Syllabus
EEL6825: Pattern Recognition (Fall 2003)

Instructor: Michael C. Nechyba
E-mail: nechyba@mil.ufl.edu *(best way to reach me)*
Office: Benton 311
Office hours: T, Th: 2pm - 3pm; Th: 4pm - 5pm; and by appointment.
Phone: (352) 392-6503 *(poorest way to reach me)*

TA: Seth McNeill
E-mail: mcnese@ufl.edu
Office: TBD
Office hours: TBD
Phone: TBD

Class web page: http://mil.ufl.edu/~nechyba/eel6825
Class meeting: T: 4th; Th: 4th & 5th, NEB 201.

Suggested textbook: Richard O. Duda, Peter E. Hart and David G. Stork, *Pattern Classification, 2nd ed.*, John Wiley & Sons, New York, 2001 (ISBN 0-471-05669-3). Additional readings, including lecture notes, slides and selected papers from the literature will be posted periodically on the class web site.

Prerequisites:
- Basic linear algebra and statistics
- Previous programming experience (e.g. C/C++, MATLAB, Mathematica, etc.)

Course objectives:

This class introduces methods in pattern recognition and classification. Major topics include:

- Bayesian decision theory
- Parametric estimation and supervised learning
- Unsupervised learning and clustering
- Linear discriminant functions
- Neural networks
- Nonparametric methods
- Applications

The basic goal of this course is for you to (1) know and understand the most common pattern recognition algorithms in use today; and (2) understand when and how these algorithms can be applied successfully to particular applications. Throughout, we will reinforce theoretical discussions with real-world examples in areas like computer vision and speech recognition.

Grading:
- 30%: Midterm (date/format TBA)
- 30%: Homework/mini-projects
- 40%: Semester project

Class e-mail:

Many class announcements, clarifications and answers to student questions will be distributed primarily via e-mail. To get on the class e-mail list, you should send an e-mail to <nechyba@mil.ufl.edu> with the *subject* of the e-mail being **EEL6825**; be sure to include your full name in the body of the e-mail.

Mathematical software:

Some homeworks/mini-projects and the final project will require the use of a mathematical software package, such as Mathematica, MATLAB, MathCad and Maple, all available at student prices; which software package you choose is entirely up to you. Having said that, however, Mathematica will be used almost exclusively for in-class demonstrations and examples, as it is the most sophisticated general purpose mathematical software package available, allowing text, equations, graphics, numerical and symbolic mathematics to be seamlessly integrated into notebooks. These notebooks will be distributed on-line, and can be viewed with free software (MathReader) available from Wolfram, Inc., the developer of Mathematica. To modify and experiment with the Mathematica notebooks, however, will require that you have access to a copy of Mathematica.

Academic honesty:

All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action.

This statement is a reminder to uphold your obligation as a student at the University of Florida and to be honest in all work submitted and exams taken in this class and all others.