Aeronautics AERO, FLTEC

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

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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 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 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.

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.

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.

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
Total Units Required	**48**

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 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.

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
Total Units Required	**40**

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.

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
Total Units Required	**64**

Suggested Electives
AERO 120, 121, 122, 200, 360, 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.

Flight Technology

Associate in Science Degree
Certificate of Achievement

Program Information
Sacramento City College maintains an authorized two-year certificate and degree program organized to offer pilot ground instruction. The Flight Technology Program is an 18 unit, five-course program to include private pilot ground school, instrument pilot ground school, powerplant theory and airframe systems, and 2 units of elective courses from Aeronautics. Upon completion of the program the student will qualify to take the written portion of the required FAA Pilot examination. Flight training may be made available through one of our many industry partners.

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.

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

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 classroom portion of the Federal Aviation Administration examination.
- demonstrate the knowledge required of a competent commercial pilot.
- demonstrate the knowledge required in the areas of meteorology, performance, weight and balance, aerodynamics, systems, and regulations.

Required Program	**Units**
AERO 120 Private Pilot, Sport Pilot, Basic Ground Instructor Ground School	3
AERO 121 Instrument Pilot/Instructor Ground School	3
AERO 310 Powerplant Theory and Maintenance	5
AERO 320 Airframe Systems and Components	5
A minimum of 2 units from the following:	2
AERO 122 Commercial Pilot Ground School, Advanced Ground Instructor (3)	
or AERO 311 Powerplant Theory and Maintenance Applications (3)	
or AERO 322 Airframe Systems and Components Applications (3)	
or AERO 370 Introduction to Aviation (3)	
or AERO 494 Topics in Aeronautics, Aviation Maintenance (0.5-4)	
Total Units Required	**18**

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.

Nondestructive Testing

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

Program Information
Sacramento City College maintains an American Society of Nondestructive 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 Certificate of Achievement prepares 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	**Units**
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**

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 120 Private Pilot, Sport Pilot, Basic Ground Instructor Ground School 3 Units

Prerequisite: None.
Hours: 54 hours LEC
This course explains the basic principles of aviation, meteorology, navigation, communication, weight and balance, aircraft systems and instruments, performance, flight procedures, air traffic control, and regulations. It provides the necessary information that will enable students to be eligible to take the Sport Pilot, Private Pilot, and basic Certificated Ground Instructor knowledge tests. It also meets Federal Aviation Administration requirements for the knowledge test.

AERO 121 Instrument Pilot/Instructor Ground School 3 Units

Prerequisite: None.
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 en route, communications, air traffic control, and aeromedical factors. This course meets the Federal Aviation Administration requirement for Instrument Pilot and/or Instrument Ground instructor and Instrument Flight instructor written tests.

AERO 122 Commercial Pilot Ground School, Advanced Ground Instructor 3 Units

Prerequisite: None.
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. This course meets the Federal Aviation Administration (FAA) requirement for Commercial Pilot and/or Advanced Ground Instructor written test.

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.
Hours: 54 hours LEC
This is a specialized course curtailed 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 210 Large Aircraft Systems and Performance Data 5 Units

Prerequisite: None.
Hours: 90 hours LEC
This Boeing 700 Series general familiarization course is designed for students desiring to become pilots, turbojet flight engineers, or mechanics 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 and engine operation, flight performance, and take off and landing data. Weight and balance computations and emergency procedures will also be covered. This course may be taken two times for credit provided a different aircraft of the series is studied.

AERO 299 Experimental Offering in Aeronautics .5-4 Units

Prerequisite: None
Hours: 90 hours LEC
See Experimental Offerings

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 and electrical generating systems, instruments, batteries, AC and DC circuits. Minimum attendance is mandated by the Federal Aviation Administration.

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, 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, 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, diagnosis, 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: Completion of 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, 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: Completion of 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: Completion of 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 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: Completion of 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 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 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 370 Introduction to Aviation 3 Units
Prerequisite: None.
Course Transferable to CSU
Hours: 54 hours LEC
This introductory survey course is designed for potential career aviation professionals. This course explains the fundamentals of aircraft and spacecraft flight as well as the history and development of the aviation industry. A minimum of one on-site visit to a local airport is recommended for the completion of this course.

AERO 371 Aviation Weather 2 Units
Prerequisite: None.
Course Transferable to CSU
Hours: 36 hours LEC
This aviation-related meteorology course is designed for pilots, flight crew members, and aircraft dispatchers. It covers basic weather causes, phenomena, hazards, and prognostics as they apply to flight. It also describes and explains how to use and interpret Federal Aviation Administration and National Weather Service meteorological services for aircrews.

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

Flight Technology (FLTEC)

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

Prerequisite: None
Hours: 9-72 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.