Course Introduction: Image and video signal processing is one of the cornerstones of modern signal processing. Images and video signals arise in many scenarios, ranging from multimedia files to radar and medical imaging. This course will

Course Specifics:

- Place and Time: MW 5:00-6:20, at CORE-601.
- Instructor: Wade Trappe. Phone: x50611. Office: CORE 523. Email: trappe@winlab.rutgers.edu. Office Hours are MW 3:30-4:30 pm. If you desire to speak with me outside of these times, please email me to arrange an appointment.
- TA: None.

Handouts and Materials: All course related materials will be available at the course website www.winlab.rutgers.edu/~trappe/ImageVideoProc06.html. Homework assignments will be posted on this website and announced in class.

Prerequisites: It is expected that students have had an introductory DSP class (e.g. Digital Signals and Filters). Additionally, students should have a background in multivariable calculus, linear algebra, and linear systems.


Grading: There will be two computer projects that will each require a report, and there will be 3 exams (two midterms and one final).

- Homework: (0%) There will be homework assignments. However, they will not be graded. Solutions to the assigned problems will be provided. Students are encouraged to do the problems and practice... practice... practice.
- Computer Projects: (5 projects at 10% each) The class will be broken into teams of two students (possibly one team with 3) and assigned computer projects. The purpose of the projects is to give students hands on experience with the concepts taught in the class. The computer projects will be partially open-ended, and will require some level of independent investigation. Students will report their findings in a short writeup that will be graded. The grading of the computer projects will be based on a rank comparison against other teams submissions-- the team with the best work gets the best grade.
- Exam: (1 exam at 25%) One exam will be given in the class, roughly two-thirds of the way through the semester. At least one week notice will be given in class to allow students to prepare. The exam will be closed book, with no note sheets allowed.
- Big Team Project: (25 %) The class will culminate in a large semester project that will require significant programming and exploration. A challenge problem will be given to the class (e.g. develop their own complete video compression algorithm). The teams will be responsible developing their own solution, preparing a proposed solution document, implementing, and testing. On the morning of the final day of class, the official test data set will be made available (via the web). The teams will be responsible for optimizing on that data set, and preparing a final presentation to present in class that day.

There is no set policy regarding the distribution of grades. However, since this class is considered (by me!!!) to be a core class, the grading will be highly competitive. Not all students will be getting a B or better-- grades of C and C+ will be given. After the first midterm, I will provide feedback so that students can gauge their performance.