Instructor
Ying Sun, Ph.D.
Email: sunwards@stat.osu.edu
Office Hours: 415 Cockins Hall, M 10:05-11:05 AM or by appointment.

Lectures
MWF 9:10-10:05 in Caldwell Lab 0135. Course materials are available in Carmen.

Goals
To provide a systematic advanced treatment of areas of current interest in the statistical theory and methods for the analysis of time series processes. Topics will include stationary processes, autocovariances and spectral analysis, linear time invariant filtering, autoregressive moving average (ARMA) processes, time series modeling and forecasting, Kalman filtering. Depending on how much time is left and the interests of the class, we may cover topics such as long-range dependence in time series and multivariate time series processes.

Prerequisites
Stat 620-622; Stat 645; Stat 656 or equiv; a knowledge of complex numbers.

Textbooks
Computing

The required computer package for this class is R.

Homeworks

Homework will complement the work in class, generally due every other Wednesday. No late homeworks accepted unless prior arrangements have been made. All homework must be submitted on 8.5”x11” paper. Staple the pages together (we are not responsible for lost pages). Submit the problems in order, making sure that the computer output and discussion is placed together. Do not put the computer output at the end of homework; raw output is not acceptable. Make it clear what parts of the output are relevant and show how they answer the questions posed. You are encouraged to work together on the homework, but collaboration with classmates is strictly limited to discussing problems, not writing them up or sharing R code.

Grading

Homework 30%, Midterm 35% (Oct 18), Project 35% (Oct 30: proposal due; Dec 2: report due).

Academic Misconduct

Cheating, plagiarism and other forms of academic dishonesty will not be tolerated. Any violation will be prosecuted to the fullest extent as set out in University Rule 3335-31-02. Please read the university’s Code of Student Conduct, at http://studentaffairs.osu.edu/pdfs/csc_12-31-07.pdf.

Special Accommodations

Any student who feels they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss your specific needs. You should also contact the Office of Disability Services to coordinate reasonable accommodations for students with documented disabilities.
Disclaimer

This syllabus should be taken as a fairly reliable guide for the course content. However, you cannot claim any rights from it and in particular I reserve the right to change due dates or the methods of assessment. Official announcements will ALWAYS be those made in class.