

DIVISION OF APPLIED MATHEMATICS, BROWN UNIVERSITY  
**Syllabus, Introduction to Computing Sciences**  
**20914 – APMA 0160 – S01, Spring 2008**

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Hours:	To be announced.	To be announced.

**Time and location:** MWF 11:00-11:50am (D hour), CIT 265

**Course page:** <http://www.dam.brown.edu/people/anaray/am16> (username = student, password = vanloan).

**Texts:** C. F. Van Loan, *Introduction to Scientific Computing*, second edition (required); C. B. Moler, *Numerical Computing with MATLAB* (supplemental and available free of charge at <http://www.mathworks.com/moler/>).

**Course description:** For students in any discipline involving numerical computations. Includes instruction for programming in MATLAB. Applications discussed include solution of linear equations (with vectors and matrices) and nonlinear equations (by bisection, iteration, and Newton's method), interpolation, and curve-fitting, least squares, numerical differentiation and integration, and differential equations.

**Homework and projects:** Homework will be assigned daily, with sets collected on a weekly basis. By Friday, 25 January, we will have decided which turn-in day best fits everyone's schedule. Could you please think over your own schedule this semester so that you can state your preference. Late homework will not be accepted without an instructor's prior approval, but your lowest homework score will be dropped. In addition to the homework sets, there will be two longer projects to be completed over a two week period in groups of no more than two people.

**Midterm and final exam:** See the course calendar for their dates and coverage. Each will be cumulative and test theoretical concepts covered in the lectures and homework.

**Grading:** Your course grade will be computed as follows.

- Homework ..... 20%
- Project 1 ..... 10%
- Project 2 ..... 10%
- Midterm ..... 30%
- Final exam ..... 30%

**Collaboration:** Collaboration is strongly encouraged while working on MATLAB examples in class. However, unless stated otherwise, all assignments are to be completed individually.