

ME 575 SYLLABUS – FALL 2016

Lecture	Date		Topic	Reading	Homework
1	T	8/23	Course Introduction	Ogata Ch. 1	
2	R	8/25	Mathematical Modeling	Ogata Ch. 2-4	
3	T	8/30	Transient Analysis; Routh Stability	Ogata Ch. 5	
4	R	9/1	Root Locus	Ogata Ch. 6	
5	T	9/6	Frequency Response	Ogata Ch. 7	
6	R	9/8	Nyquist Stability	Ogata Ch. 7	
7	T	9/13	Review Exam: Ogata Chapters 1-7	--	
8	R	9/15	Sensitivity Functions		
9	T	9/20	Plant Uncertainty	PDF 4.1	
10	R	9/22	Robust Stability Theorem I	PDF 4.2	HW 1 Due
11	T	9/27	Robust Stability Theorem II	PDF 4.2	
12	R	9/29	Control Design via Pole Placement	PDF 5.2	
13	T	10/4	Design Constraints I	PDF Ch. 6	
14	R	10/6	Design Constraints II	PDF Ch. 6	HW 2 Due
15	T	10/11	Design Constraints III	PDF Ch. 6	
16	R	10/13	State-Space Modeling; Linearization	Ogata 2-4 to 2-7	
17	T	10/18	No Class – October Break		
18	R	10/20	State-Space Representations	Ogata 9-1 to 9-3	HW 3 Due
19	T	10/25	Solution of the Time-Invariant State Equation	Ogata 9-4	
20	R	10/27	Jordan Form; Cayley-Hamilton Theorem	Ogata 9-5	
21	T	11/1	Midterm Exam: Lectures 7 – 17	--	
22	R	11/3	Stability I	--	HW 4 Due
23	T	11/8	Stability II	--	
24	R	11/10	Controllability	Ogata 9-6	
25	T	11/15	Observability	Ogata 9-7	
26	R	11/17	State Feedback via Pole Placement	Ogata 10-1 to 10-3	HW 5 Due
27	T	11/22	Design of Servo Systems	Ogata 10-4	
28	R	11/24	Observer Design I	Ogata 10-5	
29	T	11/29	Observer Design II	Ogata 10-5	HW 6 Due
30	R	12/1	No Class – Thanksgiving Holiday		
31	T	12/6	Regulator Design with Observers	Ogata 10-6	
32	R	12/8	Control System Design with Observers	Ogata 10-7	HW 7 Due