Differential Equations

Week 5

Monday September 22 : *Class 10*:

First Order Systems of ODEs. We will be introduced to models that involve a system of first order differential equations.

Reading:

Blanchard, 2.1

Homework #10:

Blanchard, Chapter 1 Review: 3, 4, 6, 10, 11, 12, 29, 47

Reading Quiz #2

Wednesday September 24 : *Class 11*:

Geometry of Systems of ODEs. We will be exposed to the beautiful pictures which can result when oe does quantitative analysis on systems of ODEs (phase portraits).

Reading:

Blanchard, Section 1.6

Homework #11:

Blanchard, Section 2.1: 1, 2, 3, 5, 7, 10.

Friday September 26 *Class 12*:

Analytical Methods for Special Systems. We will learn an analytical technique to obtain solutions of specific classes of linear systems (decoupled and partially decoupled).

Reading:

Blanchard, Section 2.2

Homework #12:

Blanchard, Section 2.2: 7, 8, 10, 24, 25.