ECE 592-059
Topics in Data Science

(Note: For ECE courses, 700-level courses have a 500-level course as a prerequisite)
(If no section number, contact Ashley Rose to create one.)

Instructor(s): Dror Baron, barondror@ncsu.edu

Objective or Description: The course will familiarize students with some core basic topics in data science. Specific topics covered will include machine learning, computational complexity, basic data structures, scientific programming, optimization, wavelets, sparse signal processing, dimensionality reduction, and principle components analysis.

Prerequisites: The main prerequisite is eagerness to learn about data science. Technical prerequisites are somewhat informal, and include comfort in math (especially linear algebra and probability) and comfort with computers (specifically, we will be using Matlab).

Textbook: The instructor will be borrowing and inspired by several textbooks, and students need not purchase any of these. There will also be some references to academic papers provided in the slides and assignments.

Topics: Machine learning, scientific programming and data structures, sparse signal processing, optimization, and dimensionality reduction.

Grading: Homework 20%, Projects 40% (half of this an individualized project), midterm 15%, final 25%.

Cross-listing in other departments: None.