

# MAE 155B, Aerospace Engineering Design II, Aircraft Design Spring 2009

## Class Syllabus

*Rev 7 as of 2009-05-18*

**Schedule** *Tuesdays & Thursdays, Room U413A*

*Text in Italics indicates student presentations and/or submission of written material*

Wk	Tuesday (usually)		Thursday (usually)	
1	3/31	Introduction. RFP review.	4/02	The Commercial Aviation Market. Market Analysis. Risk analysis. TRLs.
2	4/07	<i>TSR #1.</i> Proposal Management.	4/09	Configuration & Propulsion options.
3	4/14	<i>Risk Reduction Experiment Plans</i> Aircraft Systems.	4/16	Cost Models.
4	4/20	<b>Monday</b> - Prof Drake: Wind Tunnel Testing.	4/23	<i>TSR #2</i> Longitudinal S&C. Simulink (Andrew Cavender).
5	4/28	<i>Prelim Design Reviews</i> PDR feedback.	4/30	FAR Takeoff & Climb Constraints.
6	5/05	<i>TSR #3.</i> Aileron & vertical tail sizing.	5/07	Trade Studies.
7	5/12	<i>TSR #4.</i> Acoustics and Emissions.	5/13	<b>Wednesday</b> - Roy Martin: Flight Test
8	5/19	<i>TSR #5.</i> Off-design mission. Balanced field length	5/21	Flight Management. Aerostructures and Materials.
9	5/26	Compliance matrix review.	5/28	<i>Risk Reduction Evaluations.</i>
10	6/02	<i>Presentation Dry Runs (Team 1 and Team 2).</i>	6/04	<i>Presentation Dry Run (Team 3)</i> Peer review questionnaire. Dry run feedback.
11	6/05	Approx 9:30am – 12:30pm <i>Final Oral Presentations.</i>		

### **Textbook**

Raymer, D. P., *Aircraft Design: A Conceptual Approach*. 4<sup>th</sup> Edition, AIAA Education Series, 2006.

### **Grading:**

Authorship of all written material must be clearly identified

Scoring Sheet #	Report/Presentation	Team Score	Individual Score	Total
1,2	Team Status Report (annotated ppt)	20 pts X 5 reports	50 pts (1 presentation)	150 pts
3	Risk Reduction Experiment Plan (annotated ppt)	50 pts		50 pts
4	Preliminary Design Review (annotated ppt)		100 pts	100 pts
5	Risk Reduction Report (annotated ppt)	60 pts		60 pts
6,7	Final Proposal Presentation (ppt)	100 pts	100 pts	200 pts
8,9	Final Proposal Report (doc)	100 pts	100 pts	200 pts
10	Peer Review		240 pts	240 pts
	<b>Total</b>			<b>1000 pts</b>

### **Instructor:**

Tony Hays, Principal, Aircraft Design And Consulting  
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### **Teaching Assistant:**

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