

# AE4359 - Syllabus

## 1. INSTRUCTORS

Mark Costello

Sikorsky Associate Professor

Office: 211-F Weber Building

Office Hours: Mon 2-3, Wed 2-3, Fri Unused Part of Lab Period

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Graduate Teaching Assistant

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## 2. COURSE OBJECTIVES

- Objective 1 Understand multidisciplinary requirements in the AHS student design competition RFP.
- Objective 2 Convert AHS student design competition RFP requirements into engineering requirements.
- Objective 3 Brainstorm different air vehicle configurations to meet requirements of the AHS student design competition.
- Objective 4 Determine an optimal air vehicle configuration to meet design requirements.
- Objective 5 Create a detailed design of an air vehicle to meet design requirements.
- Objective 6 Write a detailed technical report on the air vehicle designed in the course.
- Objective 7 Practice professional skills such as presenting technical information, working in groups, completing a large multidisciplinary project, etc.

## 3. COURSE TEXTBOOK

There is no specific textbook for this class.

## 4. GRADING

Grades will be determined based on demonstrated proficiency on design reviews, final design presentation, your team's final design report, and an instructor grade. The relative weighting of each graded event is shown below:

Design Review 1	125 Points
Design Review 2	125 Points
Design Review 3	125 Points
Design Review 4	125 Points
Final Design Presentation	200 Points
Final Design Report	300 Points

For each graded requirement above, 50% of the grade will be a team grade and 50% of the grade will be an individual grade.

Letter grades will be determined based on the table below. Note that this course is not graded on a curve.

Points Total	Letter Grade
900-1000	A-, A
800-899	B-, B, B+
700-799	C-, C, C+
600-699	D

The instructor reserves the right to add or subtract as much as 25 points from the point total of a student based on participation in the course.

## 5. ADDITIONAL INSTRUCTION

Supplemental instruction by the instructor and teaching assistant is a valuable resource available to any student having difficulty with a particular concept in the course. Get help when you have a problem! The instructor can be reached in Room 211-F Weber Space Science and Technology Building during office hours or by appointment. Another opportunity to obtain help from the instructor is in the classroom just before class begins or just after class ends. Be prepared to ask specific questions that concisely articulate unclear concepts.

Drop-in visits to the instructor or teaching assistant outside of their office hours are not welcome.

## 6. COURSE ETHICS

Students are expected to uphold high ethical standards including adherence to the Georgia Institute of Technology Honor Code, Academic Regulations and Student Regulations.

All material submitted for grade must contain complete documentation including a "References" section appended to the end of each submission.

## 7. APPROXIMATE SCHEDULE

Lesson Number	Lesson Title	Date of Instruction	Notes
1	Course Introduction	10 Jan 2007	
2	Design Process 1 - Quality Function Deployment	12 Jan 2007	
3	Martin Luther King Day - No Class	15 Jan 2007	
4	Design Process 2 - Decision Matrix	17 Jan 2007	
5	Design Studio - Configuration Selection	19 Jan 2007	
6	Design Studio - Configuration Selection	22 Jan 2007	
7	Design Studio - Configuration Selection	24 Jan 2007	
8	Design Studio - Configuration Selection	26 Jan 2007	
9	Design Studio - Configuration Selection	29 Jan 2007	
10	Design Studio - Configuration Selection	31 Jan 2007	
11	Design Review 1	2 Feb 2007	1 Hour Presentation from Each Team
12	Design Studio - Disciplinary Analysis and Design	5 Feb 2007	
13	Design Studio - Disciplinary Analysis and Design	7 Feb 2007	
14	Design Studio - Disciplinary Analysis and Design	9 Feb 2007	
15	Design Studio - Disciplinary Analysis and Design	12 Feb 2007	
16	Design Studio - Disciplinary Analysis and Design	14 Feb 2007	
17	Design Studio - Disciplinary Analysis and Design	16 Feb 2007	
18	Design Studio - Disciplinary Analysis and Design	19 Feb 2007	
19	Design Studio - Disciplinary Analysis and Design	21 Feb 2007	
20	Design Review 2	23 Feb 2007	1 Hour Presentation from Each Team
21	Component Design - Rotor Systems	26 Feb 2007	
22	Component Design - Airfoils	28 Feb 2007	
23	Component Design - Drive Train	28 Feb 2007	
24	Component Design - Landing Gear	2 Mar 2007	
25	Component Design - Fuselage Layout	5 Mar 2007	

26	Component Design - Cockpits	7 Mar 2007	
27	Component Design - Flight Controls	9 Mar 2007	
28	Component Design - Open	12 Mar 2007	
29	Component Design - Open	14 Mar 2007	
30	Design Review 3	16 Mar 2007	1 Hour Presentation from Each Team
31	Spring Break - No Class	19 Mar 2007	
32	Spring Break - No Class	21 Mar 2007	
33	Spring Break - No Class	23 Mar 2007	
34	Design Studio - Final Design	26 Mar 2007	
35	Design Studio - Final Design	28 Mar 2007	
36	Design Studio - Final Design	30 Mar 2007	
37	Design Studio - Final Design	2 Apr 2007	
38	Design Studio - Final Design	4 Apr 2007	
39	Design Studio - Final Design	6 Apr 2007	
40	Design Studio - Final Design	9 Apr 2007	
41	Design Review 4	11 Apr 2007	Draft Final Report is Due at the Design Review
42	Design Studio - Final Design	13 Apr 2007	
43	Design Studio - Final Design	16 Apr 2007	
44	Design Studio - Final Design	18 Apr 2007	
45	Design Studio - Final Design	20 Apr 2007	
46	Design Studio - Final Design	23 Apr 2007	
47	Design Studio - Final Design	25 Apr 2007	
48	Final Design Presentations	27 Apr 2007	1 Hour Presentation on Final Aircraft Design - Briefing is Open to Public in Rm 317 MK
49	Final Report	2 May 2006	Final Report is Due by 5:00pm