

Spring 2010

# CEG 726-01: Pattern Recognition

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# CEG-726 Pattern Recognition

*Spring 2010*

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**CRN:** 39057

**Instructor:** A. Goshtasby

**Email:** [agoshtas@wright.edu](mailto:agoshtas@wright.edu)

**Lecture:** 2:15 – 3:30, T, R,

**Office Location:** 495 Joshi

**Office Hours:** 1:00 – 2:00 PM, M, T, W, R or by appoint.

**Location:** 036 RH

**Phone:** 937-775-5170

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**No. Units:** 4

**Prerequisites:** A course in probability theory and knowledge of programming

**Textbook:**

*Pattern Recognition, 4th Edition*

S. Theodoridis and K. Koutroumbas

Academic Press, 2009

**Contents:**

1. Introduction and Preliminaries
2. Feature Generation
3. Dimensionality Reduction
4. Feature Selection
5. Clustering Basics
6. Hierarchical Clustering Algorithms
7. Sequential Clustering Algorithms
8. Bayesian Decision Theory
9. Parameter Estimation

**Purpose of Course:**

This course will discuss fundamentals of Pattern Recognition, including supervised learning and clustering.

**Learning Goals:**

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

**Projects:**

There will be three projects and three quizzes. Each project will require implementation of a pattern recognition/classification method.

**Grading Policy:**

The projects will worth 50 points and the quizzes will worth 50 points. Grades will be assigned as follows. A: [91..100], B: [81..90], C: [71..80], D: [61..70], F: [0..60].

**Calendar:**

Project 1	Handed out: 4/8	Due: 4/22
Project 2	Handed out: 4/27	Due: 5/11
Project 3	Handed out: 5/13	Due: 5/27

**Quizzes** will be on 4/15, 5/4, and 5/20.

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