Transportation, Distribution and Logistics Career Cluster
Flight Operations II
Course Number 47.48900

Course Description:
Atmospheric dynamics and concepts are addressed to build a meteorological foundation that will enable students to understand environmental variables that create and change the earth's weather. Meteorological techniques will be used in analyzing, charting, and forecasting weather patterns, and students will apply learned skills to the aeronautical needs and procedures of the air transportation industry. The prerequisite for this course is Flight Operations I.

Course Standard 1

TDL-FO2-1
The following standard is included in all CTAE courses adopted for the Career Cluster/Pathways. Teachers should incorporate the elements of this standard into lesson plans during the course. The topics listed for each element of the standard may be addressed in differentiated instruction matching the content of each course. These elements may also be addressed with specific lessons from a variety of resources. This content is not to be treated as a unit or separate body of knowledge but rather integrated into class activities as applications of the concept.

Standard: Demonstrate employability skills required by business and industry.
The following elements should be integrated throughout the content of this course.

1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.

Person-to-Person Etiquette	Telephone and Email Etiquette	Cell Phone and Internet Etiquette	Communicating At Work	Listening
Interacting with Your Boss	Telephone Conversations	Using Blogs	Improving Communication Skills	Reasons, Benefits, and Barriers
Interacting with Subordinates	Barriers to Phone conversations	Using Social Media	Effective Oral Communication	Listening Strategies
Interacting with Co-workers	Making and Returning Calls		Effective Written Communication	Ways We Filter What We Hear
Interacting with Suppliers	Making Cold Calls		Effective Nonverbal Skills	Developing a Listening Attitude
	Handling Conference Calls		Effective Word Use	Show You Are Listening
	Handling Unsolicited Calls		Giving and Receiving Feedback	Asking Questions
				Obtaining Feedback
				Getting Others to Listen

Nonverbal Communication	Written Communication	Speaking	Applications and Effective Résumés
Communicating Nonverbally	Writing Documents	Using Language Carefully	Completing a Job Application
Reading Body Language and mixed Messages	Constructive Criticism in Writing	One-on-One Conversations	Writing a Cover Letter
Matching Verbal and Nonverbal communication		Small Group Communication	Things to Include in a Résumé
Improving Nonverbal Indicators		Large Group Communication	Selling Yourself in a Résumé

Nonverbal Feedback		Making Speeches	Terms to Use in a Résumé
Showing Confidence Nonverbally		Involving the Audience	Describing Your Job Strengths
Showing Assertiveness		Answering Questions	Organizing Your Résumé
		Visual and Media Aids	Writing an Electronic Résumé
		Errors in Presentation	Dressing Up Your Résumé

1.2 Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.

Teamwork and Problem Solving	Meeting Etiquette
Thinking Creatively	Preparation and Participation in Meetings
Taking Risks	Conducting Two-Person or Large Group Meetings
Building Team Communication	Inviting and Introducing Speakers
	Facilitating Discussions and Closing
	Preparing Visual Aids
	Virtual Meetings

1.3 Exhibit critical thinking and problem solving skills to locate, analyze and apply information in career planning and employment situations.

Problem Solving	Customer Service	The Application Process	Interviewing Skills	Finding the Right Job
Transferable Job Skills	Gaining Trust and Interacting with Customers	Providing Information, Accuracy and Double Checking	Preparing for an Interview	Locating Jobs and Networking
Becoming a Problem Solver	Learning and Giving Customers What They Want	Online Application Process	Questions to Ask in an Interview	Job Shopping Online
Identifying a Problem	Keeping Customers Coming Back	Following Up After Submitting an Application	Things to Include in a Career Portfolio	Job Search Websites
Becoming a Critical Thinker	Seeing the Customer's Point	Effective Résumés:	Traits Employers are Seeking	Participation in Job Fairs
Managing	Selling Yourself and the Company	Matching Your Talents to a Job	Considerations Before Taking a Job	Searching the Classified Ads
	Handling Customer Complaints	When a Résumé Should be Used		Using Employment Agencies
	Strategies for Customer Service			Landing an Internship
				Staying Motivated to Search

1.4 Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.

Workplace Ethics	Personal Characteristics	Employer Expectations	Business Etiquette	Communicating at Work
Demonstrating Good Work Ethic	Demonstrating a Good Attitude	Behaviors Employers Expect	Language and Behavior	Handling Anger
Behaving Appropriately	Gaining and Showing Respect	Objectionable Behaviors	Keeping Information Confidential	Dealing with Difficult Coworkers
Maintaining Honesty	Demonstrating Responsibility	Establishing Credibility	Avoiding Gossip	Dealing with a Difficult Boss
Playing Fair	Showing Dependability	Demonstrating Your Skills	Appropriate Work Email	Dealing with Difficult Customers

Using Ethical Language	Being Courteous	Building Work Relationships	Cell Phone Etiquette	Dealing with Conflict
Showing Responsibility	Gaining Coworkers' Trust		Appropriate Work Texting	
Reducing Harassment	Persevering		Understanding Copyright	
Respecting Diversity	Handling Criticism		Social Networking	
Making Truthfulness a Habit	Showing Professionalism			
Leaving a Job Ethically				

1.5 Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply team work skills.

Expected Work Traits	Teamwork	Time Management
Demonstrating Responsibility	Teamwork Skills	Managing Time
Dealing with Information Overload	Reasons Companies Use Teams	Putting First Things First
Transferable Job Skills	Decisions Teams Make	Juggling Many Priorities
Managing Change	Team Responsibilities	Overcoming Procrastination
Adopting a New Technology	Problems That Affect Teams	Organizing Workspace and Tasks
	Expressing Yourself on a Team	Staying Organized
	Giving and Receiving Constructive Criticism	Finding More Time
		Managing Projects
		Prioritizing Personal and Work Life

1.6 Present a professional image through appearance, behavior and language.

On-the-Job Etiquette	Person-to-Person Etiquette	Communication Etiquette	Presenting Yourself
Using Professional Manners	Meeting Business Acquaintances	Creating a Good Impression	Looking Professional
Introducing People	Meeting People for the First Time	Keeping Phone Calls Professional	Dressing for Success
Appropriate Dress	Showing Politeness	Proper Use of Work Email	Showing a Professional Attitude
Business Meal Functions		Proper Use of Cell Phone	Using Good Posture
Behavior at Work Parties		Proper Use in Texting	Presenting Yourself to Associates
Behavior at Conventions			Accepting Criticism
International Etiquette			Demonstrating Leadership
Cross-Cultural Etiquette			
Working in a Cubicle			

1.7 Understand that there are distinct regulatory English language eligibility requirements in Title 14 of the Code of Federal Regulations (CFR); in part 61 for pilots and flight and ground instructors; part 63 for Flight Engineers and flight navigators; and part 65 for air traffic control (ATC) tower operators, aircraft dispatchers, mechanics, repairmen, and parachute riggers. In addition, the standards found in International Civil Aviation Organization (ICAO) Annex 1 require that certain Airman Certificates have an endorsement for English language proficiency in order for those airmen to act as required crew of an aircraft internationally.

Support of CTAE Foundation Course Standards and Georgia Standards of Excellence L9-10RST 1-10 and L9-10WHST 1-10:
Georgia Standards of Excellence ELA/Literacy standards have been written specifically for technical subjects and have been adopted as part of the official standards for all CTAE courses.

Course Standard 2

TDL-FO2-2
Demonstrate and apply knowledge of sources of flight information.

2.1 Demonstrate knowledge of printed flight information.
2.2. Demonstrate knowledge of electronic sources of flight information.

Course Standard 3

TDL-FO2-3
Apply sources of weather information to flight planning.

3.1 Apply information related to preflight weather sources.
3.2. Apply information related to in-flight weather sources.
3.3. Demonstrate application of hazardous in-flight weather advisory systems.

Course Standard 4

TDL-FO2-4
Demonstrate an understanding of aircraft performance and design.

4.1 Demonstrate the ability to use performance charts to predict density altitude, surface wind components, take-off and landing distances, climb performance, and cruise power settings.
4.2. Identify the importance of weight and balance and demonstrate the application of the weight and balance principles with the use of loading graphs and charts.
4.3 Demonstrate knowledge and usage of mechanical and electronic flight computers and flight computer applications.
4.4 Identify and apply information obtained from performance charts.
4.5 Accurately compute weight and balance.
4.6 Accurately complete computations on manual EGBs and electronic flight computers.

Course Standard 5

TDL-FO2-5
Demonstrate competency in communication and flight information.

5.1 Differentiate between different services for national aerospace system.
5.2 Differentiate between primary and secondary radar.
5.3 Demonstrate proficiency in radio procedures.
5.4 Demonstrate proficiency in applying sources of flight information.

Course Standard 6

TDL-FO2-6
Demonstrate an understanding of aviation weather codes and terminology.

6.1 Demonstrate an understanding of the METAR format for reporting weather information coding for weather observations, terminal forecasts, and weather advisories (i.e., pilot report (PIREPS), Airmen's Meteorological Information (AIRMETS), (SIGMETS) Significant Meteorological Information (SIGMETS), etc.
6.2 Interpret data from multiple weather data sources (commercial, government and military).
6.3 Access available meteorological resources to obtain weather data.

Course Standard 7

TDL-FO2-7

Identify tools of basic, radio, and advanced navigation.

7.1 Demonstrate proper use of landmarks to travel between points.
7.2 Apply mathematics to solve navigation problems.
7.3 Determine appropriate uses of pilotage and dead reckoning.
7.4 Distinguish among the different instruments used in radio and advanced technologies.

Course Standard 8

TDL-FO2-8

Demonstrate an understanding of appropriate aviation measurements and calculations.

8.1 Demonstrate the use of appropriate units of measure.
8.2 Apply units of latitude and longitude for geographic references accurately.
8.3 Demonstrate the accurate interpretation of the compass as a navigation tool.
8.4 Apply algebra and trigonometry to solve navigation problems.

Course Standard 9

TDL-FO2-9

Incorporate navigation and communication tools to create a flight plan.

9.1 Use required references for flight planning.
9.2 Incorporate current meteorological data.
9.3 Apply measurements and calculations to accurately plan and file a cross-country flight.

Course Standard 10

TDL-FO2-10

Incorporate current weather information when creating a flight plan.

10.1 Demonstrate the ability to incorporate available meteorological resources for flight planning.
10.2 Demonstrate following required procedures to file a flight plan.

Course Standard 11

TDL-FO2-11

Apply techniques to analyze and forecast weather data.

11.1 Analyze weather charts for surface and upper air data.
11.2. Identify vorticity, divergence, and the jet stream.
11.3. Employ methods of forecasting.
11.4. Produce a forecast product.

Course Standard 12

TDL-FO2-12

Apply atmospheric dynamics to aeronautical components.

12.1 Detect VFR (Visual Flight Rules), MFR (Marginal Flight Rules) and IFR (Instrument Flight Rules) weather conditions.
12.2 Interpret the relevance of pressure changes to indicated altimeter readings.
12.3 Identify wind direction and speed as it applies to flight planning, crosswind components, and aircraft performance.
12.4 Apply seasonal and geographical weather variations to flight characteristics and aircraft performance.