Winter 2007

CEG 726-01: Pattern Recognition

Arthur A. Goshtasby
Wright State University - Main Campus, arthur.goshtasby@wright.edu

CEG-726 Pattern Recognition

Winter 2007

CRN: 28068 **Lecture:** 2:45 - 4:00,M, W, **Location:** 144 Rike
Instructor: A. Goshtasby **Office Location:** 495 Joshi **Phone:** 937-775-5170
Email: agoshtas@wright.edu **Office Hours:** 1:00 - 2:30 PM, M, W, or by appointment.

No. Units: 4

Prerequisites: A course in probability theory and knowledge of programming

Textbook:

Pattern Recognition, 3rd Edition
by S. Theodoridis and K. Koutroumbas
Academic Press 2006

Supplemental Reading

To be provided. Each student will read a paper on an application of pattern recognition and will make a presentation to class.

Contents:

1. Introduction and Preliminaries
2. Clustering Basics
3. Hierarchical Clustering Algorithms
4. Sequential Clustering Algorithms
5. Bayesian Decision Theory
6. Feature Selection
7. Feature Generation
8. Template Matching
9. Pattern Recognition Applications

Purpose of Course:

This course will cover fundamentals of Pattern Recognition, including supervised and nonsupervised learning.

Learning Goals:

Students will learn theoretical as well as practice in this course. Some of the materials learnt in class will be practiced through computer implementation.

Projects and Exams:

There will be three programming assignments and a midterm exam. In addition, each student will read a paper on an application of pattern recognition and present to class.

Grading Policy:

Programming assignments will worth 45%, midterm exam will worth 30%, presentation will worth 15% and homework will worth 10% of the overall grade. Grades will be assigned as follows. A: [91..100], B: [81..90], C: [71..80], D: [61..70], F: [0..60].

Calendar:

Assignment 1	Handed out: 1/17/07	Due: 1/29/07, 2:00 PM
Assignment 2	Handed out: 1/31/07	Due: 2/12/07, 2:00 PM
Assignment 3	Handed out: 2/14/07	Due: 2/26/07, 2:00 PM
Midterm Exam	On 2/19/07, 2:45 - 4:00 PM	
Reading Assignments	Handed out: 2/14/07	