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Text: SD372 Course Notes, Available in DC Copy Centre.  
372 Home Page: <http://ocho.uwaterloo.ca/~pfieguth/Teaching/teaching.html>

Class Times: MWF 1:30–2:20, E2-1303A  
Tutorials: Wed 2:30–3:20, E2-1303A, every week  
(Some weeks Wed tutorial & Friday lecture will switch)

Office Hours: (PF) Mondays, 12:30 - 1:20, DC-2643  
Office Hours: (TA) Wednesdays, 3:30-4:30, E2-1303A

### Course Grading:

1. Recommended homework problems will be handed out from time to time but will not be graded. The course home page lists recommended problems and will also give additional worked solutions.
2. Three short computer labs will be assigned during the term. The emphasis of these labs will be to provide insights into pattern recognition algorithms, complementing the more analytical material discussed in class. The labs will be undertaken in groups of two or three students. 25% of the course grade will be based upon the lab reports.
3. Midterm in mid-February: 25% of the course grade.
4. Final exam: 50% of the course grade.  
(Final exams below 50% may be weighted more heavily in the course grade.)

### Course Outline: (See course notes for detailed breakdown)

1. Introduction, Pattern Recognition Problem Definition
2. Overview of Statistics and Random Vectors
3. Parametric and Nonparametric Distance-Based Classification
4. Probabilistic Methods for Classification
5. Parametric and Nonparametric Density Estimation
6. Discriminant Functions, Classifier Combining
7. Parametric and Nonparametric Clustering
8. Feature Extraction, Feature Selection

### Library References: (Optional)

1. On Reserve: Q327.S27 *Pattern Recognition*, R. Schalkoff, Chapters 1–5
2. On Reserve: Q327.D83 *Pattern Classification*, Duda, Hart, & Stork, Chapters 1–6
3. TK7882.P3.N3 *Pattern Rec. Eng.*, M. Nadler & E. Smith, Chapters 1, 2, 6–8