

**Special Course Offering for Spring 2004**  
**AAE-490 Aircraft Design Build Test (ADBT)**  
**3 credits**

Students will design, build and flight-test and giant scale radio-controlled aircraft. The mission for the aircraft is to carry a 20-pound avionics pod including computer, GPS, inertial navigator, camera, and air-data boom on a flight to determine the precise coordinates of objects on the ground. The aircraft preliminary design is being done this fall in AAE451. Design activity to date indicates the aircraft will weigh 50-55 pounds, have a 4-6 horsepower motor, and have a wingspan of 15-20 feet.

Students in AAE-490 ADBT will

- Confirm the preliminary aircraft design done by AAE451 students this semester
- Perform detailed design
- Build the aircraft
- Flight-test the aircraft for aircraft performance properties and to demonstrate precision geo-location of ground objects.

Customers for the aircraft

- Professor Andrisani, School of Aeronautics and Astronautics
- Professor James Bethel, School of Civil Engineering
- AAE Graduate student Rob Benner (designer of the avionics payload)

Expected Results

- A flight research aircraft for use in geo-positioning research
- An instrumented aircraft for use by in the flight-testing course.

Course Prerequisites

- AAE451 or consent of instructor
- Some aero-modeling experience or consent of instructor

How to register:

- Participation is by approval of Professor Andrisani
- Approved students will register for AAE490 with professor Andrisani with a course title  
AIRCRAFT DESIGN BLD TST
- Enrollment will be limited to 5-10 qualified students

For additional material about the ongoing design efforts by AAE451 students see

[http://roger.ecn.purdue.edu/~andrisan/Courses/AAE451\\_Fall\\_2003/AAE451Fall2003.html](http://roger.ecn.purdue.edu/~andrisan/Courses/AAE451_Fall_2003/AAE451Fall2003.html)

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