Statistics 575 Statistical Methods for Spatial Data
Fall 2006

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Course Objective: The course is directed towards graduate students who are interested in analyzing spatial data, including students from the environmental and ecological sciences, urban and regional planning, soil sciences, plant and animal sciences, and statistics. Similar to Statistics 572, this course will focus mostly on methods, although an understanding of concepts and of the underlying ideas will be stressed (as opposed to simply providing a cookbook of statistical formulas).

Topics: We will devote roughly one third of the semester to each of: spatial point patterns, lattice data, and geostatistics or “kriging”.

Discussion Sections: There will be no discussion sections.

Assignments: There will be weekly homework assignments which will be distributed each Thursday and due the following Friday, at 4:00 pm in your TA’s mailbox. Assignments will be returned in class on Tuesdays. The importance of the homework assignments cannot be overemphasized. Much of your learning will take place while working the homework problems. Homework assignments should be well organized and reasonably neat. It is required that you show your work in order to receive credit. Late homework assignments will be penalized unless extenuating circumstances exist. If possible, prior arrangements should be made in such cases.

Exams: There will be one midterm exam and a final exam. The exams will cover lecture materials, readings, and homework material. Exams will be open-book and open-notes. The midterm exam will consist of an in-class component and a take-home component. The in-class midterm will take place on October 24 (Tuesday) during the regularly scheduled class time. The take-home part of the midterm will be distributed at the end of the in-class exam and will be due 24 hours later. The final exam will take place on December 18 (Monday) at 12:25–2:25 pm. Missed exams will not be permitted except when extenuating circumstances prevail.

Grading: The course will be for 3 credits, graded on an A-F scale. The homework assignments will count 30%, the first midterm will count 30%, and the final will count 40%.

Prerequisites: To take the course, students must have completed one of the following:

- Stat 333 plus Stat 424; or
- Stat/For/Hort 572; or
- consent of instructor.


Reference Texts: On reserve at Wendt Library (URL: www.wisc.edu/wendt/).

- **Comprehensive:**

- **Spatial point patterns:**

- **Lattice data:**

- **Geostatistical data:**

- **S for advanced users:**