

# 327 The Weather and Air Traffic Management Integration Course in the Graduate Aeronautics Program at Embry-Riddle

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## Background

- An experimental course in Weather & Air Traffic Management Integration was offered in Summer 2009 as a means to introduce students to the new specialty in Aviation Meteorology
- Course used lecture-based and student-led seminar formats
- Students were assigned topics on current Wx/ATM issues such as the National Severe Weather Playbook, and NextGen programs such as ADS-B, SWIM, Voice Switch, NNEW, and RWI

## MSA 530 Course Objectives (Spring 2011)

- 1) Introduce students to the concept of weather and air traffic management integration, as it exists today
- 2) Introduce students to the Next Generation Air Transportation System (NextGen) program
- 3) Familiarize students with weather and air traffic management integration as it is being planned for NextGen
- 4) Become familiar with the issues and problems related to making weather and air traffic management integration in the NextGen environment a reality over the next 5-10 years.

## The Curriculum

### Lecture-based:

- 1) A review of basic concepts from aviation meteorology
- 2) A review of basic concepts in air traffic control/management
- 3) An introduction to the concept of Weather and Air Traffic Management Integration
- 4) An introduction to the NextGen program

### Student-led seminars:

- 5) A literature review of current issues regarding Weather and Air Traffic Management Integration in the context of NextGen

## Tentative Course Schedule (Spring 2011)

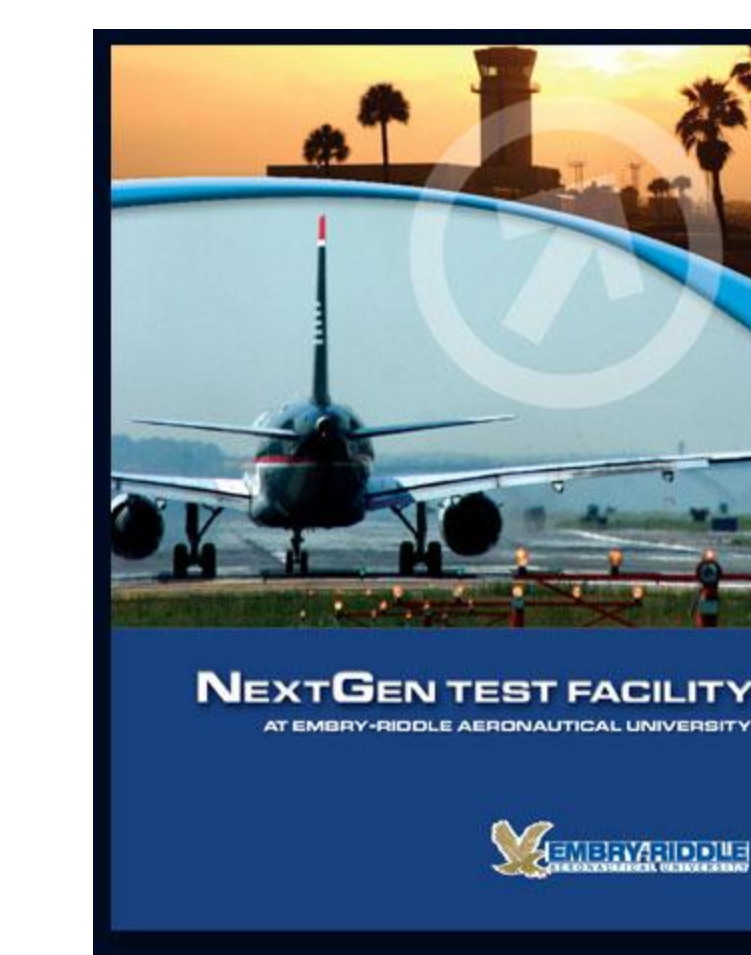
18 Jan (lecture) Course Intro Aviation Meteorology review	8 Mar (student-run seminar) NAS Voice Switch, SWIM
1 Feb (lecture) Introduction to Air Traffic Management	15 Mar (student-run seminar) RNAV, RNP
8 Feb (lecture) Introduction to Weather/Air Traffic Management Integration	29 Mar (student-run seminar) ADS-B
15 Feb (lecture) Introduction to NextGen;	5 Apr (student-run seminar) NNEW, RAPT
22 Feb (student-run seminar) CDM, TBO	12 Apr (student-run seminar) ITWS, CIWS
1 Mar (student-run seminar) ERAM, DATA COMM	26 Apr Final Project presentations; term paper due

## Field Trips and Student Projects

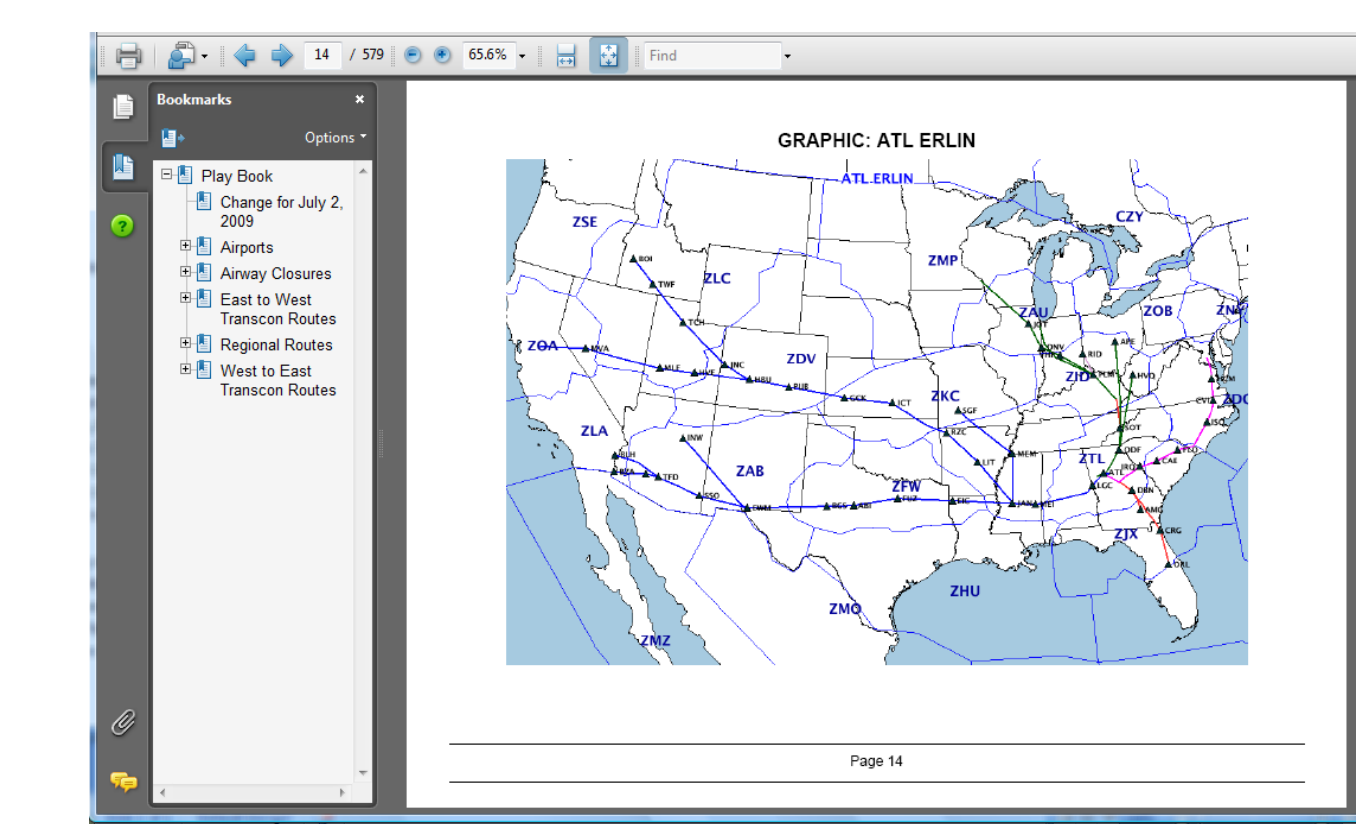
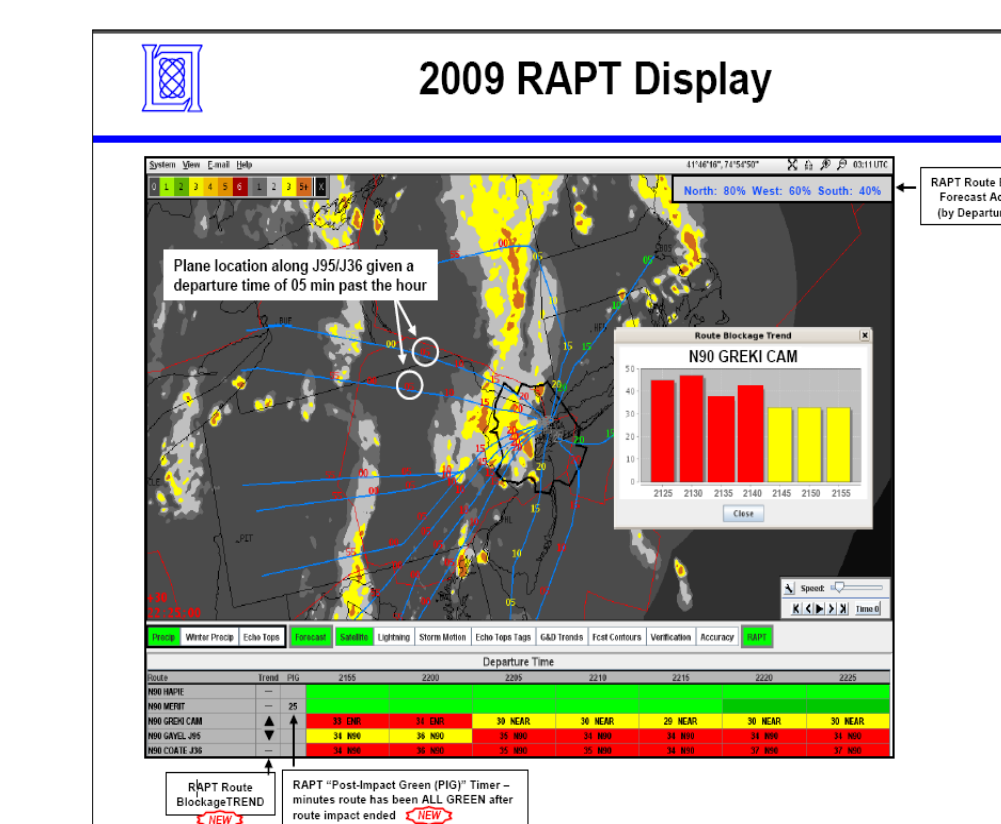
**Summer 2009:**  
Jacksonville Air  
Route Traffic  
Control Center



**Spring 2011:**  
Florida NextGen  
Test Bed  
(Daytona Beach)



**Student Project Topics from Summer 2009:**  
Route Availability Planning Tool, ATM Playbook



### Student Feedback – Summer 2009

- The course itself was interesting...being that this is the first time it was ever offered. I think 595H can become a major course in the Met. AOC. There is a lot of material to be covered and the topic of NextGen is increasing in popularity. We are moving towards a time of evolution in the aviation industry. Embry-Riddle should stay on top by offering the industry students who are well educated in this evolving industry.
- The seminar format that the instructor used in delivering the course content made learning the material very effective. Having the students present the material and engaging the class in discussion during the students presentation. A very effective way of learning in a graduate class. Having a SME speak on the content that the instructor was not as familiar with was very helpful.
- The student-led seminar has been helpful because the best way to learn a subject is to be able to teach others. Also the field trip was helpful too; it gave a real-world view of the subject material.