

## 5460 Schedule Spring 2018

Week	Date	Ch		HW#	Assignment	Due
1	M 15-Jan		MLK HOLIDAY			
	W 17-Jan	<b>1</b>	Models	1	Ch1: 1,3,7,9,10	
	F 19-Jan		Models II, Phase Planes		Ch2: 2,4,6,7,9	1/31
2	M 22-Jan		Nullclines, Linear Systems			
	W 24-Jan	<b>2</b>	Linear Systems, Exponentials			
	F 26-Jan		$e^{tA}$ and properties			
3	M 29-Jan		Complex and Multiple Eigenvalues			
	W 31-Jan		Semisimple-Nilpotent			HW1 Due
	F 2-Feb		Semisimple-Nilpotent & Stability	2	Ch 2: 11,14,15af,19,23	2/16
4	M 5-Feb		Floquet Theory I		Ch 3: 5,6,7	
	W 7-Feb		Floquet Theory II			
	F 9-Feb	<b>3</b>	Contraction Maps			
5	M 12-Feb		Existence & Uniqueness			
	W 14-Feb		Dependence Upon Initial Conditions			
	F 16-Feb		Maximal Interval of Existence			HW2 Due
6	M 19-Feb	<b>4</b>	Flows and Vector Fields	3	Ch 3: 11, 14	3/2
	W 21-Feb		Global Existence and Linearization		Ch 4: 1b, 2d,3a-d,6, 8, 9	
	F 23-Feb		Stability			
7	M 26-Feb		Lyapunov Functions			Project Title Due
	W 28-Feb		Lyapunov Functions & Conjugacy			
	F 2-Mar		Conjugacy			HW 3 Due
8	M 5-Mar		Hartman-Grobman	4	Ch 4:15,17,18	3/19
	W 7-Mar		Omega Limits		Ch 5:2,3,4,8	
	F 9-Mar		Attractors			
9	M 12-Mar	<b>5</b>	Heteroclinic Orbits			
	W 14-Mar		Stable Manifolds I			
	F 16-Mar		Stable Manifolds II			
10	M 19-Mar		Center Manifolds & Examples			HW4 Due
	W 21-Mar	<b>7</b>	Defining Chaos			
	F 23-Mar		Lyapunov Exponents			Project Proposal Due
11	M 26-Mar		SPRING			
	W 28-Mar		BREAK			
	F 30-Mar		WEEK			
12	M 2-Apr		Lyapunov Exponents II			
	W 4-Apr		Strange Attractors & Dimenions			
	F 6-Apr		Box Counting & Hausdorff Dimension		Ch 7: 5,6,9,12	4/20
13	M 9-Apr		Transport		Ch 8: 1bcd,5,10	
	W 11-Apr	<b>8</b>	Bifurcation Theory Saddle Nodes			
	F 13-Apr		Unfolding			
14	M 16-Apr		Saddle-Node Theorem			
	W 18-Apr		Saddle Node in $R^n$			
	F 20-Apr		Hopf Bifurcation			
15	M 23-Apr		Cusp and Taken's Bogdanov			
	W 25-Apr		Homoclinic Bifurcations			
	F 27-Apr		Project Presentations			
16	M 30-Apr		Project Presentatiions		Ferguson & Sullivan, Fulton & Harris	
	W 2-May		Project Presentatiions		Kuettel & Bury, Wong & Madden	Written Project Due
	F 4-May		Reading Day (no Class)		Klasky & Ellefsen	
	S 5-May		Final Exam 4:30-7:00PM			