ERAU Dispatcher Weather Education and Training

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Aeronautical University

Short Bio

- **Education**
  - Bachelor's Degree in Aeronautical Science
  - Minor in Air Traffic Control
  - Aircraft Dispatch Certification
  - Master's Degree in Logistics and Supply Chain Management
  - Doctor of Philosophy (Ph.D. in Higher Education Administration: Educational Leadership)
- **Courses taught**
  - Private Pilot Operations
  - Instrument Pilot Operations
  - Commercial Pilot Operations
  - Domestic and International Navigation
  - Airline Dispatch Operations
- **Experience**
  - Tutor
  - Flight & Check Instructor / Flight Training Manager
  - Corporate Aviation

Today's Agenda

- Dispatch Training Overview
- Current Training
- Challenges
- Possible Alternatives

Dispatch Training Overview

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Certification Requirements

The Aircraft Dispatcher Certification program preparation is based on the successful completion of the following courses and the applicable prerequisites.

AS 221	Instrument Pilot Operations	3
AS 310	Aircraft Performance	3
or AS 332	Dispatch Aircraft Performance	
AS 321	Commercial Pilot Operations	3
or AS 350	Domestic and International Navigation	
AS 410	Airline Dispatch Operations *	3
AT 202	Introduction to Air Traffic Management	3
WX 201	Survey of Meteorology	3
WX 301	Aviation Weather	3

*

AS 410 serves as the capstone course for the Aircraft Dispatcher program. Students cannot receive a signoff until they have completed and passed all required courses for the Aircraft Dispatcher Program. Students must be 21 years of age to take this examination.

This program is offered in the pursuit of a degree and not as separate training. To receive credit for any of the courses listed above toward the Aircraft Dispatcher certification program, the student must sign up in each required course, maintain a record of satisfactory attendance throughout each course, and obtain a grade of at least 70 percent. For more information, contact the Aeronautical Science Department.

Dispatch Training Overview

- Complete Pre-req courses
- Complete the Airline Dispatch Operations Capstone Course
- Complete the Knowledge Exam (Written)
- Practice Orals
- FAA - Practical Exam


U.S. Department of Transportation
Federal Aviation Administration

FAA-S-8081-10E

Aircraft Dispatcher

Practical Test Standards

November 2023

Flight Standards Service
Washington, DC 20591

Approaches to Dispatcher Training

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What's the Goal?

- **SAFETY** is #1
- **PTS –** Exhibits adequate knowledge of the elements of aviation weather information by obtaining, reading, and analyzing relevant items.
- Special Emphasis Areas
- Importance of Fundamentals

Aeronautical Decision-Making and Risk Management

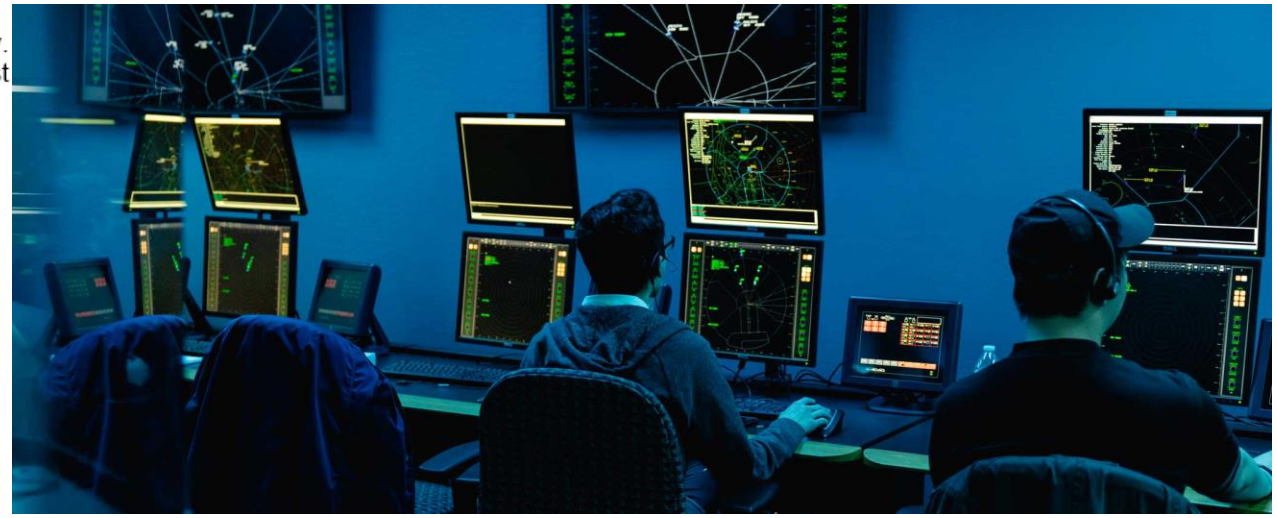
The examiner shall evaluate the applicant's ability throughout the practical test to use good aeronautical decision-making procedures in order to evaluate risks. The examiner shall accomplish this requirement by developing scenarios that incorporate as many Tasks as possible to evaluate the applicant's risk management skills in making safe aeronautical decisions. For example, the examiner may develop a scenario that incorporates weather decisions and performance planning. The applicant's ability to utilize all the assets available in making a risk analysis to determine the safest course of action is essential for satisfactory performance. The scenarios should be realistic and within the capabilities of the aircraft and company operations used for the practical test.

Special Emphasis Areas

Examiners shall place special emphasis upon areas that are most critical to dispatching and flight safety. Although these areas may not be shown under each Task, they are essential to flight safety and must receive careful evaluation throughout the practical test.

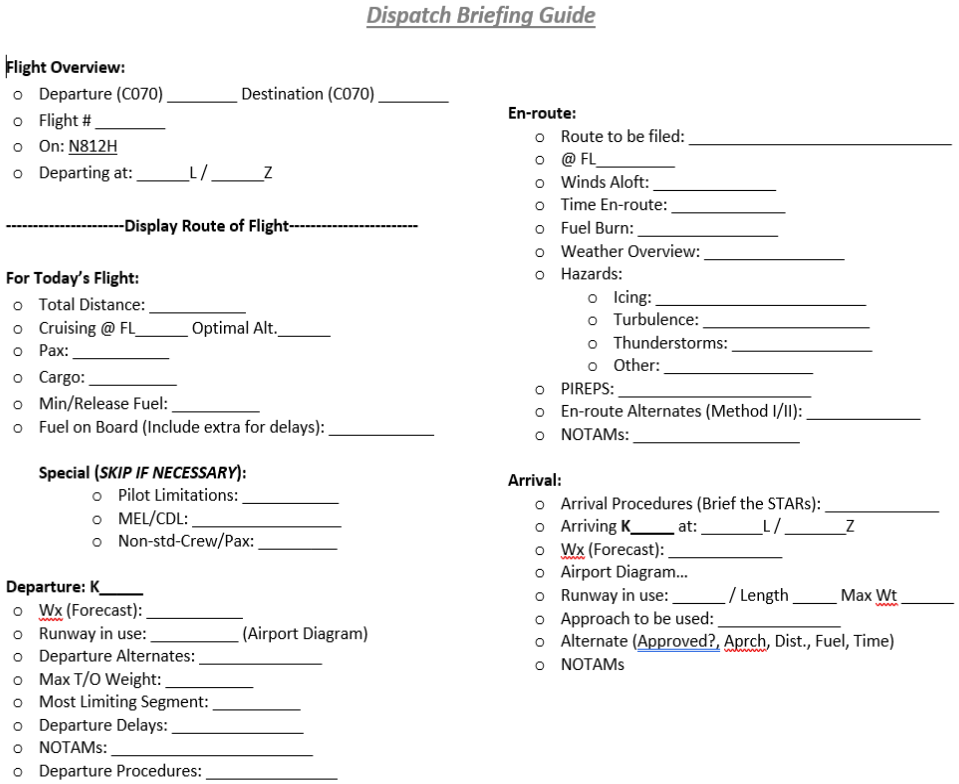
Among these are:

1. Positive Operational Control;
2. Aircraft Performance and Driftdown;
3. Weather Requirements for Departure/Destination and Alternates;
4. Hazardous Weather Awareness, Recognition and Avoidance;
5. ADM;
6. RMP;
7. DRM; and
8. Other areas deemed appropriate to any phase of the practical test.



Dispatcher Student – Training

- **Flight Instructor Perspective**
  - Go/No-Go decision starts on day one.
  - Big picture to small picture
- **Scenario-based Approach (practical dispatch scenarios)**
  - SBT – great for practicing decision-making skills
- **Practice Orals**
  - Assigned 2-3 random flight scenarios in which students will make decisions based on weather conditions.
- **EOC Briefing Forms**
- **Personal EOC Checklist**



Dispatch Briefing Guide

Flight Overview:
- Departure (C070) _____ Destination (C070) _____
- Flight # _____
- On: N812H
- Departing at: _____L / _____Z

----------**Display Route of Flight**----------

For Today's Flight:
- Total Distance: _____
- Cruising @ FL_____ Optimal Alt._____
- Pax: _____
- Cargo: _____
- Min/Release Fuel: _____
- Fuel on Board (Include extra for delays): _____

Special (*SKIP IF NECESSARY*):
- Pilot Limitations: _____
- MEL/CDL: _____
- Non-std-Crew/Pax: _____

Departure: K_____
- Wx (Forecast): _____
- Runway in use: _____ (Airport Diagram)
- Departure Alternates: _____
- Max T/O Weight: _____
- Most Limiting Segment: _____
- Departure Delays: _____
- NOTAMs: _____
- Departure Procedures: _____

En-route:
- Route to be filed: _____
- @ FL_____
- Winds Aloft: _____
- Time En-route: _____
- Fuel Burn: _____
- Weather Overview: _____
- Hazards:
  - Icing: _____
  - Turbulence: _____
  - Thunderstorms: _____
  - Other: _____
- PIREPS: _____
- En-route Alternates (Method I/II): _____
- NOTAMs: _____

Arrival:
- Arrival Procedures (Brief the STARs): _____
- Arriving **K**_____ at: _____L / _____Z
- Wx (Forecast): _____
- Airport Diagram…
- Runway in use: _____ / Length _____ Max Wt _____
- Approach to be used: _____
- Alternate (Approved?, Aprch, Dist., Fuel, Time)
- NOTAMs

Strategies

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AS410 Planning Data for Practical Dispatch Exercise 3

Student Name_____Date_/____/_____

Trip Data:

1) Miami (KMIA) to Washington Dulles (KIAD) on November 10th, 2023.
2) Flight ER 410, Departing 1300 Zulu, Arriving 1520 Zulu, Optimum Altitude, LRC.
3) Preferred Route:

   MIA ALTNN1 DUCEN Q87 ALWZZ OGRAE BZNGA DORRN CAVLR4 IAD

Weather/NOTAMS/ATC:

4) See Attached.

Payload Data:

5) Standard Crew
6) 115 Total Passengers with standard bags. Three of the passengers are estimated at 350lbs each. Ten of the passengers are children over the age of 2.
7) 20 crates at 400lbs each. The shipper refuses to delay more than 6 crates.

Airplane Data:

8) MEL 21-1-1 (a) (One Air Conditioning PACK INOP).

Pilot Data:

9) Captain A. Mazing has 300 hours in type. FO L. Ame has 70 hours in type.

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******** Pilot Reports ********
VRB UA /OV PBI360060 /TM 1435 /FL080 /TP CL60 /TB MOD 120-150

VRB UA /OV PBI360060 /TM 1435 /FL080 /TP CL60 /TB LGT CHOP 150-180

******** Terminal Forecasts ********
TAF KMIA 101120Z 1012/1112 23007KT 1SM FG OVC030
     FM101500 15013G20KT P6SM FEW040 SCT120 SCT250
     FM110000 13008KT P6SM SCT250
TAF KVRB 101123Z 1012/1112 24006KT P6SM FEW120 OVC200
     FM101400 15013G20KT P6SM FEW040 SCT150 BKN250
     FM110000 16010KT P6SM FEW040 SCT250
     FM110600 19006KT P6SM SCT250
TAF KMCO 101123Z 1012/1112 23005KT P6SM SCT120 OVC200
     FM101400 18011G18KT P6SM FEW040 SCT150 BKN250
     FM110000 18008KT P6SM FEW040 SCT250
     FM110600 19004KT P6SM BKN250
     FM102300 18010KT P6SM SCT080 BKN120
     FM110800 21006KT P6SM SCT025 BKN050
TAF KCHS 101126Z 1012/1112 21007KT P6SM BKN250
     FM101330 21013KT P6SM SCT150
     FM101500 21015G22KT P6SM SCT150
     FM101800 20019G28KT P6SM BKN120
     FM102330 19015G22KT P6SM SCT080 BKN120
     FM110800 22014KT P6SM SCT025 BKN050
TAF KRDU 101140Z 1012/1112 20008KT P6SM SCT150 BKN200
     WS015/23040KT
     FM101400 22015G26KT 3SM SCT010 BKN020
     FM101900 22015G26KT 3SM -SHRA SCT030 BKN050 OVC100
     FM110000 21010G15KT 2SM -SHRA BR BKN035CB OVC050
     FM110300 21012G18KT 3SM -RA BR SCT012 BKN020CB OVC040
     FM110800 25008KT 5SM BR SCT008 BKN025
TAF KRIC 101131Z 1012/1112 14005KT P6SM SCT080 BKN180
     FM101400 19011KT P6SM SCT080 BKN180
     FM102100 21013G21KT P6SM VCSH BKN050 OVC100
     FM110000 21007KT 6SM -SHRA BR OVC050
     FM110200 20007KT 4SM -SHRA BR OVC015
     FM110900 35009KT 3SM -SHRA BR OVC007
TAF KIAD 101131Z 1012/1118 21008KT 2SM BKN030
     FM101600 20008G14KT 2SM -RA BKN030 BKN120
     FM101900 19011G17KT 3SM -RA BKN050CB BKN120
     FM110100 01006KT 4SM -RA BKN030 OVC050
     FM110700 36010G15KT 5SM -RA OVC020

******** FD Winds Aloft Forecast ********
DATA BASED ON 100000Z
VALID 101200Z   FOR USE 0900-1800Z. TEMPS NEG ABV 24000
FT  3000    6000    9000    12000   18000   24000   30000   34000   39000
MIA 1613 2106+13 2206+08 2211+03 2528-10 2729-23 275139 286649 287853
MLB 1712 2219+12 2312+07 2218+01 2432-13 2431-24 254740 266450 287757
JAX 2023 2424+11 2520+06 2518+00 2528-15 2532-25 265242 257651 267460
SAV 2129 2333+10 2425+06 2527+00 2740-15 2640-27 266143 257152 266860
CHS 2230 2332+09 2230+05 2236-01 2336-17 2539-26 254843 245153 256561
CAE 2335 2435+09 2331+04 2432-01 2433-16 2647-27 244843 234953 256261
FLO 2338 2340+09 2233+05 2241-02 2443-18 2632-27 244942 245553 255962
RDU 2431 2334+09 2332+03 2344-02 2549-19 2841-28 255343 245954 256363
RIC 1926 2325+07 2330+00 2545-03 2654-19 2635-28 265444 256454 266864
EMI 1806 2214+01 2426-05 2654-06 2863-18 2855-29 266345 267655 277463
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Challenges

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Challenges

- **Use of Electronic Tools**:
  - Practical Exam – Paper Only / No electronic sources
  - Industry – Use of WSI
  - Software tools:
  - Simple way of obtaining weather
  - Ex. ForeFlight
- **Innovation –** VR/Flight Training
- **Correlation –** Training/Industry

Challenges

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Wind/temps

Region: Southeast | Forecast (hrs): 06 | Levels: Low | Load data | Raw data

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(Extracted from FBUS31 KWNO 261958)
FD1US1
DATA BASED ON 261800Z
VALID 270000Z   FOR USE 2000-0300Z. TEMPS NEG ABV 24000

FT  3000    6000    9000   12000   18000   24000  30000  34000  39000
EYW 0607 0408+13 3510+08 3211+03 3016-12 3025-23 316237 307547 297956
JAX 3111 3015+09 3238+03 3126-02 2938-15 2951-26 284843 285053 287061
MIA 0612 0110+11 3413+06 3114+01 3119-13 3128-24 294441 305550 297255
MLB 0607 3517+11 3516+05 3218-01 3027-13 3029-25 292942 284052 296059
PFN 3507 3407+10 3217+03 3125-02 3035-15 2937-25 294742 308250 298961
PIE 0311 0512+11 0114+05 3315-01 3030-12 2930-25 294141 307250 307559
TLH 3608 3218+10 3128+03 3134-03 2931-15 2941-26 295043 296452 298461
ATL 3314 3016+04 3138+00 3139-04 3051-17 3058-29 307545 298353 297861
```

	FL 330 (ISA: -50°C)		FL 350 (ISA: -54°C)		FL 370 (ISA: -56°C)		FL 390 (ISA: -56°C)		FL 410 (ISA: -56°C)	
WINDS ALOFT	(COMP) WIND	ISA	(COMP) WIND	ISA	(COMP) WIND	ISA	(COMP) WIND	ISA	(COMP) WIND	ISA
GERCK	(T59) 273/059	+5	(T63) 273/063	+5	(T66) 273/067	+4	(T70) 273/070	+1	(T69) 273/069	-1
MZULO	(T58) 274/059	+5	(T62) 274/063	+5	(T65) 273/066	+4	(T68) 273/070	+1	(T68) 273/069	-1
HESTA	(T51) 274/059	+5	(T55) 274/063	+5	(T58) 274/066	+4	(T61) 274/070	+1	(T61) 273/069	-1
-TOC-	(T43) 274/059	+5	(T45) 274/063	+5	(T48) 274/066	+4	(T50) 274/070	0	(T50) 273/069	-1
LENDS	(T44) 274/059	+5	(T47) 274/063	+5	(T50) 274/066	+4	(T52) 274/070	0	(T52) 273/069	-1
GRUBR	(T0) 273/059	+4	(H0) 274/063	+4	(H1) 274/066	+3	(H1) 274/070	0	(H1) 273/069	-1
WEAKK	(T26) 273/059	+4	(T28) 273/062	+4	(T29) 274/065	+3	(T30) 274/069	0	(T30) 273/068	-1
TUBBS	(T44) 273/058	+3	(T46) 273/062	+4	(T48) 274/065	+3	(T50) 274/068	0	(T50) 274/067	-1
100-ROBBB	(T40) 273/058	+3	(T42) 273/061	+3	(T44) 273/064	+3	(T45) 274/067	0	(T45) 273/066	-1
ROBBB	(T41) 272/057	+2	(T43) 273/060	+3	(T44) 273/063	+2	(T45) 273/065	0	(T45) 273/064	-1
100-STERN	(T41) 272/057	+2	(T43) 272/060	+3	(T44) 273/062	+2	(T45) 273/065	0	(T44) 273/063	-1
STERN	(T41) 271/057	+2	(T43) 272/059	+2	(T43) 272/061	+2	(T44) 273/063	0	(T43) 273/061	-1
VEGAA	(T32) 271/057	+1	(T32) 272/059	+2	(T33) 272/061	+2	(T33) 273/062	0	(T33) 273/061	-1
ATUGI	(T42) 271/056	+1	(T43) 272/059	+2	(T44) 272/060	+2	(T44) 273/061	0	(T43) 272/060	-1
100-TILED	(T42) 271/056	+1	(T43) 271/058	+2	(T43) 272/059	+2	(T44) 272/060	0	(T43) 272/058	-1
TILED	(T42) 270/055	+1	(T42) 271/057	+2	(T43) 271/058	+2	(T43) 271/058	0	(T42) 271/056	-1
100-DRYED	(T43) 270/055	+1	(T44) 270/057	+2	(T44) 271/057	+2	(T44) 271/058	0	(T43) 271/056	0
DRYED	(T43) 269/054	+1	(T44) 269/056	+2	(T44) 270/056	+2	(T43) 270/056	0	(T42) 270/054	0
300-NOVOK	(T39) 268/054	+1	(T40) 269/055	+2	(T40) 269/055	+2	(T39) 269/055	0	(T38) 269/053	0
200-NOVOK	(T40) 267/053	0	(T40) 267/054	+2	(T40) 267/054	+2	(T39) 268/053	+1	(T37) 268/051	0

ALTITUDE	WINDS	ETE	FUEL BURN
1,500'	7kts tailwind	7h51m	88,176lb
2,000'	8kts tailwind	7h50m	88,027lb
2,500'	8kts tailwind	7h50m	87,879lb
3,000'	9kts tailwind	7h49m	87,766lb
3,500'	9kts tailwind	7h49m	87,654lb
5,000'	11kts tailwind	7h48m	87,319lb
7,000'	13kts tailwind	7h47m	86,847lb
9,000'	15kts tailwind	7h46m	86,381lb
11,000'	18kts tailwind	7h45m	85,939lb
13,000'	20kts tailwind	7h44m	85,521lb
15,000'	22kts tailwind	7h43m	85,094lb
17,000'	24kts tailwind	7h43m	84,656lb
FL190	25kts tailwind	7h42m	84,270lb
FL210	27kts tailwind	7h42m	83,934lb
FL230	28kts tailwind	7h41m	83,600lb
FL250	30kts tailwind	7h41m	83,244lb
FL270	32kts tailwind	7h40m	82,864lb
FL290	34kts tailwind	7h39m	82,488lb
FL310	35kts tailwind	7h39m	82,186lb
FL330	36kts tailwind	7h39m	81,957lb
FL350	36kts tailwind	7h40m	81,847lb
FL370	35kts tailwind	7h42m	81,855lb
FL390	35kts tailwind	7h43m	81,864lb

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Eagle Air Flight Navigation Log

P.233

Cruise Altitude	Power	(Winds Aloft)		ISA	TAS (438+10)			BR Weight
FL300	LRC	HW 25kts		+10	448			118,805 ← FLIGHT PLAN GUIDE
From – To	Route	(MC)	(GS)	NM	Time	PPH	Leg Fuel	New Weight

WAYPOINT	AIRWAY	MAG HDG	MAG CRS	ALT	WIND CMP	WIND DIR/SPD	ISA	SPD KT TAS	SPD KT GS	DIST NM LEG	DIST NM REM	FUEL LB USED	FUEL LB REM	FUEL LB ACT	TIME LEG	TIME REM	TIME ETE	TIME ACT
KMCO		-	-	96	-	-	+5	-	-	-	3738	2000	80051		-	7:46	-	
GERCK	MZULO3	107	106	8700	T9	263/010	+8	282	288	27	3711	2671	79381		0:06	7:40	0:06	
MZULO	MZULO3	089	090	17200	T19	271/020	+9	282	301	29	3682	3331	78720		0:06	7:34	0:12	
HESTA	MZULO3	071	074	FL291	T35	273/039	+8	282	317	42	3640	4257	77794		0:08	7:26	0:20	
-TOC-	MZULO3	054	062	FL410	T51	274/062	+4	282	333	44	3596	5181	76870		0:07	7:19	0:27	
LENDS	MZULO3	058	063	FL410	T52	273/069	-1	470	522	13	3583	5466	76586		0:02	7:17	0:29	
GRUBR	DCT	007	016	FL410	H1	273/069	-1	470	469	47	3536	6573	75478		0:06	7:11	0:35	
WEAKK	DCT	034	042	FL410	T30	273/069	-1	470	500	81	3455	8333	73719		0:10	7:01	0:45	
TUBBS	Y493	058	063	FL410	T50	273/068	-1	470	520	45	3410	9300	72751		0:05	6:56	0:50	
100-ROBBB	Y493	053	059	FL410	T46	274/067	-1	470	516	69	3341	10756	71295		0:08	6:48	0:58	
ROBBB	Y493	054	060	FL410	T45	273/066	-1	470	515	100	3241	12890	69161		0:12	6:36	1:10	
100-STERN	Y493	056	061	FL410	T45	273/064	-1	470	515	35	3206	13652	68399		0:04	6:32	1:14	
STERN	Y493	056	061	FL410	T44	273/063	-1	470	514	100	3106	15792	66259		0:11	6:21	1:25	
VEGAA	Y493	044	051	FL410	T33	273/061	-1	470	503	27	3079	16386	65665		0:04	6:17	1:29	

Time:

$T = \frac{D}{S} = \frac{47}{423} \times 60$

$= 0.11 \times 60$

$= 6.6 \approx$ 7mins

PPH:

$2731 \times 2 = 5462$

ISA +10 → 1% per 5° ⇒ 2%

$5462 \times 0.02 = 109.24 + 5462$

$= 5571$

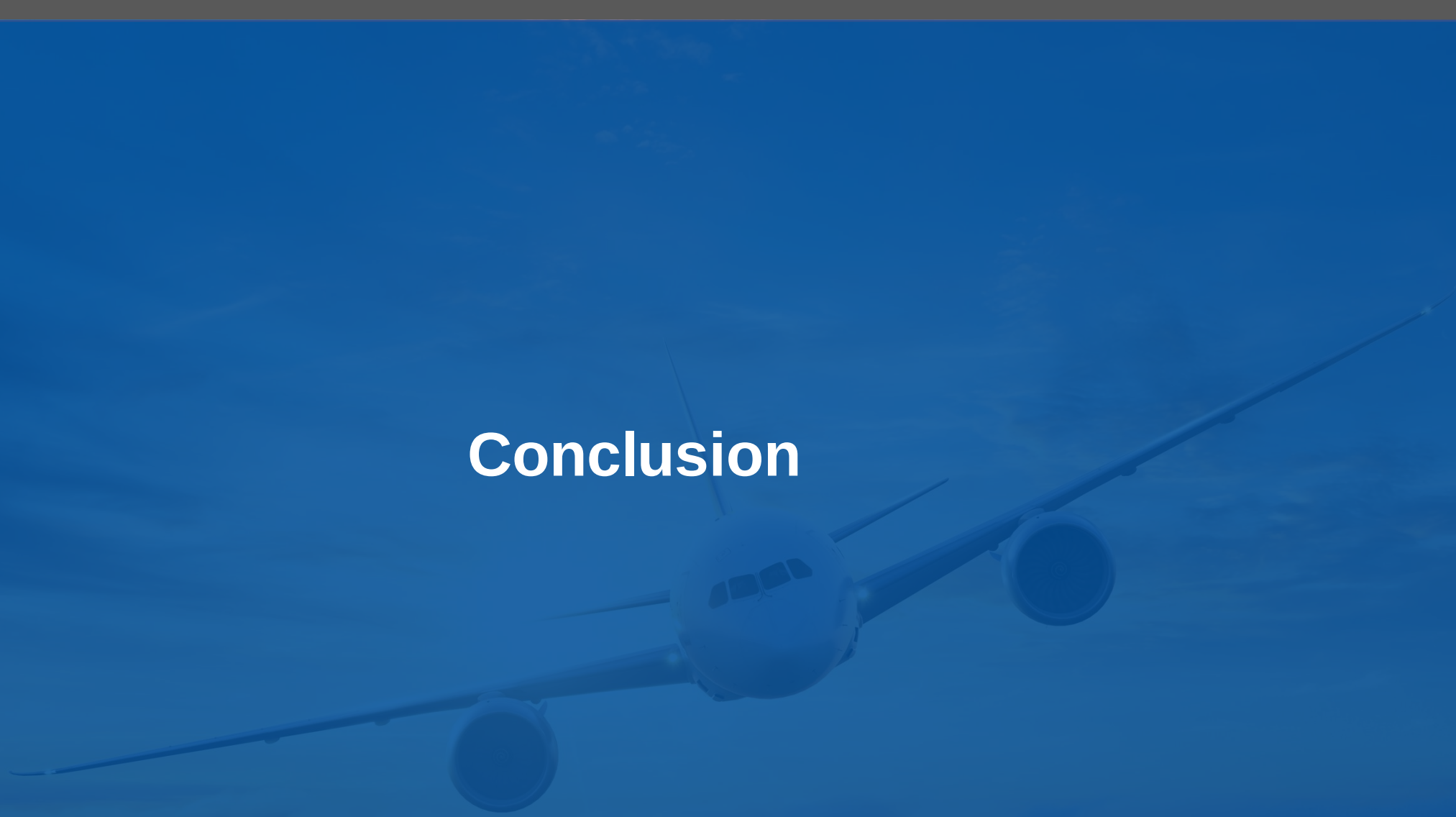
Leg fuel:

$\frac{5571}{60} \times \text{Time} = 92.85 \times 7\text{mins}$

$= 649.95$

$\approx 650\text{lbs}$

Conclusion



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Conclusion

- Importance of the Fundamentals
- Scenario-Based Approach
- Strategies used – Dispatch Students
- Challenges
- Future of Dispatcher Training

QUESTIONS?

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THANK YOU

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