

# STA 4103/5107 Computational Methods in Statistics II

*Spring 2017*

## Course Information

Class Meeting Place: 108 OSB  
Class Meeting Time: T Th 9:30am - 10:45am (Lecture)

## Instructor: Dr. Wei Wu

E-mail: [wwu@stat.fsu.edu](mailto:wwu@stat.fsu.edu)  
Office: 106B OSB  
Office Hours: T Th 10:45 - 11:45am  
Mailbox location: 214 OSB (accessible during 8:00am - 5:00pm on working days)

## Teaching Assistant: Lizhe Sun

E-mail: [lizhe.sun@stat.fsu.edu](mailto:lizhe.sun@stat.fsu.edu)  
Office: Wilcoxon Room (204 OSB)  
Office Hours: W 10-11am

**Textbook:** *Computational Statistics*, by G. H. Givens and J. A. Hoeting (Optional)

**Course Objectives:** To gain an understanding of the techniques and ideas used in implementing mathematical/statistical formulations on computers, with a focus on common statistical approaches. Some recently-developed methods will also be discussed. MATLAB is the main programming language, but any other language is allowed.

**Prerequisite:** STA 4102/5106.

## Topics

- Simulation of Stochastic Processes
- Markov Chain Monte Carlo Methods
- Analysis of Dynamic Systems
- Stochastic Optimization
- Multivariate Depth
- B-Splines
- Nonparametric Density Estimation and Nonparametric Regression
- Spectral Methods

**Grading:** Homework (40%), Midterm Project (30%), Final Project (20%), Attendance (10%). The midterm project is graded for both the report (20%) and the presentation (10%). The final project is graded only for the report.

## Course Policy

- **Classroom policies:**
  - You are **required** to attend all classes

- Come to the class **on time**
- Be quiet

- **Homeworks:** The homework problems will typically be assigned every Thursday and be due the next Thursday. The homework must be neatly written, preferably typed. You can work with other students, but each student must independently finish his/her own solutions. **No late homework!**
- **Academic honor policy:** The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to ". . . be honest and truthful and . . . [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://dof.fsu.edu/honorpolicy.htm>.)
- **Students with disabilities:** Students with disabilities needing academic accommodation should:
  - (1) register with and provide documentation to the Student Disability Resource Center; and
  - (2) bring a letter to the instructor indicating the need for accommodation and what type.

This should be done during the first week of class.

For more information about services available to FSU students with disabilities, contact:

Student Disability Resource Center  
 97 Woodward Avenue, South  
 108 Student Services Building  
 Florida State University  
 Tallahassee, FL 32306-4167  
 (850) 644-9566(voice)  
 (850) 644-8504 (TDD)  
[sdrc@admin.fsu.edu](mailto:sdrc@admin.fsu.edu)  
<http://www.disabilitycenter.fsu.edu/>