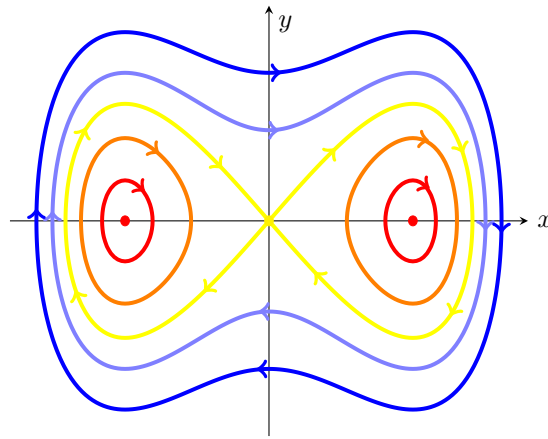


# Syllabus: MAT 475 - Differential equations Fall 2017



- Instructor: Sebastien Motsch (email: [smotsch@asu.edu](mailto:smotsch@asu.edu))
- Class: M,W 9:00-10:15am (WGHL202)
- Office hours: M,W 1:00-3:00pm (WXLRA 836)
- Class webpage: [www.seb-motsch.com/teaching](http://www.seb-motsch.com/teaching)

**Textbook:** M. Hirsch, S. Smale and R. Devaney, “*Differential Equations, Dynamical Systems, and an Introduction to Chaos*” (2012)

## Course Description

The goal of this course is to introduce rigorous tools to study systems of differential equations. From existence theory (Picard iterations) to qualitative behaviors of solution (e.g. Poincaré map), the emphasis will be to develop a practical view of the several methods introduced.

The course is divided in three parts:

- 1) introduction, **linear systems of ODE** (*chap. 1-6*).
- 2) **non-linear dynamical systems** (*chap. 7-9*).
- 3) **limit sets** (*chap. 10*).

## Grading

Homework	weekly	40%
Mid-terms	2	30%
Final	1	30%