment in AERO 320  
*Course Transferable to CSU*  
*Hours:* 180 hours LAB

This course provides skill development projects as required by the Federal Aviation Administration. The projects are related to the subject areas covered in AERO 320 and include familiarization, operation, overhaul, testing, and diagnosis of the components and systems. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 323 Airframe Structures and Systems Applications 3 Units**

*Prerequisite:* AERO 309 with a grade of "C" or better  
*Corequisite:* Concurrent enrollment in AERO 321  
*Course Transferable to CSU*  
*Hours:* 180 hours LAB

This course provides projects related to the AERO 321 lectures as required by the Federal Aviation Administration to develop skills in inspecting, checking, diagnosing, servicing, and repairing the components and systems. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 330 Advanced Airframe and Powerplant Inspection 5 Units**

*Prerequisite:* AERO 300, 301, 302, 303, 320, 321, 322, and 323 with grades of "C" or better.  
*Corequisite:* Concurrent enrollment in AERO 332  
*Course Transferable to CSU*  
*Hours:* 90 hours LEC

This course provides the theory of the following: Advanced Airframe and Powerplant diagnosis, inspection, mechanic privileges and limitations, maintenance forms and records, and maintenance publications, as well as weight and balance calculations. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 331 Advanced Structures and Systems Inspection 5 Units**

*Prerequisite:* AERO 300, 301, 302, 303, 310, 311, 312, and 313 with grades of "C" or better.  
*Corequisite:* Concurrent enrollment in AERO 333  
*Course Transferable to CSU*  
*Hours:* 90 hours LEC

This course provides the theory of the following: advanced communication; navigation and autopilot systems, landing gear systems; wheel, tire, and brake assembly systems, assembly and rigging processes, dope and fabric applications; painting and protective coating applications, sheet metal repair applications; and honeycomb, plastic, wood, fiberglass, composites, and laminate structure repair. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 332 Advanced Airframe and Powerplant Inspection Applications 3 Units**

*Prerequisite:* AERO 300, 301, 302, 303, 320, 321, 322, and 323 with grades of "C" or better.  
*Corequisite:* Concurrent enrollment in AERO 330  
*Course Transferable to CSU*  
*Hours:* 180 hours LAB

This course provides development projects as required by the Federal Aviation Administration. The projects are in the same areas as the subject areas covered in the AERO 330 lectures and include familiarization with and operation of test equipment required for checking and testing the airframe and powerplant systems of airworthy aircraft. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 333 Advanced Structures and Systems Inspection Applications 3 Units**

*Prerequisite:* AERO 300, 301, 302, 303, 310, 311, 312, and 313 with grades of "C" or better.  
*Corequisite:* Concurrent enrollment in AERO 331  
*Course Transferable to CSU*  
*Hours:* 180 hours LAB

This course provides development projects as required by the Federal Aviation Administration. The projects are in the same areas as the subject areas covered in the AERO 331 lectures and include familiarization with and operation of test equipment required for checking and testing the airframe structures and powerplant systems of airworthy aircraft. Minimum attendance is mandated by the Federal Aviation Administration.

**AERO 494 Topics in Aeronautics, Aviation Maintenance .5-4 Units**

*Prerequisite:* None.  
*Course Transferable to CSU*  
*Hours:* 72 hours LEC

This is a specialized course developed in conjunction with industry partners to address emerging industry training needs.

**AERO 495 Independent Studies in Aeronautics 1-3 Units**

*Prerequisite:* None.  
*Course Transferable to CSU*  
*Hours:* 54 hours LEC; 162 hours LAB

This is an independent studies course in Aeronautics. Related projects will be assigned under the supervision of an Aeronautics faculty member and a selected industry partner from the local community.

**AERO 498 Work Experience in Aeronautics 1-4 Units**

*Prerequisite:* None.  
*Course Transferable to CSU*  
*Hours:* 72 hours LEC; 216 hours LAB

This course is designed to provide students with effective job development skills that will assist them in obtaining and keeping an internship or a job in the field of aviation. Course content will include an understanding the application of the student's education as it relates to the workforce. The student will work as an aircraft mechanic helper for one of the Aeronautics department's industry partners. The work could include, but is not limited to, line maintenance, component overhaul, aircraft maintenance, and rebuilding. This course may be taken up to four times for credit for a maximum of 16 units.

**AERO 499 Experimental Offering in Aeronautics .5-4 Units**

*Prerequisite: None*

*Course Transferable to CSU*

*Hours: 54 hours LEC; 36 hours LAB*

See Experimental Offering

**Air Traffic Control/  
Aircraft Dispatcher (ATCAD)****ATCAD 300 Basic Terminal Procedures 3.5 Units**

*Prerequisite: FLTEC 302, 304, 306, 310, 312, 314, 320, 321, and 330 with grades of "C" or better*

*Course Transferable to CSU*

*Hours: 48 hours LEC; 48 hours LAB*

This course provides lecture and simulator lab experience in the fundamental concepts of procedures and skills related to Terminal Radar Control (TRACON) operations. Areas such as aircraft identification, voice communication, phraseology, facility and inner-facility coordination, strip markings, airport traffic control, and TRACON functions will be taught and practiced. One field trip to an operating TRACON facility will be mandatory.

**ATCAD 301 Advanced Terminal Procedures 3.5 Units**

*Prerequisite: ATCAD 300, FLTEC 302, FLTEC 304, FLTEC 306, FLTEC 310, FLTEC 312, FLTEC 314, FLTEC 320, FLTEC 321, and FLTEC 330 with grades of "C" or better*

*Course Transferable to CSU*

*Hours: 48 hours LEC; 48 hours LAB*

This course provides lecture and simulator lab experience in the advanced concepts of procedures and skills related to Terminal Radar Control (TRACON) operations. Areas such as aircraft identification, voice communication, phraseology, facility and inner-facility coordination, strip markings, air traffic control, TRACON functions, runway visibility, weather observations, communication failures, and emergencies will be taught and practiced. One field trip to an operating TRACON facility will be mandatory.

**ATCAD 302 Basic En Route Procedures 3.5 Units**

*Prerequisite: FLTEC 302, 304, 306, 310, 312, 314, 320, 321, and 330 with grades of "C" or better*

*Course Transferable to CSU*

*Hours: 48 hours LEC; 48 hours LAB*

This course provides lecture and simulator lab experience in the fundamental rules and procedures required in the en route environment. Areas such as air/ground communications, radar control, Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) en route procedures, aircraft identification, voice communications, phraseology, facility and inter-facility coordination, strip markings, and clearances will be taught and practiced.

**ATCAD 303 Advanced En Route Procedures 3.5 Units**

*Prerequisite: ATCAD 302, FLTEC 302, FLTEC 304, FLTEC 306, FLTEC 310, FLTEC 312, FLTEC 314, FLTEC 320, FLTEC 321, and FLTEC 330 with grades of "C" or better*

*Course Transferable to CSU*

*Hours: 48 hours LEC; 48 hours LAB*

This course provides lecture and simulator lab experience in advanced rules and procedures required in the en route environment. Areas such as air/ground communication, radar control, Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) en route procedures, aircraft identification, communication failures, clearances, strip markings, radio and satellite navigation systems, aviation weather services, and emergency procedures will be taught and practiced.

**ATCAD 310 Aircraft Dispatcher Operations 3.5 Units**

*Prerequisite: FLTEC 302, 304, 306, 310, 312, 314, 320, 321, and 330 with grades of "C" or better*

*Course Transferable to CSU*

*Hours: 45 hours LEC; 54 hours LAB*

This course will allow the student to practice actual flight briefings as an aircraft dispatcher to a simulated flight crew under various conditions. Required briefings will include weather, performance data, weight and balance calculations, and special conditions of the flight.

**Flight Technology (FLTEC)****FLTEC 100 Introduction to Aviation Careers 1 Unit**

*Prerequisite: None.*

*Hours: 18 hours LEC*

This introductory course is designed for potential aviation career professionals such as pilots, air traffic controllers, and aircraft dispatchers. In this course, students will explore the fundamentals of aircraft operations as well as the history and development of the aviation industry. The students will also explore and learn the requirements for completing the AS degree in Air Traffic Control, Aircraft Dispatch, and Flight Technology. A final grade of "C" or better and completion of the Computerized Placement Testing series is necessary to move on to FLTEC 302, 306, 312, 320, and 330.

**FLTEC 294 Topics in Aeronautics, Flight Technology .5-4 Units**

*Prerequisite: None.*

*Hours: 72 hours LEC*

This is a specialized course developed in conjunction with industry partners to address emerging training needs.

**FLTEC 300 Introduction to Aviation 3 Units**

*Prerequisite: None.*

*Course Transferable to CSU*

*Hours: 54 hours LEC*

This introductory course is designed for aviation career professionals such as pilots, air traffic controllers, aircraft dispatchers, and aircraft technicians. This course will explore the fundamentals of aircraft and spacecraft flight as well as the history and development of the aviation industry. An on-site visit to a local airport is recommended for completion of this course.

**FLTEC 302 Aviation Weather 3 Units**

*Prerequisite:* FLTEC 100 with a grade of "C" or better

*Course Transferable to CSU*

*Hours:* 54 hours LEC

This aviation related meteorology course is designed for pilots, air traffic controllers, and aircraft dispatchers. It covers basic weather phenomena, hazards, and prognostics as they apply to flight. Use and interpretation of Federal Aviation Administration (FAA) and National Weather Service (NWS) meteorological services are also explained.

**FLTEC 304 Safety and Human Factors in Aviation 3 Units**

*Prerequisite:* FLTEC 320 with a grade of "C" or better

*Course Transferable to CSU*

*Hours:* 54 hours LEC

This course provides an overview of human factors that relate to aviation safety and crew resource management, as well as analyzing all of the factors contributing to aircraft accidents.

**FLTEC 306 Federal Aviation Regulations 3 Units**

*Prerequisite:* FLTEC 330 with a grade of "C" or better

*Course Transferable to CSU*

*Hours:* 54 hours LEC

This course is an in-depth study of the Code of Federal Regulations 14, Parts 1, 43, 61, 65, 71, 73, 91, 121, and 135 of the Federal Aviation Regulation (FAR) Orders, Letters of Agreement, Standard Operating Procedures, Aeronautical Information Manual (AIM), and the National Transportation Safety Board (NTSB) 830 for reporting aircraft accidents.

**FLTEC 310 Instrument Pilot/Instructor Ground School 4 Units**

*Prerequisite:* FLTEC 320 with a grade of "C" or better, or hold FAA Private Pilot Certificate, or successfully completed FAA Private Pilot Knowledge exam.

*Course Transferable to CSU*

*Hours:* 72 hours LEC

This course is an introduction to the principles of instrument flying to include: Instrument Flight Rules (IFR), instruments, meteorology, navigation, IFR approaches, IFR departures, IFR enroute, communications, air traffic control, and aero medical factors. This course meets the Federal Aviation Administration (FAA) requirements for Instrument Pilot, Instrument Ground Instructor, and Instrument Flight Instructor written exam eligibility.

**FLTEC 312 Air Navigation, Airspace, and Communication 3 Units**

*Prerequisite:* FLTEC 330 with a grade of "C" or better

*Course Transferable to CSU*

*Hours:* 54 hours LEC

This course is designed to teach the aeronautics student the basics of navigation, airspace, and communication under Visual Flight Rules (VFR). The fundamentals of pilotage, dead reckoning, and radio navigation will be applied to flight planning. Requirements for airspace and air traffic controller communication will be covered.

**FLTEC 314 Large Aircraft Systems 5 Units**

*Prerequisite:* FLTEC 310 and 320 with grades of "C" or better

*Course Transferable to CSU*

*Hours:* 90 hours LEC

This Boeing 737 Series general familiarization course is designed for students desiring to become pilots, air traffic controllers, air dispatchers, turbojet flight engineers, or technicians on large, complex aircraft typically flown by the airline industry. All Boeing systems will be covered in detail such as: avionics, hydraulics, pneumatics, pressurization, air conditioning, electrics, fire protection, ice/rain removal, engine operation, flight performance, and take-off and landing data. Weight and balance computations and emergency procedures will also be included.

**FLTEC 319 Fundamentals of Instruction for Aviation Instructors 3 Units**

*Prerequisite:* None.

*Advisory:* COMM 301 and FLTEC 320 with grades of "C" or better.

*Students should have at least one year of specific aviation technical experience as well as one FAA airman certificate such as: Private Pilot, Airframe and Powerplant Mechanic, Aircraft Dispatcher, Air Traffic Controller, Parachute Rigger, Navigator, or Flight Engineer.*

*Course Transferable to CSU*

*Hours:* 54 hours LEC

This course provides in-depth instruction in the Fundamentals of Instruction (FOI) for aviation flight and ground instructors as required by the Federal Aviation Administration (FAA), under part 61 and 65 of the Federal Aviation Regulations. Students will be required to develop detailed written syllabi and deliver an oral presentation that meets FAA standards of instruction.

**FLTEC 320 Private Pilot Ground School 3 Units**

*Prerequisite:* FLTEC 330 with a grade of "C" or better

*Course Transferable to CSU*

*Hours:* 54 hours LEC

The basic principles of flight, meteorology, navigation, communication, weight and balance, aircraft systems and instruments, performance, flight procedures, air traffic control, and regulations will be explained. It provides the necessary information that will enable the student to be eligible to take the Private Pilot, Sport Pilot, and basic Certificated Ground School Instructor knowledge exam.

**FLTEC 321 Commercial Pilot Ground School 3 Units**

*Prerequisite:* FLTEC 320 with a grade of "C" or better

*Course Transferable to CSU*

*Hours:* 54 hours LEC

This course is an in-depth study of the principles of meteorology, aviation, navigation, communication, advanced weight and balance, aircraft structures, aircraft systems, instruments, performance, theory of flight, and Federal Aviation Regulations (FAR). This course meets the Federal Aviation Administration (FAA) eligibility requirements for Commercial Pilot and/or Advanced Ground School Instructor written exam.

**FLTEC 330 Airplane Aerodynamics 3 Units**

*Prerequisite:* FLTEC 100 with a grade of "C" or better

*Course Transferable to CSU*

*Hours:* 54 hours LEC

This course provides in-depth instruction in the fundamentals of aerodynamics, nomenclature, common maneuvers, and emergency concerns for airplanes. This course is appropriate for pilots, flight instructors, aircraft mechanics, air traffic control specialists, or aircraft dispatchers.



**FLTEC 340 Helicopter Aerodynamics 3 Units**

*Prerequisite:* None.

*Advisory:* FLTEC 320 with a grade of "C" or better

*Course Transferable to CSU*

*Hours:* 54 hours LEC

This course is designed to provide in-depth instruction in the fundamentals of aerodynamics, nomenclature, common maneuvers, and emergency concerns for helicopters. This course would be appropriate for students pursuing a helicopter pilot and/or flight instructor, aircraft mechanic, or air traffic control and/or aircraft dispatcher certificate.

**FLTEC 350 Private Pilot-Helicopter Flight Techniques 3 Units**

*Prerequisite:* FLTEC 100, 302, 304, 306, 312, 320, and 330 with grades of "C" or better

*Enrollment Limitation:* If student is not a U.S. Citizen the student must complete the required Transportation Security Administration background check prior to enrollment. Student must obtain required FAA Medical Certificate verifying student meets current FAA medical fitness requirements. Student must read, write, and speak the English language.

*Course Transferable to CSU*

*Hours:* 162 hours LAB

The course will provide the flight training and experience required to safely exercise the privileges and responsibilities of a helicopter Private Pilot. Course content includes instruction in aerodynamics, aircraft systems, Federal Aviation Administration regulations, U.S. Airspace System, weight and balance, aircraft performance, aviation weather, flight publications, radio navigation, cross-country planning and navigation, basic flight physiology, and flight safety. The student must complete the appropriate flight lessons and receive FAA Private Pilot certification to satisfactorily complete the course.

**FLTEC 352 Instrument Pilot-Helicopter Flight Techniques 3 Units**

*Prerequisite:* FLTEC 100, 302, 304, 306, 310, 312, 320, and 330 with grades of "C" or better

*Enrollment Limitation:* If student is not a U.S. Citizen the student must complete the required Transportation Security Administration background check prior to enrollment. Student must obtain required FAA Medical Certificate verifying student meets current FAA medical fitness requirements. Student must read, write, and speak the English language. Student must possess an FAA Private Pilot-Helicopter certificate. Student must have accrued required flight experience.

*Course Transferable to CSU*

*Hours:* 162 hours LAB

The course will provide the flight training and experience required to allow the addition of an Instrument-Rotorcraft rating to a student's existing pilot certificate. Course content includes instruction in aircraft systems, Federal Aviation Administration regulations, U.S. Airspace System, weight and balance, aircraft performance, aviation weather, flight publications, radio navigation, cross-country planning and navigation, basic attitude instrument flying, instrument approach procedures and techniques, and flight safety. The student must complete the appropriate flight lessons and receive FAA Instrument-Airplane certification to satisfactorily complete the course.

**FLTEC 354 Commercial Pilot-Helicopter Flight Techniques 1 Unit**

*Prerequisite:* FLTEC 100, 302, 304, 306, 312, 321, and 330 with grades of "C" or better

*Enrollment Limitation:* If student is not a U.S. Citizen the student must complete the required Transportation Security Administration background check prior to enrollment. Student must obtain required FAA Medical Certificate verifying student meets current FAA medical fitness requirements. Student must read, write, and speak the English language. Student must possess an FAA Private Pilot-Helicopter certificate. Student must have accrued required flight experience.

*Course Transferable to CSU*

*Hours:* 54 hours LAB

This course will provide the flight training and experience required to safely exercise the privileges and responsibilities of a helicopter Commercial Pilot. Course content includes instruction in Federal Aviation Administration regulations, U.S. Airspace System, weight and balance, helicopter performance, aviation weather, flight publications, radio navigation, cross-country planning and navigation, complex and high-performance helicopter systems and operation, and flight safety. The student must complete the appropriate flight lessons and receive FAA Commercial Pilot-Rotorcraft certification to satisfactorily complete the course.

**FLTEC 360 Private Pilot-Airplane Flight Techniques 3 Units**

*Prerequisite:* FLTEC 100, 302, 304, 306, 312, 320, and 330 with grades of "C" or better

*Enrollment Limitation:* If student is not a U.S. Citizen the student must complete the required Transportation Security Administration background check prior to enrollment. Student must obtain required FAA Medical Certificate verifying student meets current FAA medical fitness requirements. Student must read, write, and speak the English language.

*Course Transferable to CSU*

*Hours:* 162 hours LAB

The course will provide the flight training and experience required to safely exercise the privileges and responsibilities of an airplane Private Pilot. Course content includes instruction in aerodynamics, aircraft systems, Federal Aviation Administration regulations, U.S. Airspace System, weight and balance, aircraft performance, aviation weather, flight publications, radio navigation, cross-country planning and navigation, basic flight physiology, and flight safety. The student must complete the appropriate flight lessons and receive FAA Private Pilot certification to satisfactorily complete the course.

**FLTEC 362 Instrument Pilot-Airplane 3 Units**  
**Flight Techniques**

*Prerequisite: FLTEC 100, 302, 304, 306, 310, 312, 320, and 330 with grades of "C" or better*

*Enrollment Limitation: If student is not a U.S. Citizen the student must complete the required Transportation Security Administration background check prior to enrollment. Student must obtain required FAA Medical Certificate verifying student meets current FAA medical fitness requirements. Student must read, write, and speak the English language. Student must possess an FAA Private Pilot-Airplane certificate. Student must have accrued required flight experience.*

*Course Transferable to CSU*

*Hours: 162 hours LAB*

The course will provide the flight training and experience required to allow the addition of an Instrument-Airplane rating to a student's existing pilot certificate. Course content includes instruction in aircraft systems, Federal Aviation Administration regulations, U.S. Airspace System, weight and balance, aircraft performance, aviation weather, flight publications, radio navigation, cross-country planning and navigation, basic attitude instrument flying, instrument approach procedures and techniques, and flight safety. The student must complete the appropriate flight lessons and receive FAA Instrument-Airplane certification to satisfactorily complete the course.

**FLTEC 364 Commercial Pilot-Airplane 1 Unit**  
**Flight Techniques**

*Prerequisite: FLTEC 100, 302, 304, 306, 312, 321, and 330 with grades of "C" or better*

*Enrollment Limitation: If student is not a U.S. Citizen the student must complete the required Transportation Security Administration background check prior to enrollment. Student must obtain required FAA Medical Certificate verifying student meets current FAA medical fitness requirements. Student must read, write, and speak the English language. Student must possess an FAA Private Pilot-Airplane certificate. Student must have accrued required flight experience.*

*Course Transferable to CSU*

*Hours: 54 hours LAB*

This course further develops and refines the knowledge and skills of pilots desiring careers as professional pilots. Course content includes instruction in Federal Aviation Administration regulations, U.S. Airspace System, weight and balance, aircraft performance, aviation weather, flight publications, radio navigation, cross-country planning and navigation, complex and high-performance aircraft systems and operation, and flight safety. The student must complete the appropriate flight lessons and receive FAA Commercial Pilot-Airplane certification to satisfactorily complete the course.