

# STA 4203/5207 Applied Regression Methods

## Fall 2015

### Course Information

Class Meeting Time/Place: M/W 5:30-6:45 in HCB 216  
Class URL: [On Blackboard at http://campus.fsu.edu](http://campus.fsu.edu)

### Instructor: Dr. Adrian Barbu

E-mail: [abarbu@stat.fsu.edu](mailto:abarbu@stat.fsu.edu)  
Phone: (850) 290-5202  
Office: OSB 106C  
Office Hours: M/W 2:00-3:00pm or by appointment

### Teaching Assistant: Peng Zhao

E-mail: [peng.zhao@stat.fsu.edu](mailto:peng.zhao@stat.fsu.edu)  
Phone (612)814-9185  
Office: 308 BIO UNIT 1  
Office Hours: M/W 1:00-2:00pm or by appointment

**Textbook:** No textbook is required. The course will follow material from [Linear Models with R](#), by Julian Faraway (publisher: CRC Press), but adapted to work with SAS. Lecture notes will be provided on Blackboard.

**Course Objectives:** This course provides an introduction to the basic principles of regression. Upon successful completion, a student will be able to confidently carry out a regression study using the SAS system.

**Prerequisite:** One of STA 2122, 2171, 3032, 4322, 5126, 5354 or QMB 3200

### Topics

- Estimation
- Inference, hypothesis testing
- Diagnostics, outliers, leverage and influential observations
- Collinearity
- Generalized least squares, weighted least squares, robust regression
- Transformation, Variable Selection
- Shrinkage Methods, Principal Component Regression

**Grading:** Homework: 25%, Quizzes: 30%, Midterm Project: 20%, Final Project: 25%. The following scheme will be used to convert the percentage points to letter grades.

[90, 93)	A-	[93, 100]	A		
[80, 83)	B-	[83, 87)	B	[87, 90)	B+
[70, 73)	C-	[73, 77)	C	[77, 80)	C+
[60, 63)	D-	[63, 67)	D	[67, 70)	D+
[0, 60)	F				

## Course Materials

- Introduction to SAS: <http://www.stat.wisc.edu/~yandell/software/sas/intro.html>
- Laptop: It is recommended that students bring their laptops to follow the examples presented in class and that they install SAS on their laptops.
- Software: We will use SAS this semester. A temporary license will be provided to each student together with a statement that it should only be used for educational purposes.
- Blackboard class website. I will put all the resources such as lecture notes, data and assignments as well as announcements there. To access it, go to <http://campus.fsu.edu/> and login using you ACNS username and password. The grades of all homework, quizzes and projects will be posted on that site.

## Course Policy

- **Classroom policies:** The classroom environment is an important factor for effective learning. In order to not distract other students' attention please follow these classroom policies. The first one of these is the university policy.
  - Remember that no food or drinks are allowed in the classroom.
  - Turn off all audible alarms (cell phones, pagers, calculators, watches etc.)
  - Do not use cell phones in the class.
  - Come to the class on time. Opening and closing the classroom door in the middle of a class cause distraction to the students and the teacher.
  - Do not talk to other students without permission while the professor is teaching. More than one conversation creates noise and makes it difficult for the students to pay attention to the lecture.
- **Class behavior.** The class is large and it is important that the students keep quiet during class and foster an environment conducive to learning. Students that repeatedly disrupt the class will be penalized after two warnings with up to 10% of the course grade.
- **Attendance:** You are required to attend all classes. The class activities will help you assimilate the lessons more easily, giving you an opportunity for active learning. Do not let this opportunity slip away. Any foreseen absence must be cleared with the instructor. If the absence is due to emergencies, it is the student's responsibility to notify the instructor at the earliest opportunity of the emergency.
- **Quizzes:** There will be weekly open book quizzes to check on the material already covered. The best 10 quizzes will form the quiz grade.
- **Team work.** For this class, each student should team up with one or two partners to work together on homeworks and projects.
  - **Homework:** The homework problems will typically be announced on Thursday in class (and on the web site) and due by the following Thursday. No late homework is allowed. The homework must be neatly written, preferably typed. Computer output should be kept to a minimum. The best 10 homeworks will form the homework grade.
  - **Team Projects:** There will be one midterm and one final project. Both are take home projects and the students should work on them in teams of two or three. Similar to the homework, the projects should be typed and computer output should be kept to a minimum.

- **Collecting returned homework/projects:** It is the student's responsibility to retrieve his or her homework and projects whenever they are returned and to check grades on the Blackboard class page. If you notice any mistake in recording grades on the Blackboard page, please inform the instructor or the TA about it as soon as possible.
- **Homework/project re-grade:** You have one week to request a re-grade of a homework or project from the date on which the graded homework/project is available to the students of the class. Submit a written request detailing the nature of the grading error to the TA or instructor along with the relevant homework or project.
- **Contacting the instructor or TA outside the class:** You are strongly encouraged to come to the instructor or TA during their office hours. If your schedule conflicts with the office hours, you can make an appointment. You may ask the instructor brief questions by e-mail, but you may be asked to come to office hours if the instructor thinks that the questions are better answered in person.
- When you send e-mails remember the following:
  - Always e-mail from your FSU accounts. The e-mails from non-FSU accounts may not reach me due to filters.
  - Always write your full name at the end of each e-mail message you send.
  - Always write STA 4203/5207 at the beginning of the subject line.
- **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 in need of academic accommodation should:
  1. Register with and provide documentation to the Student Disability Resource Center;
  2. Bring a letter to the instructor indicating the type of accommodation needed. This should be done during the first week of class.
 For more information about services available to FSU students with disabilities, contact the:

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/>