Syllabus for STOR 455 Section 1:  
Statistical Methods I, Fall 2017

**Instructor:** Dr. Robin Cunningham **Office hours**: Mon/Fri 10:00-11:30 am   
 E-mail: [rjcunnin@email.unc.edu](mailto:rjcunnin@email.unc.edu) Wed 5:45-7:00 pm Phone: 984-528-0687 or By Appointment  
 Office: 338 Hanes Hall

**Assistants:** Aleksandr Touzov

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Office hours: T/Th 11:00-12:00 in Hanes B4

**Lectures:** Monday, Wednesday, Friday 2:30 – 3:20, Hanes 120

**Course URL:** Visit https://sakai.unc.edu/ and login with your Onyen.

**Description:** This course presents regression analysis and other data modeling techniques, and is recommended for students throughout the natural and social sciences who are interested in applying regression analysis in their research and/or understanding the underlying statistical. The topics include simple and multiple linear regression, matrix representation of the regression model, statistical inferences for regression model, diagnostics, outlier and influential cases, polynomial regression and interaction regression models, model selection, and the ANOVA model and test. If time permits, we will address other important topics as well. Statistical software R will be used throughout the course to demonstrate how to apply the techniques on real data. The main purpose of this course is to let students know how to use regression methods properly in data analysis and to master implementation of these techniques in a computing environment.

**Textbook:** Graybill and Iyer, REGRESSION ANALYSIS: Concepts and Applications. Available for free at <http://www.stat.colostate.edu/%7Ehari/regression_book/index.html>

Some other materials will also be provided during the course.

*You are welcome to bring a calculator to class. We will also use Excel occasionally.*

**Programming Requirement**: Throughout the course, we will be taking advantage of the R programming language. Before the course, you should download R, R-studio and R-markdown. All are free and directions are on Sakai. Also on Sakai are tutorials for getting used to R. I recommend these for everyone in the class and you don’t have to wait for the semester. They should be especially useful if you are new to R or new to programming in general.

**Prerequisites**: STOR 155 or equivalent. Some familiarity with matrix algebra recommended, but not required.

**Final Grade:** HW Assignments (25%) – This may include quizzes and/or a class project.

Midterm Exam (35%), tentatively on October 6, 2017, during class

Final Exam (40%) at 4:00 pm on Friday, December 8, 2017

**HW Assignments:**

Since this class has many students, we have to follow some rigid homework rules to make the graders’ job manageable. Please note the following to insure that you get credit for your homework:

* Weekly homework will be posted on Friday and will be due at the start of the next Wednesday class. Many questions will be answered in electronic form and students will be notified of the procedure for submitting those questions.
* For homework to be submitted on paper, show all work and circle the final answer for a numerical question. Staple your homework in the correct order (the order in which the problems were assigned) before turning in the homework. Make sure that your name is printed on every page, while your course number (STOR 455) as well as assignment number is written on the first page.
* No late homework will be accepted. Do not send homework via email, unless requested by the TA or me.
* You are allowed (and encouraged) to work with other students but the homework you turn in should be in your own words. This can be challenging in a programming-based course, but you should make every effort to turn in your own work.
* You are encouraged to meet me or Instructional Assistants (??? and ???) in our office hours for help on the homework problems after you have tried to solve the problems on your own.
* Any question regarding a homework grade should first be addressed to ??? and if you still have questions then feel free to meet me. If you feel that some parts of a graded assignment should be regraded, please confer with ??? within 2 weeks of getting back your assignment. Homework re-grades after this period will not be possible. Given the size of the class, answering doubts regarding the homework or course material via email will be challenging so please come by Office hours. This also helps the IA’s and me to get to know you.

**Exams:** The midterm and final exam are required and there are no make-up exams. Missed exams will be made up by adding weight to the final. All exams are 'closed-book' and 'closed-notes'. If you have three finals within a 24 hour period, and then you must obtain a written Dean’s excuse and discuss the situation with me **at least two weeks before the regularly scheduled final exam** so that an alternative arrangement can be made.

**Honor Code:** It shall be the responsibility of every student enrolled at the University of North Carolina to support the principles of academic integrity and to refrain from all forms of academic dishonesty, including but not limited to, the following:

1. Plagiarism in the form of deliberate or reckless representation of another's words, thoughts, or ideas as ones own without attribution in connection with submission of academic work, whether graded or otherwise.
2. Falsification, fabrication, or misrepresentation of data, other information, or citations in connection with an academic assignment, whether graded or otherwise.
3. Unauthorized assistance or unauthorized collaboration in connection with academic work, whether graded or otherwise.
4. Cheating on examinations or other academic assignments, whether graded or otherwise, including but not limited to the following:

(a)  Using unauthorized materials and methods (notes, books, electronic information, telephonic or other forms of electronic communication, or other sources or methods);

(b)  Violating or subverting requirements governing administration of examinations or other academic assignments;

(c)  Compromising the security of examinations or academic assignments; 3

(d) Representing anothers work as ones own; or

(e) Engaging in other actions that compromise the integrity of the grading or evaluation process.

1. Deliberately furnishing false information to members of the University community in connection with their efforts to prevent, investigate, or enforce University requirements regarding academic dishonesty.
2. Forging, falsifying, or misusing University documents, records, identification cards, computers, or other resources so as to violate requirements regarding academic dishon- esty.
3. Violating other University policies that are designed to assure that academic work conforms to requirements relating to academic integrity.
4. Assisting or aiding another to engage in acts of academic dishonesty prohibited in the above items.

For the complete honor code, please visit <http://instrument.unc.edu/>

*Administrative details*

* All questions regarding course registration and waiting list should be directed at Ms. Christine Keat (crikeat@email.unc.edu, Room 321 Hanes Hall, 919-962-2307).
* The instructor reserves to right to make changes to the syllabus, including test dates (excluding the officially scheduled final examination), when unforeseen circumstances occur. These changes will be announced as early as possible so that students can adjust their schedules.