AVIATION PILOT TRAINING (APT)

APT A110 **3 Units (54 lecture hours)**
Introduction to Airport Operations
Grading Mode: Standard Letter
Transfer Credit: CSU.

This course provides students with an introduction to airport operations and operations management. Students will learn about the daily responsibilities of airport operations managers to include airfield inspections, aircraft ramp handling, passenger terminal operations, airport security and cargo handling. In addition the student will be introduced to airport licensing requirements, airport operational administration and performance and environmental planning factors to include noise abatement.

APT A115 **3 Units (54 lecture hours)**
Introduction to Flight Operations
Grading Mode: Standard Letter
Transfer Credit: CSU

This course provides an introduction to airline and corporate flight operations and operations management to include the economic structure of the airlines, airline organization and management, forecasting, scheduling, marketing and fleet selection. In addition, corporate flight operations and the impact of general aviation on the nation's air transportation system are explored. The course also introduces the student to the world of flight operations management to include dispatch, crew scheduling, airframe scheduling and flight following.

APT A120 **1 Unit (54 lab hours)**
Private Pilot Flight Lab
Grading Mode: Pass/No Pass
Transfer Credit: CSU.

During this course the student obtains the foundation for all future aviation training. The student will receive training in the maneuvers and procedures necessary for him/her to meet the standards contained in the FAA Private Pilot Practical Test Standards. Additionally, the student will receive training in safety awareness, crew resource management, and aeronautical decision-making. At the successful completion of this course the student will have gained the aeronautical experience necessary to attain a Private Pilot Certificate with an Airplane Single Engine Land Rating. Lab. NOTE: Instructor permission is required for enrollment in this class. Graded or Pass/No Pass option.

APT A121 **1 Unit (54 lab hours)**
Instrument Pilot Flight Lab
Grading Mode: Pass/No Pass
Transfer Credit: CSU.

The student will receive training in the maneuvers and procedures necessary to meet the standards contained in the FAA Instrument Rating Practical Test Standards. Additionally, the student will receive training in safety awareness, crew resource management, and aeronautical decision-making. At the successful completion of this course the student will have gained the aeronautical experience necessary to attain the addition of an Instrument Rating for the Private Pilot Certificate. This course is offered on a pass/no-pass basis only. Lab.

APT A122 **1 Unit (54 lab hours)**
Commercial Pilot Flight Lab
Prerequisite(s): Private Pilot Certificate (will be verified by Instructor on first class meeting).

Grading Mode: Pass/No Pass
Transfer Credit: CSU

The student will receive training in the maneuvers and procedures necessary to meet the standards contained in the FAA Commercial Pilot Practical Test Standards. Additionally, the student will receive training in safety awareness, crew resource management, and aeronautical decision-making. At the successful completion of this course, the student will have gained the aeronautical experience necessary to attain the Commercial Pilot Certificate. Lab. Graded or Pass/No Pass option.

APT A123 **1 Unit (54 lab hours)**
Private Pilot Advanced Flight Lab
Grading Mode: Pass/No Pass
Transfer Credit: CSU.

Flight training in selected areas for the purpose of gaining proficiency in required pilot operations for various certificates and ratings. All training is conducted in accordance with Federal Aviation Regulation (FAR) Part 61 and Part 141. All flight training labs are conducted in accordance with an approved FAR Part 141 syllabus. In addition, flight lab courses allow the student to accrue the necessary flight hours for certification and licensing as a commercial, instrument pilot. Graded or Pass/No Pass option.

APT A124 **1 Unit (54 lab hours)**
Advanced Commercial Pilot Flight Lab
Prerequisite(s): Private Pilot Certificate (will be verified by Instructor on first class meeting).

Grading Mode: Pass/No Pass
Transfer Credit: CSU

The student will receive training in the maneuvers and procedures necessary to meet the standards contained in the FAA Commercial Pilot Practical Test Standards. Additionally, the student will receive training in safety awareness, crew resource management, and aeronautical decision-making. At the successful completion of this course, the student will have gained the aeronautical experience necessary to attain the addition of an Commercial Rating for the Private Pilot Certificate. All training is conducted in accordance with CFR 14, Federal Aviation Regulation Part 61 and under a syllabus of instruction approved under CFR 14, Federal Aviation Regulation Part 141. This course is offered on a pass/ no pass basis only.

APT A126 **1 Unit (54 lab hours)**
Multi-Engine Aircraft Operations Lab
Grading Mode: Standard Letter
Transfer Credit: CSU

The student will receive training in the maneuvers and procedures necessary to meet the standards contained in the Commercial Practical Test Standards Airplane Multi-Engine Land. Additionally, the student will receive training in safety awareness, crew resource management, and aeronautical decision making. At the successful completion of this course, the student will have gained the aeronautical experience necessary to attain the additional rating of Commercial Pilot, Airplane Multi-Engine Land. This course will be offered on a pass/no-pass basis only. Lab.

APT A127 **1 Unit (54 lab hours)**
Advanced Instrument Pilot Flight Lab
Grading Mode: Pass/No Pass
Transfer Credit: CSU.

The student will receive training in the maneuvers and procedures necessary to meet the standards contained in the FAA Instrument Rating Practical Test Standards. Additionally, the student will receive training in safety awareness, crew resource management, and aeronautical decision-making. At the successful completion of this course, the student will have gained the aeronautical experience necessary to attain the addition of an Instrument Rating for the Private Pilot Certificate. This lab course is offered on a pass/no-pass basis only.

APT A128 **1 Unit (54 lab hours)**
Flight Instructor Flight Lab
Grading Mode: Pass/No Pass
Transfer Credit: CSU.

The student will receive training in the maneuvers and procedures necessary to meet the standards contained in the FAA Certified Flight Instructor Practical Test Standards. Additionally, the student will receive training in fundamentals of instructions, safety awareness, crew resource management, and aeronautical decision-making. At the successful completion of this course, the student will have gained the aeronautical experience necessary to attain the Flight Instructor - Airplane Rating. All training is conducted in accordance with CFR 14, Federal Aviation Regulation Part 61 and under a syllabus of instruction approved under CFR 14, Federal Aviation Regulation Part 141. This course will be offered on a pass/no-pass basis only.

APT A129 **1 Unit (54 lab hours)**
Advanced Flight Instructor Flight Lab
Grading Mode: Pass/No Pass
Transfer Credit: CSU.

The student will receive training in the maneuvers and procedures necessary to meet the standards contained in the FAA Certified Flight Instructor Practical Test Standards. Additionally, the student will receive training in fundamentals of instructions, safety awareness, crew resource management, and aeronautical decision-making. At the successful completion of this course, the student will have gained the aeronautical experience necessary to attain the Flight Instructor - Airplane Rating. All training is conducted in accordance with CFR 14, Federal Aviation Regulation Part 61 and under a syllabus of instruction approved under CFR 14, Federal Aviation Regulation Part 141. This course will be offered on a pass/no-pass basis only.

APT A130 **5 Units (90 lecture hours)**
Private Pilot Aviation Ground School
Grading Mode: Standard Letter
Transfer Credit: CSU.

Entry level course for commercial pilot training program. Covers basic aerodynamics, aircraft performance, Federal Aviation Regulations, aviation weather factors and cross country navigation procedures. Provide introductory material on radio navigation, radio communications procedures, human factors and aviation safety. Meets the preparation requirements for the FAA Private Pilot computerized knowledge examination. All training is conducted in accordance with Federal Aviation Regulation (FAR) Part 61.

APT A131 **3 Units (54 lecture hours)**
Introduction to Unmanned Aircraft Systems
Grading Mode: Standard Letter
Transfer Credit: CSU.

This course provides an overview of Unmanned Aircraft Systems (UAS). Topics include the development and history of UAS, current and upcoming operational regulations, airspace classifications, sources of weather, loading and performance, radio communications, airport operations, maintenance and inspection procedures, industry and societal implications, career outlooks, ethical considerations, and basic components required to operate a UAS. The course will also introduce hands-on UAS flight and operation principles through PC-based simulation. All training is conducted in accordance with Federal Aviation Regulations (FAR) Part 107.

APT A132 **3 Units (54 lecture hours)**
Aviation Navigation
Prerequisite(s): APT A130; current Private Pilot Certificate (verified by the instructor at the first class meeting).

Grading Mode: Standard Letter
Transfer Credit: CSU.

This course provides academic background for pilots preparing for the FAA Commercial Pilot license and FAA Instrument rating. The course will cover basic visual navigation, instrument navigation, use of Global Positioning Systems and an introduction to Flight Management Computers. Current Private Pilot Certificate will be verified by the Instructor at the first class meeting. Three hours.

APT A133 **3 Units (54 lecture hours)**
Aviation-Meteorology
Grading Mode: Standard Letter
Transfer Credit: CSU.

Entry level course for commercial pilot training program. This course will cover the forces which generate and affect weather, weather systems, aviation weather services and cross country weather planning procedures. The course will also provide detailed material on aviation weather hazards and aviation meteorological reports.

APT A134 **3 Units (54 lecture hours)**
Instrument Pilot Aviation Ground School
Prerequisite(s): APT A130 or current Private Pilot Certificate (verified by the instructor at the first class meeting).

Grading Mode: Standard Letter
Transfer Credit: CSU.

Provides academic background for Private Pilots preparing for the FAA Instrument Rating. Covers principles of instrument flight, aircraft performance, Federal Aviation Regulations, aviation weather factors and IFR cross country navigation procedures. Provides material on Instrument Approach Procedures, IFR operational procedures, human factors and aviation safety. All training is conducted in accordance with Federal Aviation Regulation (FAR) Part 61. All flight training labs are conducted in accordance with an approved FAR Part 141 syllabus. Meets the preparation requirements for the FAA Instrument rating computerized knowledge examination. Current Private Pilot Certificate will be verified by the instructor at the first class meeting. Three hours.

APT A138 **3 Units (54 lecture hours)**
Aerodynamics
Grading Mode: Standard Letter
Transfer Credit: CSU.

Course covers the basic principles of flight theory in both low and high speed regimes. Airflow theory, airfoil design, high lift devices, induced and parasitic drag, stall patterns, climb and sink performance, thrust and power, control & stability in the subsonic, transonic, and supersonic conditions. Extensive discussion of stall/spin aerodynamics and recovery techniques.

APT A139 **3 Units (54 lecture hours)**
Commercial Pilot Aviation Ground School
Prerequisite(s): APT A130 or current Private Pilot Certificate with Instrument rating; Students satisfying the Pilot Certificate prerequisite must present proof to the instructor at the first week of the course.

Grading Mode: Standard Letter
Transfer Credit: CSU.

Provides academic background for Private Pilots preparing for the FAA Commercial Pilot license. Covers transport category aircraft performance considerations, advanced weight and balance, multi-engine aerodynamics, and Federal Aviation Regulations applicable to Commercial pilots. Meets the preparation requirements for the FAA Commercial Pilot computerized knowledge examination.

APT A140 **3 Units (54 lecture hours)**
Flight Instructor Ground School
Advisory: APT A139.

Grading Mode: Standard Letter
Transfer Credit: CSU.

Academic preparation for written and practical examinations for Certificated Flight Instructor, Airplane. Covers basic aerodynamics, aircraft performance, Federal Aviation Regulations, aviation weather factors and cross country navigation procedures. Provides in depth instruction in the fundamentals of teaching and learning and ground and in-flight instructional techniques. Meets the preparation requirements for the FAA Flight Instructor computerized knowledge examination and Fundamentals of Learning computerized knowledge examination. All training is conducted in accordance with Federal Aviation Regulation (FAR) Part 61 and Part 141. Students satisfying the pilot certificate prerequisite must present proof to the instructor during the first week of the course.

APT A141 **2 Units (18 lecture hours; 54 lab hours)**
Instrument Flight Simulator Lab
Grading Mode: Standard Letter
Transfer Credit: CSU.

Course provides simulator instruction to be given concurrent with instrument flight lessons contained in APT A134. Course provides preparation for the Federal Aviation Agency (FAA) practical examination for the Instrument Rating. This course is offered on a pass/no-pass basis only. Lab.

APT A144 **3 Units (54 lecture hours)**
Aviation Flight Coordinator
Grading Mode: Standard Letter
Transfer Credit: CSU.

This course provides an overview of the corporate aviation industry and levels of customer service. Students will be introduced to basic principles of flight and aviation operations which include: the coordination of aircraft schedules, mechanical requirements, weather, customs requests, and government regulations associated with chartered aviation operations. Subjects presented provides a comprehensive course of training for students who wish to enter the corporate aviation workplace as an entry-level flight coordinator.

APT A145 **3 Units (54 lecture hours)**
Airline Transport Pilot Ground
Prerequisite(s): APT A130.

Advisory: APT A139.

Grading Mode: Standard Letter
Transfer Credit: CSU.

Advanced course which prepares pilots or aircraft dispatchers for the Airline Transport Pilot FAA knowledge test. Course covers those areas of aeronautical knowledge defined under Federal Aviation Regulation Part 61.155 with an emphasis on aircraft loading, weight and balance, use of charts, graphs, tables, formulas and computations, and their effect on aircraft performance.

APT A146 **3 Units (54 lecture hours)**
Advanced Aircraft & Engines
Advisory: APT A130.

Grading Mode: Standard Letter
Transfer Credit: CSU.

This course provides advanced information on aircraft engines and aircraft subsystems, to include turbine gas generator theory as well as an introduction to environmental and pressurization control systems found in complex aircraft. The course will enhance the students' understanding of basic aircraft systems to include constant speed propellers, primary flight controls, and provide detailed information on secondary flight controls, retractable landing gear, autopilots, flight directors, fuel systems and electrical systems.

APT A150 **5 Units (90 lecture hours)**
Aircraft Dispatcher
Prerequisite(s): APT A133 and APT A134 and APT A139.

Co-requisite(s): APT A132 and APT A145.

Grading Mode: Standard Letter
Transfer Credit: CSU.

This course covers air transport topics assessed in the FAA Aircraft Dispatcher Knowledge examinations. It includes a detailed review and practical applications of the skills and knowledge required for Aircraft Dispatcher certification. Topics covered in this course will be Federal Aviation Regulations on airline operations, airline communications and meteorology, analyzing and/or calculating various flight factors such as weather reports and NOTAMs, aircraft/runway performance, weight and balance, ATC preferred routes, and distance and fuel needs to create and/or update flight plans. Meets requirements of 14 CFR 65.53.

APT A151 **1 Unit (54 lab hours)**
Unmanned Aircraft Systems Lab
Prerequisite(s): APT A131 or concurrent enrollment.

Grading Mode: Standard Letter
Transfer Credit: CSU.

Commercial UAS operators are becoming a new occupation within the aviation industry. The purpose of UAS is widespread and may decrease unnecessary risks to pilots in certain environments. The Unmanned Aircraft Systems industry is expected to generate an estimated 100,000 jobs and $82.1 billion in economic impact in the next decade according to the Association for Unmanned Vehicle Systems International (AUVSI). Additionally, the Federal Aviation Administration (FAA) predicts 10,000 unmanned aircraft systems could be airborne in the U.S. skies by 2020.

APT A152 **1 Unit (54 lab hours)**
Unmanned Aircraft Systems Advanced Lab
Co-requisite(s): APT A131.

Grading Mode: Standard Letter
Transfer Credit: CSU.

Hands-on flight activities, both simulation and actual, to develop, practice, and demonstrate advanced flying techniques of various Unmanned Aircraft Systems. This course will introduce various mission profiles and equipment planning.

APT A160 **4 Units (63 lecture hours; 27 lab hours)**
Introduction to UAS Automation
Advisory: CIS A090, CIS A100, CIS A111, CS A122, or APT A131.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

This course introduces students to the automation of Unmanned Aircraft Systems (UAS), including UAS flight control, camera and video capturing, telemetry data analysis and mission management. Throughout the semester, students will work in teams to plan, design and automate Unmanned Aircraft System missions by learning and using Software Development Kits (SDKs) of industry leading UAS providers. UAS projects will include behaviors such as path-following, random roaming with obstacle avoidance and telemetry data collection and analysis. Same as CIS A160. Students who have taken CIS A160 may not take APT A160. This course may be offered online. Graded or Pass/No Pass option.

APT A180 **3 Units (54 lecture hours)**
Basic Air Transportation
Grading Mode: Standard Letter
Transfer Credit: CSU.

Provides an analysis of the airline industry by providing historical background information on the evolution of the United States air transportation system along with a current analysis of the airlines, air traffic control system, business aviation and general aviation. The goal is to prepare students for entry into the airline industry through an analysis of market factors that influence airline operations as well as fleet planning, route planning, strategic planning and labor issues.

APT A192 **3 Units (54 lecture hours)**
Human Factors and Crew Resource Management
Grading Mode: Standard Letter
Transfer Credit: CSU.

Course encompasses a wide range of knowledge, skills and attitudes including communications, situational awareness, problem solving, decision making, and teamwork; together with the entire attendant sub-disciplines which each of these areas entails. CRM can be defined as a management system which makes optimum use of all available resources - equipment, procedures and people - to promote flight safety and enhance the efficiency of flight operations. This course may also be offered online.