

**NAME & Places:** (hometowns, etc)

**Year & Program:** (1<sup>st</sup> year applied masters, for example)

**E-Mail & Local Phone (opt):**

**Quantitative Courses:** (year taken & text)

classes with ODEs

classes with PDEs

courses with computing

quantitative science courses

**Matlab & Maple – Experience:** (yes/no)

**Matlab & Maple – Access:** (lab and/or home)

**Other Computing Experience:** (software, programming languages, web design)

**Subjects of Interest:** (specific maths, sciences, etc)

**Course Focus:** in order of priority (1 = most, 3 = least)

[ ] analysis/theory      [ ] applied modelling      [ ] computing & graphics

**Personal Course Objective:** goals for this class & future plans

**Familiarity Scale:** I know it ...

- 5 ... in my sleep
- 4 ... after a bit of thinking
- 3 ... if I can look it up in a book
- 2 ... should I see it in class again
- 1 ... vaguely from a past life
- 0 ... is something I have never seen before
- 7 ... is a subject to be avoided at all costs

**Mathematical Topics:** use above scale

- linear algebra of matrices
- theorems of Green & Stokes
- ODEs:  $2^{nd}$ -order linear
- ODEs: linear systems
- ODEs: eigenfunctions
- ODEs: Green's functions
- ODEs: nonlinear systems
- ODEs: special functions (Bessel, Airy, etc)
- ODEs: computing methods
- complex contour integration
- Fourier series
- PDEs: characteristics
- PDEs:  $2^{nd}$ -order linear (elliptic, parabolic, hyperbolic)
- PDEs: separation of variables
- PDEs: Fourier transforms
- PDEs: Green's functions
- PDEs: nonlinear PDEs
- PDEs: computing methods
- variational principles
- perturbation & asymptotic methods