

ELEG 5673 - PATTERN RECOGNITION

Spring Semester, 1996

Catalog Data: 1995-96 ELEG 5673. Introduction to basic concepts of pattern recognition. Subjects will include: trainable pattern classifiers, discriminant functions, parametric training methods, nonparametric training methods, feature selection, feature ordering, cluster analysis. Prerequisite: ELEG 3143.

Textbooks: A Survey of Pattern Recognition by Dwight F. Mix, Course Notes, 1996

Coordinator: Dwight Mix, Professor.

Goals: To provide Senior and Graduate students with an introduction to the concepts in decision making and pattern recognition.

Prerequisites by topic:

1. Transform theory.
2. Integral calculus.
3. Least squares estimation.
4. Mean square estimation.

Topics:

1. The minimum distance classifier.
2. Neural Networks, back propagation.
3. Fuzzy logic and clustering.
4. Template matching.
5. Dimensionality reduction.
6. Principle components.
7. Feature selection.

Computer usage:

Approximately 10 computer assignments to implement pattern recognition systems for each of the above topics.

Laboratory projects:

None.

ABET category content as estimated by faculty member who prepared this course description.

Engineering Science:	2 credits or 67%
Engineering Design:	1 credit or 33%

Prepared by: _____ Date: _____