Mathematics 256—Fall 1998—Dr. Casselman's section

Instructor: Bill Casselman
Office: Mathematics 215
Telephone: 822-4516
Office hours: Generally Monday 3:30, but better by appointment.
Email: `cass@math.ubc.ca`
Home page: `http://www.math.ubc.ca/people/faculty/~cass`

Text: None required. The course material will be covered by lecture notes handed out regularly throughout the term. You may find it useful to refer to the text book used, at least formerly, for Mathematics 255/257:

Boyce & DiPrima, *Elementary Differential Equations and Boundary Value Problems*, Fifth or Sixth Edition.

But it shouldn't be necessary—last year no one seems to have used it. There will be a **fee** of $20.00 to cover the cost of course and laboratory notes (far, far less than the price of a book).

Examinations: There will be at least two mid-term examinations and *a few small (perhaps unannounced) quizzes*, as well as a final examination. I do not know dates yet.

Examination grades will be counted proportionally to the length of time allotted to the examinations.

Our section will *probably* have our final examination in common with the other section. In my section's examinations calculators will be required, and often—but not always—crib sheets will be allowed.

Assignments: Homeworks will be due roughly every week. They will not be corrected if handed in late, but will be recorded as done. Homework will contribute 10% to your grade. You **must** hand in essentially all homework in order to pass the course in my section. In addition:

- If you do well on the homework, you get special consideration in otherwise failing circumstances;
- **Most examination questions will be based directly on homework problems, and you will certainly suffer if you have not made a serious effort to do them** (by yourself!).

Outline of topics (with assigned hours):

(5) First order ordinary differential equations
(2) Numerical methods
(6) Second order constant coefficient equations
(6) Linear systems of first-order ODE's
(3) Fourier series
(11) Heat equation, Laplace's equation, the wave equation.

Laboratories: *Laboratory work is a required part of this course*. That is to say, you **must** attend the labs. Each person is assigned a total of 6 hours throughout the term. Laboratory work will contribute about 10% to your grade.

Outside of the laboratories you may be expected to use computers occasionally in numerical work. A typical spread sheet will be satisfactory for this purpose. Those without access to computers will be required to do shorter computations by hand. Grades in this part of the course will depend on effort rather than programming skill. In particular, *examinations outside of the laboratories will not require any familiarity with computers*. They may, however, require that you understand the methods presented in class for the calculation assignments.

Internet access: The course will have a home page on the Internet at

`http://www.ugrad.math.ubc.ca/coursedoc/math256/fall98/`

All course material should be available there. It will be in two formats: PostScript (`.ps`) and Acrobat (`.pdf`). The first can be read on your machine with the public program `Ghostview`, which is available for Windows by download from several places on the Internet. The second requires Acrobat Reader, available free from `www.adobe.com`. You will have to configure your machine to get your browser to deal with these correctly.

Remark: Especially because there is no required text, it is extremely important that you make an effort to understand the material as it is presented in class. It is an important part of your education to learn how to ask questions when you do don't understand something. Keep in mind that if you are confused, the chances are very good that others are too, and that you will be doing a service to them and to yourself by asking questions in public.