SPRING 2007 SYLLABUS

CS 691 Special Classes of Graphs (3-0) Three hours.
Algorithms, properties, complexity results, and applications for various kinds of graphs.
Prerequisite: CS 601

Instructor: Dr. Richard Borie, borie@cs.ua.edu, office 116 Houser Hall
Office hours: Tuesday and Thursday, 11:00 to 1:30

Course schedule: A tentative schedule of lecture topics and homework due dates will be maintained on the course web page (http://cs.ua.edu/691Borie)

Reference: Introduction to Graph Theory (second edition), by Douglas B. West
[Recommended, not required; see the course web page for other suggested references.]

Topics:
- Recursive (tree-structured) graph classes
- Graph classes related to planar graphs
- Perfect graph classes
- Intersection graph classes
- Additional topics related to graphs, depending upon time and interest

Goals/Objectives:
- Design and analyze efficient algorithms for recognition and optimization problems.
- Prove useful properties for each class, and determine the relationships between classes.
- Learn about open or recently solved problems.
- Develop skills that are useful in theoretical computer science research.

Assignments and grade computation:
- Your grade in this course will be based on homework assignments.
- Each assignment will be due at the start of class on a specified due date.
- You must individually write your own problem solutions without referring to anyone else’s written work.
- Tentatively, you may verbally discuss the homework problems with your classmates, provided that nobody is referring to any written work during these conversations, and also provided that everyone involved is contributing equally.
- If it appears to the instructor that some students might be violating the preceding rule, then this rule may be changed in the future to forbid all discussions with classmates.

Policies:
- Daily attendance is expected but not mandatory. However, students who regularly attend class will typically achieve higher grades than those who do not.