1   Course Outline

In this course, we will consider a wide variety of physical problems and the mathematical models used to analyze them. We will mostly consider systems which can be modelled using differential and partial differential equations. Since there is no text for this course, I will scan in my notes and make them available on the course web page.

There will be one in class midterm on Friday February 16th. There will also be homework assignments given out approximately every week.

All homework assignment, solutions and handouts will be available from the web page in pdf format. If you have any problems downloading of viewing/printing these documents please let me know.

2   General Information

Instructor David Iron

Times Mon. Wed. Fri. 9:35-10:25

Location LSC C334

Web Page Link is on my home page http://www.mathstat.dal.ca/~iron/index.html

Office hours Wed. 10:30-12:00 Thurs. 10:30-12:00

3   Instructor Information

Name David Iron

Office Chase 322

Phone (902) 494-2385

email iron@mathstat.dal.ca

4   Grading

Homework 40%

Term Test 20%

Final Exam 40%

The final exam will be 3 hours long with time and place to be determined. The midterm test will be held in class.

5   Course Topics and Approximate Dates

Note: May change as the term progresses.

week 1 Introduction and Dynamical Systems
week 2 Stability and Equilibria
week 2 Epidemic Models
week 3 Traffic Models
week 3 Shock Formation
week 4 More traffic models
week 4 Shallow water waves
week 5 Fishery management
week 5 Pattern Formation
week 6 Review for Exam

6   Grading Scheme

The grading scheme is as follows:

A+	A	A-	B+	B	B-	C+	C	C-	D	F
[90, 100]	[85, 90)	[80, 85)	[75, 80)	[70, 75)	[65, 70)	[62, 65)	[58, 62)	[55, 58)	[50, 55)	[0, 50)

7   Final Notes

- Late homework will be penalized at 5% per day.

- Homework will be accepted as on time up to 6:00pm on the due date. Email submissions will be accepted, but must be in either pdf or postscript format. I will not accept Word documents or any other proprietary formats.

- The university policy states that all cases of academic misconduct *must* be handled through official channels. I have no latitude in this matter. I do encourage people to work in groups, but I must insist that each student write up their own homework. Please read the paragraphs on academic honesty on page 21-26 in the Calendar.

- Students with permanent or temporary disabilities who would like to discuss classroom or exam accommodations are asked to contact me as soon as possible. For information on available services see *http://www.studentaccessibility.dal.ca.*