SPACECRAFT DESIGN

AE 501 + AE 482 + NTU

Tuesday, 6:30-9:10 p.m. Spring 2003

CLASS	DATE	SUBJECT	N S	L&W Text Chapter	HW due
1	Jan 14	Organization of the class. Design project (AE-482) and term paper (AE-501). Sundries. History of space exploration.	0 1		
2	Jan 21	Universe, galaxy, solar system. Plasma. Space environment.	2 3	 8	1
3	Jan 28	Space Environment. Orbital mechanics.	3 4	8 5,6,7	2,3
4	Feb 4	Basic orbits, ΔV.	4, 5	5,6,7	4,5,5G,6
5	Feb 11	Space mission geometry. Spacecraft and mission design overview.	5 6	5,6,7 1, 10, 14	7,8,9,9G
6	Feb 18	Facilities. Operations. Reliability. Attitude determination and control (ADC); disturbance torques.	6 7	15,18,19 10, 11	10,11,11G
7	Feb 25	Attitude determination. Reaction control systems. GPS.	7	10,11	12,13,13G,14
8	Mar 4	**MID-TERM**	**7:00-9:00 p.m. ON CAMPUS**		
9	Mar 11	Spacecraft Propulsion	8, 9	17,18	15,16,17
	Mar 18	**SPRING BREAK**			
10	Mar 25	Launch systems Communications	10	17,18 10,11,13	18,19,20,20G
11	Apr 1	Communications	10	10,11,13	21,22
12	Apr 8	Communications. TT & C; data handling Design Project (AE-482) and Term Paper (AE-501): requirements review	10	10,11 13,16	23,24
13	Apr 15	Electric power systems	11	10,11	25, 26
14	Apr 22	Thermal control Submission of Design Project (AE-482) and Term Paper (AE-501)	13	10,11	27,28
15	Apr 29	Structures and mechanisms	12	10,11	29,30,30G

16	**May 6**	**FINAL EXAM**	**7:00-9:00 p.m. ON CAMPUS**