

SUBJECT: Advanced Flight Mechanics		
MASTER DEGREE: Master in Aeronautical Engineering	ECTS: 6	TERM: 1

WEEKLY PLANNING								
WEEK	SESSION	DESCRIPTION	TEACHING (MARK X)		SPECIAL ROOM FOR SESSION (Computer room, audiovisual room)	WEEKLY PROGRAMMING FOR STUDENT		
			L E C T U R E S	S E M I N A R S		DESCRIPTION	CLASS HOURS (1,66 h = 50 min + 50 min)	HOMEWORK HOURS (max. est. 3,25 h)
1	1	Introduction. General Equations of Motion	X				1.66	3.25
1	2	General Equations of Motion	X				1.66	3.25
2	3	Linear Equations of Motion	X				1.66	3.25
2	4	Equations of motion. Assignment 1		X	X		1.66	3.25
3	5	Stability Derivatives	X				1.66	3.25
3	6	Longitudinal and Lateral Motion	X				1.66	3.25
4	7	Aircraft Modes. Assignment 1		X	X		1.66	3.25
4	8	Response to actuators.	X				1.66	3.25
5	9	Open Loop. Assignment 1		X	X		1.66	3.25
5	10	Response to actuators. Steady state.	X				1.66	3.25
6	11	Non-linear test. Assignment 1		X	X		1.66	3.25
6	12	Summary Dynamics	X				1.66	3.25
7	13	Presentation. Assignment 1		X	X		1.66	3.25
7	14	Navigation Elements. Sensors	X				1.66	3.25
8	15	Navigation Block. Assignment 2		X	X		1.66	3.25
8	16	State estimation	X				1.66	3.25
9	17	Model sensors. Assignment 2		X	X		1.66	3.25
9	18	Statistical Filtering	X				1.66	3.25
10	19	Statistical Filter. Assignment 2		X	X		1.66	3.25
10	20	Summary Navigation	X				1.66	3.25
11	21	Presentation. Assignment 2		X	X		1.66	3.25
11	22	Closed Loop Control	X				1.66	3.25
12	23	Longitudinal controllers. Assignment 3		X	X		1.66	3.25
12	24	PID and LQR controllers	X				1.66	3.25
13	25	Lateral controllers. Assignment 3		X	X		1.66	3.25
13	26	Control design and examples	X				1.66	3.25
14	27	Non-linear test. Assignment 3		X	X		1.66	3.25
14	28	Summary Control and Handling Qualities	X				1.66	3.25
	29	Presentation. Assignment 3		X	X		1.66	3.25
Subtotal 1							48	91
<i>Total 1 (Hours of class plus student homework)</i>							139	
8		Tutorials, handing in, etc.,					1.8	--
14		Assessment					4	10
Subtotal 2							6	10
<i>Total 2 (Hours of class plus student homework)</i>							16	
Total							155	