CS619/CS325 Data Mining

Professor D. Paul Benjamin
dbenjamin@pace.edu

Course Description: This course will provide an overview of topics such as introduction to data mining and knowledge discovery; data mining with structured and unstructured data; foundations of pattern clustering; clustering paradigms; clustering for data mining; data mining using neural networks and genetic algorithms; fast discovery of association rules; applications of data mining to pattern classification; and feature selection. The goal of this course is to introduce students to current machine learning and related data mining methods. It is intended to provide enough background to allow students to apply machine learning and data mining techniques to learning problems in a variety of application areas.

Course Objectives: After completing this course, students will be able to:

- Design and select features to be used in classification,
- Apply a number of classification methods to data, including decision trees, regression, Bayesian analysis, nearest neighbors, support vector machines, and clustering,
- Understand the tradeoffs involved in various parameter settings.

Grading:

There will be a number of homework assignments, and a final project. The course grade will be determined by the scores received in the following areas:

Homework Assignments	70%
Final Project	30%

There will be **no curves** given for individual assignments. At the discretion of the instructor, a curve may be used for final course grades.

The grading scale will be no more stringent than the following:

A:	93-100
A-:	90-93
B+:	87-90
B:	83-87
B-:	80-83
C+:	77-79
C:	72-76
C-:	68-71
D+:	62-67
D:	60-61
F:	0-59

Accommodations for Students with Disabilities:

The University's commitment to equal educational opportunities for students with disabilities includes providing reasonable accommodations for the needs of students with disabilities. To request a reasonable accommodation for a qualified disability a student with a disability must self-identify and register with the Office of Disability Services for his or her campus. No one, including faculty, is authorized to evaluate the need for or grant a request for an accommodation except the Office of Disability Services. Moreover, no one, including faculty, is authorized to contact the Office of Disability Services on behalf of a student. For further information, please see Resources for Students with Disabilities at www.pace.edu/counseling/resources-and-support-services-for-students-with-disabilities.

Academic Integrity: (From the Student Handbook)

Students are required to be honest and ethical in satisfying their academic assignments and requirements. Academic integrity requires that, except as may be authorized by the instructor, a student must demonstrate independent intellectual and academic achievements. Therefore, when a student uses or relies upon an idea or material obtained from another source, proper credit or attribution must be given. A failure to give credit or attribution to ideas or material obtained from an outside source is

plagiarism. Plagiarism is strictly forbidden. Every student is responsible for giving the proper credit or attribution for any quotation, idea, data, or other material obtained from another source that is presented (whether orally or in writing) in the student's papers, reports, submissions, examinations, presentations and the like.

Individual schools and programs may have adopted additional standards of academic integrity. Therefore, students are responsible for familiarizing themselves with the academic integrity policies of the University as well as of the individual schools and programs in which they are enrolled. A student who fails to comply with the standards of academic integrity is subject to disciplinary actions such as, but not limited to, a reduction in the grade for the assignment or the course, a failing grade in the assignment or the course, suspension and/or dismissal from the University.