

# ***Aviation Technology Program of Study with Complementary Course Standards***



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**Vision**

*All Nevada students are equipped and feel empowered to attain their vision of success*

**Mission**

*To improve student achievement and educator effectiveness by ensuring opportunities, facilitating learning, and promoting excellence*



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## Acknowledgements

The development of Nevada career and technical education (CTE) standards and assessments is a collaborative effort sponsored by the Nevada Department of Education (NDE) Office of Career Readiness, Adult Learning, and Education Options. The Nevada Department of Education relies on educators and industry representatives who have the technical expertise and teaching experience to develop standards and performance indicators that truly measure student skill attainment. More importantly, the NDE would like to recognize the time and commitment by the writing team members in developing the career and technical standards for Aviation Technology.

## Standards Development Members

Name	Occupation/Title	Stakeholder Affiliation	School/Organization
Gary Archambault	Instructor	Secondary Educator	Rancho High School, Clark County School District
Daniel Burleson	Instructor	Secondary Instructor	Rancho High School, Clark County School District
Antonio Dela Merced, USAF(MSgt)	QA Chief Inspector	Business and Industry Representative	926 Wing Nellis AFB, Las Vegas, NV
Tristan Hayes	CTE Administrator	Secondary Educator	Clark County School District
Pete Parker	Executive Director	Business and Industry Representative	Pathways to Aviation, Reno, NV
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## Business and Industry Validation

All CTE standards developed through the Nevada Department of Education are validated by business and industry through one or more of the following processes: (1) the standards are developed by a team consisting of business and industry representatives, or (2) a separate review panel is coordinated with industry experts to ensure the standards include the proper content, or (3) nationally recognized standards currently endorsed by business and industry.

The Aviation Technology standards were validated through active participation of business and industry representatives on the development team.

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## Introduction

The standards in this document are designed to clearly state what the student should know and be able to do upon completion of a high school Aviation Technology program of study. These standards are designed for a two-credit course sequence that prepares the student for a technical assessment directly aligned to the standards.

These exit-level standards are designed for the student to complete all standards through their completion of a program of study. These standards are intended to guide curriculum objectives for a program of study.

The standards are organized as follows:

- **Content Standards** are general statements that identify major areas of knowledge, understanding, and the skills students are expected to learn in key subject and career areas by the end of the program.
- **Performance Standards** follow each content standard. Performance standards identify the more specific components of each content standard and define the expected abilities of students within each content standard.
- **Performance Indicators** are very specific criteria statements for determining whether a student meets the performance standard. Performance indicators may also be used as learning outcomes, which teachers can identify as they plan their program learning objectives. The indicators are followed by designations that reflect the course sequence (e.g., L1 for the first-year course of a two-year program and L2 for the second-year course, C is to designate the indicators to be taught in the complementary course) as referenced in the Core Course Sequence table.

The crosswalks and alignments are located in the Program Supplemental Program Resources document. These will show where the performance indicators support the Nevada Academic Content Standards. For individual course descriptions, please reference the Supplemental Program Resource or the Nevada CTE Catalog.

All students are encouraged to participate in the career and technical student organization (CTSO) that relates to the Aviation Technology program. CTSOs are co-curricular national organizations that directly reinforce learning in the CTE classroom through curriculum resources, competitive events, and leadership development. CTSOs provide students the ability to apply academic and technical knowledge, develop communication and teamwork skills, and cultivate leadership skills to ensure college and career readiness.

The Employability Skills for Career Readiness identify the skills needed to be successful in all careers and must be taught as an integrated component of all CTE course sequences. These standards are available in a separate document.

The **Standards Reference Code** is only used to identify or align performance indicators listed in the standards to daily lesson plans, curriculum documents, or national standards. The Standards Reference Code is an abbreviated name for the program, and the content standard, performance standard and performance indicator are referenced in the program standards. This abbreviated code for identifying standards uses each of these items. For example, AVIT is the Standards Reference Code for Aviation Technology. For Content Standard 2, Performance Standard 3 and Performance Indicator 4 the Standards Reference Code would be AVIT.2.3.4.

## Aviation Technology

### Program Information

**Program of Study:** Aviation Technology  
**Standards Reference Code:** AVIT  
**Career Cluster:** Transportation, Distribution, and Logistics  
**Career Pathway(s):** Transportation Operations  
**Program Length:** 2-year, completed sequentially  
**CTSO:** SkillsUSA

### Program Structure Required Program of Study Courses

The core course sequencing is provided in the following table. Complementary Courses are available and provided later in this document. The following courses provide a completed program of study. The Lab is a complementary course available concurrently with the Aviation Technology II course.

**Core Course Sequence (R) with Lab Course(s) (C)**

Required/ Complementary	Course Title	Abbreviated Name
R	Aviation Technology I	AVIT TECH I
R	Aviation Technology II	AVIT TECH II
C	Aviation Technology Advanced Studies	AVIATION TECH AS
C	CTE Work Experience – Transportation, Distribution, and Logistics	WORK EXPER TRANS
C	Industry Recognized Credential – Aviation Technology	IRC AVIATION TECH

**CONTENT STANDARD 1.0: INTEGRATE CAREER AND TECHNICAL STUDENT ORGANIZATIONS (CTSOs)****Performance Standard 1.1: Explore the History and Organization of CTSOs**

- 1.1.1 Discuss the requirements of CTSO participation/involvement as described in Carl D. Perkins Law (Level 1 (L1), Level 2 (L2), Complementary (C))
- 1.1.2 Research nationally recognized CTSOs (L1, L2, C)
- 1.1.3 Investigate the impact of federal and state government regarding the progression and operation of CTSOs (e.g., Federal Statutes and Regulations, Nevada Administrative Code [NAC], Nevada Revised Statutes [NRS]) (L1, L2, C)

**Performance Standard 1.2: Develop Leadership Skills**

- 1.2.1 Discuss the purpose of parliamentary procedure (L1, L2, C)
- 1.2.2 Demonstrate the proper use of parliamentary procedure (L1, L2, C)
- 1.2.3 Differentiate between an office and a committee (L1, L2, C)
- 1.2.4 Discuss the importance of participation in local, regional, state, and national conferences, events, and competitions (L1, L2, C)
- 1.2.5 Participate in local, regional, state, or national conferences, events, or competitions (L1, L2, C)
- 1.2.6 Describe the importance of a constitution and bylaws to the operation of a CTSO chapter (L1, L2, C)

**Performance Standard 1.3: Participate in Community Service**

- 1.3.1 Explore opportunities in community service-related work-based learning (WBL) (L1, L2, C)
- 1.3.2 Participate in a service learning (program related) and/or community service project or activity (L1, L2, C)
- 1.3.3 Engage with business and industry partners for community service (L1, L2, C)

**Performance Standard 1.4: Develop Professional and Career Skills**

- 1.4.1 Demonstrate college and career readiness (e.g., applications, resumes, interview skills, presentation skills) (L1, L2, C)
- 1.4.2 Describe the appropriate professional/workplace attire and its importance (L1, L2, C)
- 1.4.3 Investigate industry-standard credentials/certifications available within this Career Cluster™ (L1, L2, C)
- 1.4.4 Participate in authentic contextualized instructional activities (L1, L2, C)
- 1.4.5 Demonstrate technical skills in various student organization activities/events (L1, L2, C)

**Performance Standard 1.5: Understand the Relevance of Career and Technical Education (CTE)**

- 1.5.1 Make a connection between program standards to career pathway(s) (L1, L2, C)
- 1.5.2 Explain the importance of participation and completion of a program of study (L1, L2, C)
- 1.5.3 Promote community awareness of local student organizations associated with CTE programs (L1, L2, C)

**CONTENT STANDARD 2.0: IDENTIFY LAB ORGANIZATION AND SAFETY PROCEDURES****Performance Standard 2.1: Demonstrate General Safety Rules and Procedures**

- 2.1.1 Describe general safety rules and procedures (L1)
- 2.1.2 Demonstrate knowledge of Occupational Safety and Health Administration (OSHA) and its role in workplace safety (L1)
- 2.1.3 Operate simulators according to safety guidelines (L1)
- 2.1.4 Identify and use proper lifting procedures and proper use of support equipment (L1)
- 2.1.5 Identify the location and the types of fire extinguishers and other fire safety equipment (L1)
- 2.1.6 Demonstrate knowledge of the procedures for using fire extinguishers and other fire safety equipment (L1)
- 2.1.7 Identify the location of the posted evacuation routes (L1)
- 2.1.8 Prepare logbooks, checklists, reports, or records (L1)
- 2.1.9 Follow verbal instructions to complete work assignments (L1)
- 2.1.10 Follow written instructions to complete work assignments (L1)
- 2.1.11 Follow lab/shop requirements (e.g., personal protective equipment [PPE], appropriate clothing, hair/jewelry secured) (L1)



**CONTENT STANDARD 3.0: ASSESS THE IMPACT OF AVIATION ON SOCIETY****Performance Standard 3.1: Describe History of Aviation**

- 3.1.1 Define aviation (L1)
- 3.1.2 Identify aviation achievements throughout history (L1)

**Performance Standard 3.2: Investigate Related Careers in Aviation**

- 3.2.1 Investigate aviation careers, training, and associated opportunities (L1)
- 3.2.2 Describe the difference between aviation disciplines and job functions (L1)
- 3.2.3 Explore career opportunities and list the educational requirements for a given aviation field (L1)

**Performance Standard 3.3: Interpret the Aviation Engineering Design Process**

- 3.3.1 Identify the engineering design process as it relates to problem solving (L1)
- 3.3.2 Identify the activities that occur during each phase of the design process (L1)
- 3.3.3 Apply the steps of the design process to solve a variety of design problems in aviation (L1)

**Performance Standard 3.4: Analyze Ethics in Aviation**

- 3.4.1 Analyze current professional aviation codes of ethics (L2)
- 3.4.2 Analyze ethical aviation issues (L2)
- 3.4.3 Describe professional responsibilities within the aviation field (L2)
- 3.4.4 Identify pilot in command and crew resource management responsibilities (L2)

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**CONTENT STANDARD 4.0: INVESTIGATE MATERIAL PROPERTIES****Performance Standard 4.1: Analyze Aircraft Structures**

- 4.1.1 Identify the major components of an aircraft (L1)
- 4.1.2 Identify design and wing configurations (L1)
- 4.1.3 Identify materials used in aircraft construction (L1)
- 4.1.4 Discuss the structures of an aircraft that enable it to fly and perform different functions of flight (L1)
- 4.1.5 Compare and contrast the types of landing gear configurations (L1)
- 4.1.6 Calculate wing area and aspect ratio (L1)
- 4.1.7 Define the center of gravity and its location (L1)
- 4.1.8 Explore how aircraft loading affects the center of gravity's location (L1)
- 4.1.9 Analyze the impact of loading conditions on aircraft structure and performance (L2)
- 4.1.10 Define weight and balance terms (L2)
- 4.1.11 Analyze weight and balance principles (L2)
- 4.1.12 Calculate weight and balance for an aircraft (L2)
- 4.1.13 Evaluate how the center of gravity affects aircraft performance (L2)
- 4.1.14 Calculate center of gravity of an aircraft (L2)
- 4.1.15 Interpret results of the center of gravity charts (L2)
- 4.1.16 Explain the results of exceeding center of gravity limitations (L2)

**Performance Standard 4.2: Demonstrate Knowledge of Measuring and Scaling Techniques for Aviation**

- 4.2.1 Identify industry standard units of measure (e.g., knots, miles per hour, statute miles, nautical miles) (L1)
- 4.2.2 Convert between industry standard units of measure (L1)
- 4.2.3 Calculate time, speed, and distance (L1)
- 4.2.4 Calculate fuel consumption, navigation, and wind components (L1)
- 4.2.5 Calculate groundspeed, wind correction angle, headwind, tailwind, and crosswind (L1)
- 4.2.6 Calculate density altitude using a flight computer (L1)
- 4.2.7 Measure accurate distances and headings on a sectional chart using a plotter (manual and/or electronic) (L1)
- 4.2.8 Compare and contrast density altitude and pressure altitude (L1)
- 4.2.9 Demonstrate proper use of the E6B flight computer (manual and/or electronic) (L1)

**CONTENT STANDARD 5.0: INTERPRET THE PHYSICS AND AERODYNAMICS OF FLIGHT****Performance Standard 5.1: Analyze the Physics of Flight**

- 5.1.1 Explain the three axes and the four major forces which act on an aircraft (L1)
- 5.1.2 Explain how the motions about the three axes of an aircraft are stabilized and controlled (L1)
- 5.1.3 Describe the ways that lift is generated by an airfoil and the factors that impact lift and drag (L1)
- 5.1.4 Describe the relationship of altitude, temperature, and pressure within the Earth's atmosphere (L1)
- 5.1.5 Calculate temperature, pressure, velocity, and density (L1)
- 5.1.6 Explain Bernoulli's Principle with respect to lift (L1)
- 5.1.7 Identify other factors that contribute to lift (L1)
- 5.1.8 Explain Newton's Laws of Motion with respect to lift (L1)
- 5.1.9 Explain how Newton's Laws of Motion apply to aerodynamic forces (L1)
- 5.1.10 Calculate the values of lift and drag (L2)

**Performance Standard 5.2: Analyze Aerodynamics of Flight**

- 5.2.1 Describe angle of attack and critical angle of attack (L1)
- 5.2.2 Compare and contrast the two types of drag (L1)
- 5.2.3 Explain ground effect (L1)
- 5.2.4 Identify the cause of an aircraft stall and spin (L1)
- 5.2.5 Explain corrective actions for stalls and spins (L1)
- 5.2.6 Explain the left turning tendency of an aircraft (L1)
- 5.2.7 Explain lift-to-drag ratio and associated airspeeds (L1)
- 5.2.8 Describe the forces that allow turning flight (L1)
- 5.2.9 Explain aircraft load factor (L1)

**CONTENT STANDARD 6.0: ANALYZE THE FLIGHT ENVIRONMENT****Performance Standard 6.1: Analyze Aeronautical Charts**

- 6.1.1 Identify the types of aeronautical charts (L1)
- 6.1.2 Utilize latitude and longitude (L1)

**Performance Standard 6.2: Identify and Explain the Airport Environment**

- 6.2.1 Explain controlled and uncontrolled airports (L2)
- 6.2.2 Interpret airport and runway markings, lighting, and signage (L2)
- 6.2.3 Explain traffic pattern operations (L2)

**Performance Standard 6.3: Identify and Explain the Airport Environment**

- 6.3.1 Identify the classes of airspace (L2)
- 6.3.2 Describe transponder operation and common codes (L2)
- 6.3.3 Articulate the phonetic alphabet (L2)
- 6.3.4 Describe the air traffic control (ATC) system (L2)
- 6.3.5 Identify common traffic advisory frequency (CATF) and universal communications (UNICOM) frequency (L2)
- 6.3.6 Explain the role of the FAA flight traffic controllers (L2)

**CONTENT STANDARD 7.0: ANALYZE THE AVIATION CERTIFICATION PROCESSES****Performance Standard 7.1: Research Certification and Regulations**

- 7.1.1 Identify pilot medical certificate types and durations (L2)
- 7.1.2 Describe pilot privileges and limitations (L2)
- 7.1.3 Explain the general eligibility requirements for airmen certifications (L2)
- 7.1.4 Compare and contrast requirements for the different certifications (L2)
- 7.1.5 Identify the required documents that an airman must present for inspection upon reasonable, authorized requests (L2)
- 7.1.6 Analyze Federal Aviation Regulations (FAR) Part 61 and Part 91 (L2)
- 7.1.7 Explain the uses of the Pilot's Operating Handbook (POH) (L2)
- 7.1.8 Explain pilot requirements, privileges, and currency for the three basic pilot certifications (recreation, sport, and private) (L2)

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**CONTENT STANDARD 8.0: ANALYZE AIRCRAFT SYSTEMS****Performance Standard 8.1: Identify Aircraft Engine Types**

- 8.1.1 Identify the components of a reciprocating engine (L2)
- 8.1.2 Explain the operation of a reciprocating engine (L2)
- 8.1.3 Explore supercharging (L2)
- 8.1.4 Explore turbocharging (L2)
- 8.1.5 Compare and contrast the types of turbine engines (L2)

**Performance Standard 8.2: Research Reciprocating Engine Systems**

- 8.2.1 Identify the components of a carburetor (L2)
- 8.2.2 Analyze the causes of carburetor ice and its effects on engine performance (L2)
- 8.2.3 Explore the fuel injection system (L2)
- 8.2.4 Compare carburetor and fuel injection systems (L2)
- 8.2.5 Explain the principles of operation of the mixture control (L2)
- 8.2.6 Describe the purpose of changing the mixture with altitude (L2)
- 8.2.7 Identify the different types and the causes of abnormal combustion (L2)
- 8.2.8 Explain the corrective actions when abnormal combustion exists (L2)

**Performance Standard 8.3: Explore Aircraft Propeller Systems**

- 8.3.1 Identify the two types of propellers used on small airplanes (L2)
- 8.3.2 Compare and contrast fixed pitch and controllable-pitch propellers (L2)
- 8.3.3 Identify the instrumentation associated with a constant speed propeller (L2)
- 8.3.4 Explain the proper operation of a constant speed propeller equipped airplane (L2)

**Performance Standard 8.4: Analyze Aircraft Systems**

- 8.4.1 Identify the types of fuel used in aviation (L2)
- 8.4.2 Explain the term octane in relation to fuel (L2)
- 8.4.3 Describe the problems associated with using the wrong octane fuel (L2)
- 8.4.4 Describe how to determine if the fuel is contaminated (L2)
- 8.4.5 Analyze the instruments associated with the Pitot-Static system (L2)
- 8.4.6 Calculate airplane airspeeds (L2)
- 8.4.7 Identify common types of flight altitude (Above Ground Level [AGL] versus Mean Sea Level [MSL]) (L2)
- 8.4.8 Identify the gyroscopic instruments and their operation (L2)
- 8.4.9 Identify vacuum systems and their operation (L2)
- 8.4.10 Compare gyroscopic instruments with glass panels (L2)
- 8.4.11 Describe the operation of the magnetic compass (L2)
- 8.4.12 Identify the errors associated with the magnetic compass (L2)
- 8.4.13 Interpret readings on the altimeter (L2)
- 8.4.14 Identify the components of an aircraft electrical system (L2)
- 8.4.15 Explain the primary and secondary flight controls (L2)

**Performance Standard 8.5: Examine Electrical and Hydraulic Systems**

- 8.5.1 Describe the purpose for an airplane electrical bus (L2)
- 8.5.2 Explain the purpose for circuit breakers and fuses (L2)
- 8.5.3 Describe hydraulic principles (L2)
- 8.5.4 Identify the uses of hydraulic systems on aircraft (L2)
- 8.5.5 Describe the operation of the landing gear with respect to hydraulics (L2)
- 8.5.6 Describe the operation of the brakes with respect to hydraulics (L2)

**CONTENT STANDARD 9.0: ANALYZE AIRCRAFT WEATHER****Performance Standard 9.1: Analyze Weather and Weather Services**

- 9.1.1 Explain the weather services available to pilots (L2)
- 9.1.2 Apply Federal Aviation Administration (FAA) Flight Service Station (FSS) approved weather products (L2)
- 9.1.3 Compare and contrast the types of clouds (L2)
- 9.1.4 Identify precipitation types, dew, and frost (L2)
- 9.1.5 Explain frontal weather and associated thunderstorm development (L2)
- 9.1.6 Analyze the hazards associated with severe weather (L2)
- 9.1.7 Analyze clouds or conditions to determine the possibilities of turbulence (L2)
- 9.1.8 Identify crosswinds and effects on aircraft control (L2)
- 9.1.9 Explore windshear hazards (L2)
- 9.1.10 Explain basic Visual Flight Rules (VFR) weather minimums (L2)
- 9.1.11 Explain instrument meteorological conditions (IMC) (L2)
- 9.1.12 Describe inadvertent instrument meteorological conditions (IMCs) (L2)
- 9.1.13 Interpret weather reports, Meteorological Aerodrome Report (METAR) and Terminal Aerodrome Forecasts (TAFs) (L2)
- 9.1.14 Explain the effects of icing on an airplane (L2)
- 9.1.15 Identify sea breeze, land breeze, valley breeze, and mountain breeze (L2)



**CONTENT STANDARD 10.0: ANALYZE FLIGHT NAVIGATION AND PHYSIOLOGY****Performance Standard 10.1: Investigate Flight Navigation Requirements**

- 10.1.1 Identify sectional charts and terminal area charts (TAC) used by pilots (L2)
- 10.1.2 Identify locations on charts using latitudes and longitudes (L2)
- 10.1.3 Describe pilotage and dead reckoning (L2)
- 10.1.4 Explain the use of performance charts (L2)
- 10.1.5 Complete navigation logs and flight plan forms (L2)
- 10.1.6 Explain east/west visual flight rules (VFR) cruising altitudes (L2)

**Performance Standard 10.2: Identify Flight Physiology Factors**

- 10.2.1 Analyze visual scanning for traffic during flight operations (L2)
- 10.2.2 Explain situational awareness (L2)

## Complementary Courses

### State Complementary Skill Standards

State complementary skill standards are designed to clearly state what the student should know and be able to do upon completion of a **one-year** complementary course related to their career and technical education (CTE) program of study. **Completion of the qualifying Program of Study is required prior to enrollment in a complementary course.**

### Employability Skills for Career Readiness Standards

Students have completed all program content standards and will pursue advanced study through investigation and in-depth research.

### Complementary Course Standards Contributing Members

Course Contribution(s)	Name	Occupation/Title	Stakeholder Affiliation	School/Organization
Pilot Preparation	Gary Archambault	Instructor	Secondary Educator	Rancho High School, Clark County School District
Pilot Preparation	Daniel Burleson	Instructor	Secondary Instructor	Rancho High School, Clark County School District
Pilot Preparation	Antonio Dela Merced, USAF(MSgt)	QA Chief Inspector	Business and Industry Representative	926 Wing Nellis AFB, Las Vegas, NV
Pilot Preparation	Tristan Hayes	CTE Administrator	Secondary Educator	Clark County School District
Pilot Preparation	Pete Parker	Executive Director	Business and Industry Representative	Pathways to Aviation, Reno, NV
Pilot Preparation	Cathleen Perdok	Instructor	Secondary Educator	Pinecrest Academy of Nevada-Cadence, State Public Charter School Authority
Pilot Preparation	Joe Rajacic	Board Member, Boeing 747 Captain, Retired, Flight Instructor A & P Mechanic	Business and Industry Representative	Pathways to Aviation, Reno, NV

### Business and Industry Validation

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The Pilot Preparation complementary standards for Aviation Technology program of study were validated through active participation of business and industry representatives on the development team.

## Complementary Course Information for Aviation Technology

### Program Information

Qualifying Program of Study: Aviation Technology

Career Cluster: Transportation, Distribution, and Logistics

Career Pathway(s): Transportation Operations

CTSO: SkillsUSA

Grade Level: 11-12

### Program Structure for Complementary Courses

The complementary courses are provided in the following table. **The qualifying program of study must be completed prior to enrolling in the complementary courses** (except labs that are done concurrently with the second-year course). A program does not have to utilize the complementary courses for students to complete their program of study.

#### Complementary Courses

Required/ Complementary	Course Title	Abbreviated Name
C	Pilot Preparation	PILOT PREP
C	Aviation Technology Advanced Studies	AVIATION TECH AS
C	Industry-Recognized Credential – Aviation Technology	IRC AVIATION TECH
C	CTE Work Experience – Transportation, Distribution, and Logistics	WORK EXPER TRANS

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## Complementary Course Standards Pilot Preparation

### CONTENT STANDARD 1.0: ANALYZE AIRCRAFT SYSTEMS

#### Performance Standard 1.1: Identify Aircraft Engine Types

- 1.1.1 Identify components of a turbine engine
- 1.1.2 Explain the operation of a turbine engine

#### Performance Standard 1.2: Examine Electrical and Hydraulic Systems

- 1.2.1 Describe the operation of flight controls being manipulated by hydraulics
- 1.2.2 Explain pneumatic principles
- 1.2.3 Identify the uses of pneumatics on aircraft

### CONTENT STANDARD 2.0: ANALYZE FLIGHT NAVIGATION AND PHYSIOLOGY

#### Performance Standard 2.1: Investigate Flight Navigation Requirements

- 2.1.1 Interpret fuel requirements for VFR flights
- 2.1.2 Analyze VHF Omnidirectional Range (VOR) operation
- 2.1.3 Interpret VOR indications and cross radials
- 2.1.4 Interpret horizontal situation indicator (HSI)
- 2.1.5 Analyze automatic direction finder (ADF) operation
- 2.1.6 Interpret ADF indications

#### Performance Standard 2.2: Understand Global Positioning Systems (GPS) in Navigation

- 2.2.1 Explain what GPS is in reference to aviation
- 2.2.2 Explore the dynamics of GPS
- 2.2.3 Interpret the GPS system within the aircraft's navigation system

#### Performance Standard 2.3: Identify Flight Physiology Factors

- 2.3.1 Describe the steps involved in the aeronautical decision making process
- 2.3.2 Explain factors affecting night vision
- 2.3.3 Identify types of illusions in flight
- 2.3.4 Explain hypoxia and carbon monoxide causes, symptoms, and corrective actions
- 2.3.5 Identify hyperventilation causes and corrective actions
- 2.3.6 Explore the importance and requirements of supplemental and continuous oxygen
- 2.3.7 Explore contributing factors resulting in accidents and incidents

**CONTENT STANDARD 3.0: ANALYZE THE FLIGHT ENVIRONMENT****Performance Standard 3.1: Identify and Explain the Airport Environment**

- 3.1.1 Describe land and hold short operations
- 3.1.2 Analyze information in the airport/facility directory
- 3.1.3 Explain airplane taxing operations in wind
- 3.1.4 Identify sources of airport information

**Performance Standard 3.2: Analyze Aeronautical Charts**

- 3.2.1 Identify airport symbols and markings on an aeronautical chart
- 3.2.2 Identify charted symbols
- 3.2.3 Identify airspace markings on charts
- 3.2.4 Identify topographical marks on charts
- 3.2.5 Interpret airport and obstruction data
- 3.2.6 Calculate aircraft performance using aircraft performance charts

**Performance Standard 3.3: Analyze Airspace and Communication Procedures**

- 3.3.1 Describe the weather requirements to fly in each airspace class
- 3.3.2 Describe the aircraft equipment requirements to fly in each airspace class
- 3.3.3 Explain special VFR requirements
- 3.3.4 Identify and explain special use airspaces
- 3.3.5 Explain radar operation
- 3.3.6 Explain VHF communication equipment operation
- 3.3.7 Describe lost communication procedures