

## MATH 2700 Syllabus

**Text: Blanchard, Devaney, Hall, *Differential Equations*, third edition**

SECTION	NUMBER of 50 minute periods	TOPICS
1.1	2	Modeling, logistic equation, IVP, Predator Prey
1.2	2	Separation of variables, mixing problems
1.3	2	Slope fields, RC circuits
1.4	1	Euler's method
1.5	2	Existence and Uniqueness
1.6	1	Equilibria, Phase line
1.7	1	Bifurcations
Review and Exam I	2	
1.8-1.9	3	Linear Equations, Integrating factors
2.1	2	Intro to Systems
2.2	2	Phase portraits, etc
2.4	1	Euler
3.1	2	Linear Systems, superposition, linear independence, determinants
Review and Exam II	2	
3.2	2	Straight line solutions, eigenvalues, characteristic equation
3.3-3.4	3	Real eigenvalues, complex eigenvalues
3.6	1	Harmonic Oscillators
3.7	2	Trace-det plane
4.1-4.3	3	Forced Oscillators, resonance
Review and Exam III	2	
6.1-6.5	5	Laplace transforms
Review	1	