NUAA Course F010103: Aircraft Conceptual Design

Primary Textbook: Raymer, D., "Aircraft Design - A Conceptual Approach, 5th Edition"

	Class	Lecture Subject	Assignment	Due
2014/03/10	1.1	Introduction, class objectives, acquisition process	Brief student biography	
	1.2	Standard and non-standard atmosphere		
2014/03/14	1.3	Ch 1 and 2 Overview of design process, risk		
	1.4	Ch 3 Sizing from a sketch: mission definition	**(1) Homework #1**	
2014/03/17	2.1	Ch 3 L/D and sfc, empty weight matching		
	2.2	Ch 4 Aerodynamics of wing, winglets		
2014/03/21	2.3	Ch 4 Characteristics of horiz. and vert. tail, canards		(1)
	2.4	Ch 5 Design constraints: T/W and W/S	**(2) Homework #2**	
2014/03/24	3.1	Ch 5 Selection of constrained optimum		
	3.2	Ch 6 2nd iteration on sizing		
2014/03/28	3.3	Ch 7 Config layout and loft		(2)
	3.4	Ch 8 Aerodynamic/structural considerations	**(3) Homework #3**	
2014/03/31	4.1	Ch 8 Observables: E-M, acoustic, and other		
	4.2	Ch 9 Crew station, pax and payload		
2014/04/04	4.3	Ch 11 Landing gear and subsystems		(3)
	4.4	Ch 12 Aerodynamics: C_{Lmax}, high lift systems		
2014/04/09	5.1	Ch 12 C_{Do}, drag polars, drag plot, ML/D vs Mach		
	5.2	Ch 10 Propulsion system selection, inlets		
2014/04/11	5.3	Initial Design Reviews		
	5.4	Initial Design Reviews		
2014/04/14	6.1	Ch 10 Engine location, secondary power		
	6.2	Ch 13 Propulsion		
2014/04/16	6.3	Ch 14 Structures and loads: 'bones' drawing		
	6.4	Ch 15 Weight definitions, weight equations	**(4) Homework #4**	
2014/04/18	7.1	Ch 16 Stability & control, handling:		
	7.2	Ch 16 Pitch stability criteria, tail sizing		
2014/04/21	7.3	Ch 17 Performance and flight mechanics		(4)
	7.4	Ch 19 Trade studies		
2014/04/25	8.1	**Conceptual Design Reviews**		
	8.2	**Conceptual Design Reviews**		
2014/04/01	8.3 8.4	**Final Exam (open + closed book)**	**(5) Final Report**	(5)

Bold type shows graded documents

As of: 14/03/31