MATH 552 – Introduction to Dynamical Systems

Outline
2015W T2 (Jan–Apr 2016)

Ideas, methods and applications of dynamical systems and bifurcation theory: differential and difference equations, local bifurcations, perturbation methods, chaos. Prerequisite: two semesters of undergraduate differential equations.

Instructor: Wayne Nagata (e-mail: nagata@math.ubc.ca, tel: 604-822-2573)
Office: Mathematics 112, hours TBA
Web page: http://www.math.ubc.ca/~nagata/m552/
Textbook (optional, not required):


Topics:

1. Linear Dynamical Systems: Linear vector fields and flows, linear maps, stable, unstable and centre subspaces, Floquet theory.


3. Local Bifurcations: Fold, Hopf and other local bifurcations, centre manifolds, normal forms.


Additional references:


