Methods of Applied Mathematics — Work List

Throughout the program you will be asked to complete a variety of different types of work that will be assessed as part of your evaluation. So that you know what to expect at the outset, these are listed below. You should budget about forty hours a week for program work (including time spent in the classroom).

Homework
Homework is an extremely important part of learning this material. There will be homework assignments each week in differential equations, linear algebra and multivariable calculus. You can expect to spend roughly four hours per assignment. The homework will be assessed for completeness and effort and some questions will be corrected. After homework is returned to you please keep it in a separate section of a three ring binder as part of your portfolio.

Worksheets
In class you will occasionally break up into workshop groups to complete problems and worksheets. The work you do in groups during workshop activities will not be collected weekly for marking. However, this work will be assessed for effort and completeness at the end of each quarter. Therefore, please complete all workshop questions after class and arrange your worksheets in a separate component of a three ring binder as part of you portfolio

Computer Labs
We will be working weekly in the computer lab using Mathematica® and other software to solve mathematical problems. There will be time to spend on the labs in class, but for most lab worksheets you will need to spend additional time outside of class to complete the lab assignment.

Tests
There will be a total of three tests per quarter for each subject. There will be both in-class and take home tests. Missed in-class tests or late take-home tests will results in loss of credit unless prior arrangements have been made with me to complete the tests at an alternative time.

Presentations
Each student will complete two presentations per quarter; one on applications of linear algebra, and one on a differential equations lab. The presentations will be given in pairs and will be assessed by your peers. Presentations should be twenty minutes long, with an additional five minutes for questions.

- For linear algebra presentations students are expected to hand in a typed outline of their presentation plan and two assigned problems from the chapter they presented.
- For differential equations labs, each student should individually submit a typed double spaced three-page paper about the topic they presented. The paper should include an introduction, with background and motivation, a body explaining the main results, and a conclusion. Graphs and diagrams should be included where appropriate.

Seminars
We will have seminars each Monday for the first five weeks on readings from the seminar text. Each student is expected to come class having completed the reading and being prepared to discuss it. For each seminar bring a typed paragraph that addresses a question that arose from the reading that you would like to discuss with the class. You will share these paragraphs with the class.