

# AAA Advanced Training Outline

July 2011

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## Project Management

- Analyzing an existing airplane
- Use of color coding variables
- File formats
- Recalculate All

## Class II Weights

- Forward-Aft C.G.

## Performance Analysis

- Setting a Thrust/Power-Speed relationship
- Take-off and Landing Distance
- Stall and Cruise Speed
- Climb, Maneuver, Glide, Dive and Descent

## Geometry Module

- Using the Scale function
- Exporting geometry with AeroPack
- Debugging Geometry

## Aerodynamics II

- Class II drag
  - Trendlines and Drag Plots
- Critical Mach Number
- Power Effects
- Ground Effects

## Propulsion

- Thrust from Drag

## Stability and Control

- Derivatives
  - Hingement: aerodynamic balance and horn balance
- Analysis
  - Longitudinal Trim
  - Lateral-Directional Trim
  - Take-Off Rotation
  - Trimmed Lift
  - Control Forces

## Loads

- Structural

Structures

User Materials

Class I Structural Sizing

Final Question and Answer Session