

ME 507 – Exterior Ballistics

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Texts: *Modern Exterior Ballistics*, 2nd Ed., Robert McCoy, Schiffer Publishing, 2012
Ballistics, The Theory and Design of Ammunition and Guns, 3rd Ed., Donald E. Carlucci and Sidney S. Jacobson, Taylor and Francis, 2018.

Week	Date	Class Hours (2.5 hours)	Reading Assignment	Homework Problems	Reference Pages in notes
1	1/23	Introduction to Exterior ballistics, discuss class content and rules of engagement Nomenclature	McCoy Chapter 1 and 2	none	Nomenclature pp.1-36
2	1/30	Vacuum Trajectory	McCoy Chapter 3	Carlucci Chapter 9, Problems 1-4	Vacuum Trajectory pp. 1-41
3	2/6	Drag and Lift	McCoy Chapter 4	Carlucci Chapter 9, Problems 5 and 6	
4	2/14 Tues	Flat Fire Point Mass Trajectory	McCoy Chapter 5	Carlucci Chapter 9, Problems 7-10	
5	2/20	Siacci Method for Flat Fire Trajectories	McCoy Chapter 6	Siacci problem	
6	2/27	Wind Effects on Flat Fire Trajectories Issue Midterm Exam	McCoy Chapter 7	none	
7	3/6	Point Mass Trajectory Midterm exam due	McCoy Chapter 7	Carlucci Chapter 9.3, Problems 9-10	
8	3/13	Dynamics Review	McCoy Chapter 8	Carlucci Chapter 9.4, Problem 11	
9	3/20	6 DOF Trajectories	McCoy Chapter 9	none	
10	3/27	Modified Point Mass	McCoy Chapter 10	Dynamics Review Problem Take home Quiz – Fowler equations	
11	4/3	Flight Stability	Carlucci Chapter 10.1-10.3	Carlucci Chapter 9.4, Problem 13, 14 and 15	
12	4/10	Roll Resonance	Carlucci Chapter 10.4	Carlucci Chapter 9.4, Problem 14	
13	4/17	Issue Final Exam			
14	4/24	Final Exam collected			

15	5/1	Back up day			
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