

# Aeronautics    AERO, FLTEC, ATCAD, AEROBH, FLTCBH

Associate in Science Degree  
Certificate of Achievement

Department of Advanced Transportation Technology  
Division of Advanced Technology  
Donnetta Webb  
Technology 106  
916-558-2491

Airframe, Degree and Certificate of Achievement  
Powerplant, Degree and Certificate of Achievement  
Combined Airframe and Powerplant, Degree and Certificate of Achievement  
Flight Technology, Degree and Certificate of Achievement  
Nondestructive Testing, Degree and Certificate of Achievement  
Air Traffic Control, Degree  
Aircraft Dispatcher, Degree and Certificate of Achievement  
Bell Helicopter  
    Aeronautics Bell Helicopter (AEROBH) (courses only)  
    Flight Technology Bell Helicopter (FLTCBH) (courses only)

## Aeronautics

### 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.

#### 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 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>48</b>

### Suggested Electives

AERO 120, 121, 340, 341, 350, 351, 361, 362, 363, 364, 365, 370

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

The Associate in Science 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.

### 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 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>40</b>

### Suggested Electives

AERO 340, 341, 350, 351, 361, 362, 363, 364, 365

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

The Associate in Science 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.

## 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 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 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, helicopter operations as well as government agencies and the military. Many experienced technicians opt to operate their own aviation businesses.

### 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 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>64</b>

### Suggested Electives

AERO 200, 360, 361, 362, 363, 364, 365

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

The Associate in Science 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.

## 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 29 unit, nine course program to include: Aviation Weather, Safety and Human Factors in Aviation, Federal Aviation Regulations, Instrument Pilot/Instructor Ground School, Air Navigation, Airspace, and Communication, Large Aircraft Systems, Private Pilot Ground School, and Airplane Aerodynamics. 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.

### 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**

	<b>Units</b>
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.....	3
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>29</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.

**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.

**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.

**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.

**Required Program**

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 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.....	3
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>40</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 test for the FAA Aircraft Dispatcher Certificate.

The AD Program is a 31 unit, ten course program. Required courses are: Aviation Weather, Safety and Human Factors in Aviation, Federal Aviation Regulations, Instrument Pilot/Instructor Ground School, Air Navigation, Airspace, and Communication, Large Aircraft Systems, Private Pilot Ground School, Airplane Aerodynamics, and Aircraft Dispatcher. 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.

**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**

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.....	3
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

**Total Units Required** **32**

**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.

**Nondestructive Testing**

**Associate in Science (A.S.) Degree**  
**Certificate of Achievement**

**Program Information**

Sacramento City College maintains an American Society of Non-destructive Testing (ASNT) program. Our one-year certificate and two-year degree programs are designed to meet the classroom instructional needs of students who desire technical training to qualify for the ASNT exams.

The Nondestructive Testing Program is an 18-unit, six course program. This program covers all five of the major disciplines, to include Magnetic Particle, Liquid Penetrant, Ultrasonic, Eddy Current and Radiographic Inspection. Courses satisfy the Level I requirement for classroom training under the American Society of Nondestructive Testing.

Upon passing the appropriate ASNT examinations, the graduate is certificated to work in the field of Nondestructive Testing.

**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.

Sacramento City College's Associate of Science Degree and Certificate of Achievement prepare the student to enter the field of Nondestructive Testing and Inspection. Many industries such as Aviation, Construction, Marine and Nuclear Power plants utilize this advanced inspection technology. NDT Technicians are employed by airlines, manufacturers, repair facilities and inspection facilities as well as government agencies and the military.

**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 classroom portion of the American Society of Nondestructive Testing, Level I Technician exams in each of the five major areas.
- demonstrate the knowledge of Magnetic Particle Inspection.
- demonstrate the knowledge of Liquid Penetrant Inspection.
- demonstrate the knowledge of Ultrasonic Inspection.
- demonstrate the knowledge of Eddy Current Inspection.
- demonstrate the knowledge of Radiographic Inspection.

**Required Program**

AERO 360 Nondestructive Testing I.....	3
AERO 361 Nondestructive Testing II.....	3
AERO 362 Nondestructive Testing III.....	3
AERO 363 Nondestructive Testing IV.....	3
AERO 364 Nondestructive Testing V.....	3
AERO 365 Nondestructive Testing VI.....	3

**Total Units Required** **18**

**Suggested Electives**

AERO 300, 330

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

The Associate in Science 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.

## 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 130 Bio-Diesel for Aircraft Ground-Based Transportation** **1 Unit**

*Prerequisite: None.*

*Hours: 18 hours LEC*

This course will take the student through the theory of the manufacture of Bio-Diesel to include a demonstration of the actual process. The course will cover the required steps from the initial procurement of the raw materials through the storing of the finished product. The product can be utilized in diesel engines to include aviation, locomotive, automotive, marine, and stationary applications.

**AERO 200    Certificated Aircraft  
Mechanic Preparation                    1-3 Units**

*Prerequisite:* None.

*Corequisite:* AERO 300

*Hours:* 54 hours LEC

This is a specialized course 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). 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:* None.

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

*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:* None.

*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:* 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.

*Hours:* 18 hours lecture, 54 hours laboratory

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:* None.

*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:* 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:* None.

*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:* 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:* None.

*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:* None.

*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:* None.

*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:* None.

*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 340 Gas Turbine Engine Development I 2 Units**

*Prerequisite: None.*

*Course Transferable to CSU*

*Hours: 18 hours LEC; 54 hours LAB*

This course provides instruction in the development of gas turbine powerplants to include theory of operation, application, overhaul techniques, and noise reduction through laboratory projects involving engine system tear-down and test cell operation for turbo-prop and helicopter turbo-shaft engines.

**AERO 341 Gas Turbine Engine Development II 2 Units**

*Prerequisite: None.*

*Course Transferable to CSU*

*Hours: 18 hours LEC; 54 hours LAB*

This course provides continued instruction in the development of gas turbine powerplants to include theory of operation, application, overhaul techniques, and noise reduction through laboratory projects involving engine system tear-down and test cell operation for turbo prop and helicopter turbo shaft engines.

**AERO 350 Helicopter Rotor and Drive Systems I 2 Units**

*Prerequisite: None.*

*Course Transferable to CSU*

*Hours: 18 hours LEC; 54 hours LAB*

This course provides introductory level instruction in the theory of helicopter flight, rotor systems, and flight controls. Laboratory projects involve disassembly, inspection, reassembly, and adjustment of helicopter components.

**AERO 351 Helicopter Rotor and Drive Systems II 2 Units**

*Prerequisite: None.*

*Course Transferable to CSU*

*Hours: 18 hours LEC; 54 hours LAB*

This course provides in-depth instruction in the theory of helicopter flight, flight controls, and drive systems. Laboratory projects involve disassembly, inspection, reassembly, and adjustment of rotor control and power-train components. Tracking and balance adjustments will be accomplished on a running helicopter.

**AERO 357 Bell 47 Series Helicopter Field Maintenance 4 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a current Federal Aviation Administration Airframe and Powerplant Mechanic Certificate.*

*Course Transferable to CSU*

*Hours: 49 hours LEC; 71 hours LAB*

This course will cover the required material that will enable a certificated Airframe and Powerplant Mechanic to troubleshoot, inspect, perform, or supervise the maintenance and/or alteration of the Bell 47 series helicopter, in accordance with the Federal Aviation Administration (FAA) methods.

**AERO 358 Bell 47 Series Helicopter Component Overhaul 4 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a current Federal Aviation Administration Airframe and Powerplant Mechanic Certificate.*

*Course Transferable to CSU*

*Hours: 49 hours LEC; 71 hours LAB*

The course will cover the required material that will enable a certificated Airframe and Powerplant Mechanic to perform component overhaul operations on the Bell 47 series helicopter components: main rotor, main rotor controls, mast assembly, main drive-shaft, anti-torque system components, and transmission, in accordance with approved Federal Aviation Administration (FAA) methods.

**AERO 360 Nondestructive Testing I 3 Units**

*Prerequisite: None.*

*Course Transferable to CSU*

*Hours: 54 hours LEC; 54 hours LAB*

This introductory course explains the basic principles of material manufacturing processes, discontinuities, and defects as related to the major nondestructive testing methods. This course is an introduction to Level I Magnetic Particle, Liquid Penetrant, Eddy Current, Ultrasonic, and Radiographic courses. This course will give the student an overview of Nondestructive Testing disciplines with regard to identifying defects and proper Nondestructive Inspection (NDI) application.

**AERO 361 Nondestructive Testing II 3 Units**

*Prerequisite: None.*

*Course Transferable to CSU*

*Hours: 54 hours LEC*

This Level I classroom training covers the basic principles of material manufacturing processes, discontinuities, and defects as related to liquid penetrant inspection that will allow the student to identify defects in proper Nondestructive Inspection (NDI) application. This course is one of five recognized Nondestructive Testing disciplines used to identify defects in aviation and industrial applications. Minimum attendance is mandated by The American Society of Nondestructive Testing.

**AERO 362 Nondestructive Testing III 3 Units**

*Prerequisite: None.*

*Course Transferable to CSU*

*Hours: 54 hours LEC*

This Level I classroom training covers the basic principles of material manufacturing processes, discontinuities, and defects as related to Magnetic Particle Inspection that will allow the student to identify defects in this application. This course is one of five recognized Nondestructive Testing disciplines used to identify defects in aviation and industrial applications. Minimum attendance is mandated by the American Society of Nondestructive Testing.

**AERO 363 Nondestructive Testing IV 3 Units**

*Prerequisite:* AERO 361 and 362 with grades of "C" or better

*Course Transferable to CSU*

*Hours:* 54 hours LEC

This Level I classroom training covers the basic principles of Ultrasonic Nondestructive testing methods that will allow students to identify defects in this application. This course is one of five recognized Nondestructive Testing disciplines used to identify defects in aviation and industrial applications. Minimum attendance is mandated by the American Society of Nondestructive Testing.

**AERO 364 Nondestructive Testing V 3 Units**

*Prerequisite:* AERO 361 and 362 with grades of "C" or better

*Course Transferable to CSU*

*Hours:* 54 hours LEC

This Level I classroom training covers the basic principles of the Eddy Current Nondestructive testing method that will allow students to identify defects in this application. This course is one of five recognized Nondestructive Testing disciplines used to identify defects in aviation and industrial applications. Minimum attendance is mandated by the American Society of Nondestructive Testing.

**AERO 365 Nondestructive Testing VI 3 Units**

*Prerequisite:* AERO 361 and 362 with grades of "C" or better

*Course Transferable to CSU*

*Hours:* 54 hours LEC

This Level I classroom training covers the basic principles of the Radiographic Nondestructive testing method that will allow students to identify defects in this application. This course is one of the five recognized Nondestructive Testing disciplines used to identify defects in aviation and industrial applications. Minimum attendance is mandated by the American Society of Nondestructive Testing.

**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. This course can be taken up to four times for credit provided there is no duplication in subject matter.

**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. This course may be taken up to four times for credit for a maximum of 12 units.

**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 Units**

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

*Course Transferable to CSU*

*Hours:* 36 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 lecture

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. This course can be taken up to four times for credit provided there is no duplication in subject matter.

**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:* None.

*Advisory:* FLTEC 320 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:* None.

*Advisory:* 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:* None.

*Advisory:* 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 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 3 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:* 54 hours LEC

This course is an introduction to the basic 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 School Instructor, and/or Instrument Flight Instructor written exam eligibility.

**FLTEC 312 Air Navigation, Airspace, and Communication 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 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:* None.

*Course Transferable to CSU*

*Hours:* 90 hours LEC

This Boeing 700 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. This course may be taken four times for credit provided a different series aircraft is being studied.

**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:* None.

*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:* None.

*Advisory:* FLTEC 320 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 347 Bell 47 Series Initial Pilot Transition 1 Unit**

*Prerequisite:* None.

*Enrollment Limitation:* The student must possess a current Federal Aviation Administration (FAA) Private or Commercial Helicopter Pilot Certificate, a current FAA 1st, 2nd, or 3rd class medical certificate, and a minimum of 100 hours of helicopter flight time.

*Course Transferable to CSU*

*Hours:* 16 hours LEC; 6 hours LAB

This course will enable the certificated helicopter pilot to accomplish initial transition to the Bell 47 model series helicopter flown with comprehensive knowledge of the aircraft, systems, and components, along with a thorough understanding of the operational characteristics and flight limitations.

## Aeronautics – Bell Helicopter (AEROBH)

The following pilot and technical courses are offered only at the Bell Helicopter Training Academy (BHTA), Alliance Airport, Fort Worth, Texas. Bell Helicopter Training Academy is a Federal Aviation Administration approved training facility. This is a unique industry-higher educational partnership which enables Bell Helicopter Training Academy students to receive academic credit for BHTA technical training.

The following courses are not offered at Sacramento City College facility.

Individuals who wish to take these BHTA courses must first apply to and be accepted into a Bell Helicopter Training Academy course.

Bell Helicopter Training Academy  
13901 Aviator Way  
Fort Worth, Texas 76177  
1-800-368-2355  
<http://www.bellhelicopter.com/en/training>

BHTA will notify the individual of acceptance into the Academy with a formal letter of confirmation. The letter of confirmation will provide specific information relative to registering and enrolling with Sacramento City College for academic credit for the courses offered at BHTA.

Sacramento City College's Bell Helicopter Training Academy Maintenance Technology degree and certificate programs are pending approval.

### **AEROBH 300 BHTA 200 Series Field Maintenance 4 Units**

*Prerequisite:* None.

*Enrollment Limitation:* The student must possess a Federal Aviation Administration Airframe certificate and a minimum of one year aircraft mechanic experience.

*Course Transferable to CSU*

*Hours:* 48 hours LEC; 72 hours LAB

This course will cover the required material that will enable a certificated airframe mechanic to troubleshoot, inspect, perform, or supervise the maintenance and/or alteration of the Bell 200 Series helicopter in accordance with the Federal Aviation Administration (FAA) methods. This course may be taken two times for credit provided a different model helicopter is studied.

### **AEROBH 301 BHTA 206 Series Field Maintenance 3 Units**

*Prerequisite:* None.

*Enrollment Limitation:* The student must possess a Federal Aviation Administration Airframe certificate and a minimum of one year aircraft mechanic experience.

*Course Transferable to CSU*

*Hours:* 41 hours LEC; 39 hours LAB

This course will cover the required material that will enable a certificated airframe mechanic to troubleshoot, inspect, perform, or supervise the maintenance and/or alteration of the Bell 206 Series helicopter in accordance with the Federal Aviation Administration (FAA) methods. This course may be taken two times for credit provided a different model helicopter is being studied.

### **AEROBH 302 BHTA 400 Series Field Maintenance 4 Units**

*Prerequisite:* None.

*Enrollment Limitation:* The student must possess a Federal Aviation Administration Airframe certificate and a minimum of one year aircraft mechanic experience.

*Course Transferable to CSU*

*Hours:* 48 hours LEC; 72 hours LAB

This course will cover the required material that will enable a certificated airframe mechanic to troubleshoot, inspect, perform, or supervise the maintenance and/or alteration of the Bell 400 Series helicopter in accordance with the Federal Aviation Administration (FAA) methods. This course may be taken four times for credit provided a different model helicopter is being studied.

### **AEROBH 303 BHTA 400 Exp Series Field Maintenance 3 Units**

*Prerequisite:* None.

*Enrollment Limitation:* The student must possess a Federal Aviation Administration Airframe certificate and a minimum of one year aircraft mechanic experience.

*Course Transferable to CSU*

*Hours:* 41 hours LEC; 39 hours LAB

This course will cover the required material that will enable a certificated airframe mechanic to troubleshoot, inspect, perform, or supervise the maintenance and/or alteration of the Bell 400 Exp Series helicopter in accordance with the Federal Aviation Administration (FAA) methods. This course may be taken three times for credit provided a different helicopter is studied.

### **AEROBH 304 Bell Helicopter Training Academy 429 Series Field Maintenance 4 Units**

*Prerequisite:* None.

*Enrollment Limitation:* The student must possess a Federal Aviation Administration Airframe and Powerplant certificate and a minimum of one year of aircraft mechanic experience.

*Course Transferable to CSU*

*Hours:* 53 hours LEC; 67 hours LAB

This course will cover the required material that will enable a certificated Airframe and Powerplant mechanic to troubleshoot, inspect, perform, or supervise the maintenance and/or alteration of the Bell 429 series helicopter in accordance with the Federal Aviation Administration (FAA) methods.

### **AEROBH 320 BHTA 206 Series Component Overhaul 2 Units**

*Prerequisite:* None.

*Enrollment Limitation:* The student must possess a Federal Aviation Administration Airframe certificate and a minimum of one year aircraft mechanic experience.

*Course Transferable to CSU*

*Hours:* 34 hours LEC; 6 hours LAB

The course will cover the required material that will enable a certificated airframe mechanic to perform component overhaul on the Bell 206 Series helicopter components: main rotor, main rotor controls, mast assembly, main drive-shaft, anti-torque system components, and transmission in accordance with approved Federal Aviation Administration (FAA) methods. This course may be taken two times for credit provided a different model helicopter is studied.

**AEROBH 321 BHTA 212/214 Series  
Component Overhaul 4 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe certificate and a minimum of one year aircraft mechanic experience.*

*Course Transferable to CSU*

*Hours: 48 hours LEC; 72 hours LAB*

The course will cover the required material that will enable a certificated airframe mechanic to perform component overhaul procedures on a Bell 212 or 214ST helicopter: main rotor, main rotor controls, main drive-shaft, anti-torque system components, and transmission in accordance with the approved Federal Aviation Administration (FAA) methods. This course may be taken two times for credit provided a different model of helicopter is studied.

**AEROBH 322 BHTA 222/230 Series  
Component Overhaul 3 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe certificate and a minimum of one year aircraft mechanic experience.*

*Course Transferable to CSU*

*Hours: 41 hours LEC; 39 hours LAB*

The course will cover the required material that will enable a certificated airframe mechanic to perform component overhaul procedures on a Bell 222/230 helicopter: main rotor, main rotor controls, main drive-shaft, anti-torque system components, and transmission in accordance with the approved Federal Aviation Administration (FAA) methods.

**AEROBH 323 BHTA 407 Series  
Component Overhaul 1.5 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe certificate and a minimum of one year aircraft mechanic experience.*

*Course Transferable to CSU*

*Hours: 21 hours LEC; 19 hours LAB*

The course will cover the required material that will enable a certificated airframe mechanic to perform component overhaul procedures on a Bell 407 helicopter: main rotor, main rotor controls, mast assembly, main drive shaft, anti-torque system components, and transmission in accordance with approved Federal Aviation Administration (FAA) methods.

**AEROBH 324 BHTA 412 Series  
Component Overhaul 4 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe certificate and a minimum of one year of aircraft mechanic experience.*

*Course Transferable to CSU*

*Hours: 48 hours LEC; 72 hours LAB*

The course will cover the required material that will enable a certificated airframe mechanic to perform component overhaul procedures on a Bell 412 helicopter: main rotor, main rotor controls, main drive-shaft, anti-torque system components, and transmission in accordance with the approved Federal Aviation Administration (FAA) methods.

**AEROBH 325 BHTA 427 Series  
Component Overhaul 2.5 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe certificate and a minimum of one year of aircraft mechanic experience.*

*Course Transferable to CSU*

*Hours: 36 hours LEC; 28 hours LAB*

The course will cover the required material that will enable a certificated airframe mechanic to perform component overhaul procedures on a Bell 427 helicopter: main rotor, main rotor controls, main drive-shaft, anti-torque system components, and transmission in accordance with the approved Federal Aviation Administration (FAA) methods.

**AEROBH 326 BHTA 430 Series  
Component Overhaul 3 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe certificate and a minimum of one year aircraft mechanic experience.*

*Course Transferable to CSU*

*Hours: 41 hours LEC; 39 hours LAB*

The course will cover the required material that will enable a certificated airframe mechanic to perform component overhaul procedures on the Bell 430 helicopter: main rotor, main rotor controls, main drive-shaft, anti-torque system components, and transmission in accordance with the approved Federal Aviation Administration (FAA) methods.

**AEROBH 340 BHTA 200 Series  
Electrical Maintenance 2 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe Certificate and a fundamental knowledge of both AC and DC electrical circuitry, including solid-state electronic theory.*

*Course Transferable to CSU*

*Hours: 34 hours LEC; 6 hours LAB*

The course will cover the fundamental operations and skills necessary to maintain the electrical and electronic systems of the Bell 200 Series helicopter in an airworthy condition. This will include servicing, routine maintenance, troubleshooting, inspection, electrical component change, and wiring diagram interpretation in accordance with approved Federal Aviation Administration (FAA) methods. This course may be taken four times provided a different model of helicopter is studied.

**AEROBH 341 BHTA 206 Series  
Electrical Maintenance 1 Unit**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe Certificate and a fundamental knowledge of both AC and DC electrical circuitry, including solid-state electronic theory.*

*Course Transferable to CSU*

*Hours: 17 hours LEC; 7 hours LAB*

The course will cover the fundamental operations and skills necessary to maintain the electrical and electronic systems of the Bell 206 Series helicopter in an airworthy condition. This will include servicing, routine maintenance, troubleshooting, inspection, electrical component change, and wiring diagram interpretation in

accordance with approved Federal Aviation Administration (FAA) methods. This course may be taken two times for credit provided a different model of the 206 Series helicopter is studied.

### **AEROBH 342 BHTA 400 Series Electrical Maintenance 2 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe Certificate and a fundamental knowledge of both AC and DC electrical circuitry, including solid-state electronic theory.*

*Course Transferable to CSU*

*Hours: 34 hours LEC; 6 hours LAB*

The course will cover the fundamental operations and skills necessary to maintain the electrical and electronic systems of the Bell 400 Series helicopter in an airworthy condition. This will include servicing, routine maintenance, troubleshooting, inspection, electrical component change, and wiring diagram interpretation in accordance with approved Federal Aviation Administration (FAA) methods. This course may be taken four times for credit provided a different model of the Bell 400 Series helicopter is being studied.

### **AEROBH 350 BHTA 200 Series Automatic Flight Control System 2 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe Certificate and a fundamental knowledge of both AC and DC electrical circuitry, including solid-state electronic theory.*

*Course Transferable to CSU*

*Hours: 34 hours LEC; 6 hours LAB*

The course will cover the fundamental operations and skills necessary to maintain the King Flight Control (KFC) 500 autopilot system on the Bell 200 Series helicopter in an airworthy condition. This will include servicing, routine maintenance, troubleshooting, inspection, component change, and wiring diagram interpretation in accordance with approved Federal Aviation Administration (FAA) methods. This course may be taken three times for credit provided a different model helicopter is studied.

### **AEROBH 351 BHTA 214ST Series Automatic Flight Control System 3.5 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe certificate and a fundamental knowledge of both AC and DC electrical circuitry, including solid-state electronic theory.*

*Course Transferable to CSU*

*Hours: 55 hours LEC; 25 hours LAB*

The course will cover the fundamental operations and skills necessary to maintain the KFC 500 autopilot system on the Bell 214ST Series helicopter in an airworthy condition. This will include servicing, routine maintenance, troubleshooting, inspection, component change, and wiring diagram interpretation in accordance with approved Federal Aviation Administration (FAA) methods.

### **AEROBH 352 BHTA 400 Series Automatic Flight Control System 2 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe Certificate and a fundamental knowledge of both AC and DC electrical circuitry, including solid-state electronic theory.*

*Course Transferable to CSU*

*Hours: 34 hours LEC; 6 hours LAB*

The course will cover the fundamental operations and skills necessary to maintain the KFC 500 autopilot system on the Bell 430 Series helicopter in an airworthy condition. This will include servicing, routine maintenance, troubleshooting, inspection, component change, and wiring diagram interpretation in accordance with approved Federal Aviation Administration (FAA) methods.

### **AEROBH 358 BHTA Connector Cable Maintenance 2 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe certificate.*

*Course Transferable to CSU*

*Hours: 34 hours LEC; 6 hours LAB*

The course will cover the fundamental operations and skills necessary to maintain helicopter electrical, electronic connectors, and cables in an airworthy condition. This will include servicing, routine maintenance, inspection, and component change in accordance with approved Federal Aviation Administration (FAA) methods.

### **AEROBH 360 BHTA Composite Repair 2 Units**

*Prerequisite: None.*

*Enrollment Limitation: The student must possess a Federal Aviation Administration Airframe certificate and a minimum of one year aircraft mechanic experience.*

*Course Transferable to CSU*

*Hours: 34 hours LEC; 6 hours LAB*

This course will cover the required material that will enable a certificated airframe mechanic to identify, evaluate for repair, and carry out repairs on secondary composite structures in accordance with approved Federal Aviation Administration (FAA) regulation part 65.81.

### **AEROBH 361 BHTA Composite Blade Repair 2 Units**

*Prerequisite: None.*

*Enrollment Limitation: The Federal Aviation Administration Airframe certificate and a minimum of one year aircraft mechanic experience or one year experience as an active mechanic on helicopters, commercial or military, or three years general experience as an aircraft mechanic, commercial or military.*

*Course Transferable to CSU*

*Hours: 30 hours LEC; 18 hours LAB*

This course will cover the required material that will enable a certificated airframe mechanic to identify and evaluate for repair and then carry out repairs on composite main rotor blades in accordance with approved Federal Aviation Administration (FAA) regulation part 65.81.

**AEROBH 370 BHTA Nondestructive Inspection 3.5 Units**

*Prerequisite:* None.

*Enrollment Limitation:* The student must have both of the following: Federal Aviation Administration Airframe and Powerplant Mechanic Certificate and 1 year of experience as a helicopter mechanic.

Course Transferable to CSU

Hours: 54 hours LEC; 27 hours LAB

This course will cover the required material that will enable a certificated airframe and powerplant mechanic to meet the Federal Aviation Administration (FAA) requirements of Airline Transport Association (ATA) specification 105 guidelines for training and qualifying personnel in Nondestructive Inspection methods.

**Flight Technology - Bell Helicopter (FLTCBH)**

The following pilot and technical courses are offered only at the Bell Helicopter Training Academy (BHTA), Alliance Airport, Fort Worth, Texas. Bell Helicopter Training Academy is a Federal Aviation Administration approved training facility. This is a unique industry-higher educational partnership which enables Bell Helicopter Training Academy students to receive academic credit for BHTA technical training.

The following courses are not offered at Sacramento City College facility.

Individuals who wish to take these BHTA courses must first apply to and be accepted into a Bell Helicopter Training Academy course.

Bell Helicopter Training Academy

13901 Aviator Way

Fort Worth, Texas 76177

1-800-368-2355

<http://www.bellhelicopter.com/en/training>

BHTA will notify the individual of acceptance into the Academy with a formal letter of confirmation. The letter of confirmation will provide specific information relative to registering and enrolling with Sacramento City College for academic credit for the courses offered at BHTA.

Sacramento City College's Bell Helicopter Training Academy Maintenance Technology degree and certificate programs are pending approval.

**FLTCBH 300 BHTA 206/407 Initial Pilot Transition 1 Unit**

*Prerequisite:* None.

*Enrollment Limitation:* The student must possess a Private or Commercial Helicopter Certificate and a minimum of 500 hours helicopter flight time.

Course Transferable to CSU

Hours: 20 hours LEC; 7 hours LAB

This course will enable the certificated helicopter pilot to accomplish initial transition to the 206 or 407 model helicopter flown with a comprehensive knowledge of the aircraft, systems, and components along with a thorough understanding of the operational characteristics and flight limitations. This course may be taken two times for credit provided a different model helicopter is studied.

**FLTCBH 320 BHTA 206/407 Pilot Refresher .5 Unit**

*Prerequisite:* None.

*Enrollment Limitation:* The student must possess a Private or Commercial Helicopter Certificate, minimum 500 hours helicopter flight time, and prior completion of Bell Helicopter Initial Pilot Transition course FLTCBH 300.

Course Transferable to CSU

Hours: 8 hours LEC; 5 hours LAB

This course will serve as the refresher for certificated helicopter pilots with previous experience relating to the specific model aircraft being flown. It will include comprehensive knowledge of the aircraft, systems, and components along with a thorough understanding of the operational characteristics and flight limitations. This course may be taken two times provided a different model helicopter is studied or to fulfill continuing education requirements mandated by the FAA.

**FLTCBH 330 BHTA Professional Pilot 2 Units**

*Prerequisite:* None.

*Enrollment Limitation:* The student must possess a Commercial Helicopter Certificate, current Medical Certificate, a minimum of 1,000 hours helicopter flight time, successful completion of 206 or 407 Series Initial Pilot Transition course, and approval from authorized flight training staff.

Course Transferable to CSU

Hours: 36 hours LEC; 4 hours LAB

This course is designed to promote safe helicopter practices by refreshing and testing an aviator's knowledge and skills on normal and simulated abnormal/emergency procedures by refreshing and testing his/her knowledge of pertinent aviation subject matter. Various scenarios will be introduced and analyzed to improve the aeronautical decision making process. This course may be taken two times for credit provided a different helicopter series is studied.

**FLTCBH 349 BHTA Night Vision Goggles .5 Units**

*Prerequisite:* None.

*Enrollment Limitation:* The student must possess a current commercial helicopter pilot certificate.

Course Transferable to CSU

Hours: 9 hours LEC

This course is designed to introduce the student to the use of night vision goggles utilized in helicopter flight. This course covers normal and emergency night flight characteristics and limitations, night terrain, and aeromedical considerations.