MASTER COURSE OUTLINE
Prepared By: Gregory Crane Date: January 2014

COURSE TITLE
Advanced Meteorology

GENERAL COURSE INFORMATION

Dept.: AVF	Course Num: 213	(Formerly:)
CIP Code: 49.0102	Intent Code: 22	Program Code:
Credits: 5		
Total Contact Hrs Per Qtr.: 55		
Lecture Hrs: 55	Lab Hrs:	Other Hrs:
Distribution Designation: Natural Science (NS)		

COURSE DESCRIPTION (as it will appear in the catalog)
This course is designed for aviation majors but it is helpful for the non-aviation major to understand meteorology at a more advanced level. This course will cover the nature and utility of atmosphere, winds, temperature, moisture, air masses and frontal systems, weather forecasting utilizing charts and reports available from FAA and NWS. This course will incorporate techniques for flying in various weather conditions.

PREREQUISITES
AVF 113 or Chief Pilot Approval

TEXTBOOK GUIDELINES
Meteorology Today, C. Donald Ahrens
Meteorology Today Workbook/Study Guide, C. Donald Ahrens
Aviation Weather Services (AC 00-45E) FAA Department of Transportation

COURSE LEARNING OUTCOMES
Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. The student will be able to understand weather theory and the cause and effect relationship to each part, recognize critical and typical weather phenomenon including cloud types & related weather, and be able to read and interpret weather data. These skills will be demonstrated by written tests.

INSTITUTIONAL OUTCOMES

COURSE CONTENT OUTLINE

1. The Earth and Its Atmosphere
2. Warming the Earth and Its Atmosphere
3. Seasonal and Daily Temperatures
4. Light, Color and Atmospheric Optics
5. Atmospheric Moisture
6. Condensation: Dew, Fog and Clouds
7. Stability and Cloud Development
8. Review & Evaluation

9. Precipitation
10. Air Pressure, Forces and Winds
11. Wind: Small Scale and Local Systems
12. Air Masses and Fronts
13. Review & Evaluation
14. Middle Latitude Cyclones
15. Weather Forecasting
16. Thunderstorms and Tornadoes
17. Hurricanes
18. Air Pollution
19. Global Climate
20. Climate Change
21. Review & Evaluation

DEPARTMENTAL GUIDELINES *(optional)*

Two mid-term tests will be given plus a comprehensive final. Between major tests, short 15 minutes quizzes may be used to maintain study motivation and supplement the overall-testing program. Grades will be earned according to the following numerical system. Note *70% is lowest passing grade.

98-100%	4.0	88%	3.0	78%	2.0
97%	3.9	87%	2.9	77%	1.9
96%	3.8	86%	2.8	76%	1.8
95%	3.7	85%	2.7	75%	1.7
94%	3.6	84%	2.6	74%	1.5
93%	3.5	83%	2.5	73%	1.3
92%	3.4	82%	2.4	72%	1.1
91%	3.3	81%	2.3	71%	.9
90%	3.2	80%	2.2	70%	.7
89%	3.1	79%	2.1		

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DIVISION CHAIR APPROVAL **DATE**