Antennas
ECE 699

Instructor: Dr. Frank B. Gross
Frank.gross@argonst.com

Prerequisites: Electromagnetics

Course Description: Radiation and radiating structures, monopoles, dipoles, loops, horns, arrays, helical, broadband antennas, antenna impedances, radiation patterns, directivity, gain, efficiency, effective aperture, far and near field calculations, computer programming.

Objectives: The student will be able to understand the fundamentals of antenna analysis and design. Several performance measures will be learned as well as numerical techniques for analyzing more complex antenna structures. In particular students will be able to analyze and design dipole, loop and broadband antennas as well as understand and use antenna arrays.

Outline:
1. Fundamentals of Antennas
2. Radiation Integrals
3. Linear Wire Antennas
4. Loop Antennas
5. Arrays
6. Method of Moments
7. Broadband Antennas
8. Aperture Antennas
9. Reflector Antennas
10. Microstrip Antennas
11. Smart Antennas


Grading: The letter grading system will be based on a normalized curve with the following distribution: 90-100 A; 80-90 B; 70-80 C; 60-70 D; below 60 F.

If any one is found to be cheating on exams by receiving or giving help, the student will receive an F grade and will be reported to the university for discipline.

Homework & Exams:
Late homework is unacceptable always unless the student seeks prior approval under exceptional circumstances. Exams can only be made up if prior approval is given to missing assigned exam dates.