

SD372 – INTRODUCTION TO PATTERN RECOGNITION

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Text:	SD372 Course Notes (available at the book store)			
SD372 WebPage:	TBA			
	The course webpage will contain lab handouts, solutions to selected problems, etc.			
Class Times:	MWF 1:30-2:20pm, E2-1303A			
Tutorials:	Wednesdays 2:30-3:30pm (most weeks)			
Office Hours:	Ossama Tuesdays 12:30-1:30pm			
	Yanmin Thursdays 1:30-2:30pm			

Course Grading:

- 1) Recommended homework problems will be handed out from time to time but will not be graded. Solutions for problems found at the end of the course chapters will be made available on the website.
- 2) Three or four 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. The submitted lab reports will constitute 25% of the course grade.
- 3) The midterm will take place sometime in February and will constitute 25% of the course grade.
- 4) If you pass the final exam, it will represent 50% of your course grade. If you fail the final exam (<50%), then the final exam will represent 100% of the final grade.

Course Outline:

- 1) Introduction, Pattern Recognition Problem Definition
- 2) Overview of Statistics and Random Vectors
- 3) Distance Measures for Classification
- 4) Probabilistic Methods for Classification
- 5) Parameter and Probability Density Estimation
- 6) Discriminant Functions
- 7) Unsupervised and Unlabelled Clustering
- 8) Feature Selection
- 9) (time permitting) Other Topics: Neural Networks, Genetic Algorithms

Library References (optional) (on reserve):

Q327.S27	Pattern Recognition, by <i>R. Schalkoff</i>	Chapters 1-5
Q327.D83	Pattern Classification, by <i>Duda, Hart & Stork</i>	Chapters 1-6