Course Description and Objectives:
The purpose of this course is to develop skills in statistical analysis and computer techniques. Particular focus will be on applied descriptive and inferential statistics, including cross-tabulations and correlation/regression analysis. The course will consist of lectures, weekly readings, problem sets and examinations. In addition, I will conduct formal lab sessions when students learn to use SPSS, a user-friendly statistical package.

The course has three objectives: (1) to demonstrate the use of applied statistics; (2) to equip students with skills to analyze and interpret data using SPSS; and (3) to help students read professional urban planning/public policy literature with an appreciation for both its substantive contribution and use of technical (statistical) tools.

This course is intensive and will require serious attention. You should plan on attending every class session – this is particularly important for a methods course covering a vast amount of material and meeting only once a week.

REQUIRED TEXTS
- Any additional readings will be posted on Sakai.
- IMPORTANT: All readings are mandatory, and must be done before coming to class. The lectures are not meant to substitute for reading the material.

Placement Exam:
Students with previous background in statistics may place out of this required course by examination. You must bring a non-graphing calculator. Please contact the department.
**GRADING**

The final grade will be computed as follows:

- Problem Sets (7): 35%
- Midterm: 25%
- Final Exam: 25%
- Attendance: 10%
- Participation: 5%

Criteria for final grades

- 90-100% A
- 86%-89% B+
- 80-85% B
- 76-79% C+
- 70-75% C
- 69% or lower F

There will be no extra credit offered in this course. I will not negotiate grades under any circumstances.

**HUMAN SUBJECTS CERTIFICATION**

Planning students are now required to become IRB certified for human subjects research during Methods I. You must submit your certificate to me (hard-copy only) by Tuesday, October 6. I am required to submit (to the Dean) a list of students who did not complete this training.

Overview of the program:
http://orra.rutgers.edu/irb-human-subjects-certification

Link to the exam:
https://www.citiprogram.org/

**SYLLABUS CHANGES**

Please note that I reserve the right to make any necessary changes to the syllabus, including but not limited to changing dates, topics, assignments, and readings. An effective instructor must continually adapt to the conditions of the class and in that spirit, I may choose to add or remove items as needed. I will announce these changes on Sakai and provide ample time when changes are needed.
CLASS RULES
The use of cell phones is disruptive both to the class and to me. Be sure to turn your cell phone tones off before class begins. It is also distracting and disrespectful to use a tablet or laptop for anything other than taking notes or seeking answers to questions posed in class. Be sure to restrict your use to these tasks only. Students answering email, texting, on social media (other than for class purposes), or doing work for other classes will be asked to close their device and leave the class.

ACADEMIC INTEGRITY
All students are required to familiarize themselves with the university's full policy on academic integrity. Visit http://academicintegrity.rutgers.edu for more information.

Principles of academic integrity require that every Rutgers University student:
• properly acknowledge and cite all use of the ideas, results, or words of others
• properly acknowledge all contributors to a given piece of work
• make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of unsanctioned materials or unsanctioned collaboration
• obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions
• treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress
• uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to insure that:
• everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments
• all student work is fairly evaluated and no student has an inappropriate advantage over others
• the academic and ethical development of all students is fostered
• the reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.
• Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.
COURSE REQUIREMENTS

PROBLEM SETS (40%): Students are required to complete four (4) problems sets. Doing problem sets is the most effective way to master the material. Students are encouraged to work in groups on the problem sets, but solutions are to be written independently.

EXAMS (50%): Forty-five percent of your grade will be derived from a mid-term (25%) and a cumulative final examination (25%). Exams start at the beginning of class and finish at the end of class. If you arrive after the first exam is turned in, you will not be permitted to take the exam. You will not be allotted extra time if you arrive late to an exam. Exams will consist of a combination of multiple-choice and short-answer questions.

Make up exams will be permitted only if you obtain a Dean’s note or provide the obituary for the funeral you need to attend. Makeup exams will only be permitted if you provide the obituary for a family funeral you need to attend. I will consider providing a makeup exam for other reasons if you obtain a Dean’s note but the final decision is mine. Personal holidays, vacations, broken alarm clocks, weddings, jobs, exams in other courses, traffic, bad weather, or the Rutgers bus system are not acceptable reasons for missing or being late to an exam. Makeup exams will consist of short-answer questions and will be given at a time convenient for me. All makeup exams will carry a minimum 15% point penalty (i.e., the highest grade you can earn is 85%).

ATTENDANCE (10%): I will take attendance at every class. The quizzes and exams are derived largely from lecture notes; therefore, it will be hard to attain a good grade in this class if you do not attend class.

Please make every effort to be on time, as late arrivals are disruptive to everyone, including me. If you will be significantly late, please stay home. If you are consistently late, leave consistently early, or take repeated bathroom breaks, it will harm your participation grade. If you are on social media or using your cell phone during class, it will harm your participation grade. After two (2) absences, your course grade will begin to drop. After four (4) absences, you will fail the course.

*It is your responsibility to sign the attendance sheet.* I cannot keep track of individual students' attendance at each class. Please do not email to say you forgot to sign the attendance sheet. If you miss a lecture, you must acquire the lecture notes from a fellow classmate. It is not my policy to share my personal notes. Additionally, I am unable to review a lecture during office hours if you miss a class.
# SCHEDULE OF TOPICS AND ASSIGNMENTS

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<tr>
<th>DAY</th>
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<tr>
<td><strong>UNIT 1: DESCRIPTIVE STATISTICS</strong></td>
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| F   | 9/9  | • Variables and Measurement  
• Measures of Central Tendency | “Introduction to Social Science Research Principles and Terminology” (Urdan, Chapter 1)  
“Measures of Central Tendency” (Urdan, Chapter 2)  
“Measures of Variability” (Urdan, Chapter 3) | |
| T   | 9/13 | • Measures of Dispersion  
• The Normal Distribution  
• $z$ scores | “The Normal Distribution” (Urdan, Chapter 4)  
“Standardization and $z$ Scores” (Urdan, Chapter 5) | Problem Set 1 distributed |
|     |      |       |         |          |
| **UNIT 2: INFERENTIAL (BIVARIATE) STATISTICS** | | | | |
| T   | 9/20 | • Sampling Distributions  
• Introduction to Inference (Estimation Procedures) | “Standard Errors” (Urdan, Chapter 6)  
“Statistical Significance, Effect Size, and Confidence Intervals” (Urdan, Chapter 7) | Problem Set 2 distributed  
Problem Set 1 due |
| T   | 9/27 | • Introduction to Hypothesis Testing  
• $t$ tests | “$t$-tests” (Urdan, Chapter 9) | Problem Set 3 distributed  
Problem Set 2 distributed |
| T   | 10/4 | • Hypothesis Testing: Analysis of Variance (ANOVA) | “One-Way Analysis of Variance” (Urdan, Chapter 10) | Problem Set 3 due  
Human Subjects certification due |
| T   | 10/11| SPSS Lab #1 | “Transforming Variables” (Wagner, Chapter 2)  
“Selecting and Sampling Cases” (Wagner, Chapter 3) | Problem Set 4 distributed |
| T   | 10/18| • Hypothesis Testing:  
  o Chi-Square  
  o Correlation | “The Chi-square Test of Independence” (Urban, Chapter 14)  
“Correlation” (Urdan, Chapter 4) | |
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<tr>
<td>T</td>
<td>10/25</td>
<td>SPSS Lab #2</td>
<td>“Testing Hypotheses Using Means and Cross-Tabulation” (Wagner, Chapter 6)</td>
<td>Problem Set 5 distributed</td>
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<td>“Cross-Tabulation and Measures of Association for Nominal and Ordinal Variables” (Wagner, Chapter 7)</td>
<td>Problem Set 6 distributed</td>
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<td>“Correlation and Regression Analysis” (Wagner, Chapter 8)</td>
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<td>“Analysis of Variance” (Wagner, Chapter 10)</td>
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<td>T</td>
<td>11/1</td>
<td>MID-TERM</td>
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**UNIT 3: INFERENTIAL (MULTIVARIATE) TECHNIQUES**

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<tr>
<td>T</td>
<td>11/8</td>
<td>Multivariate Ordinary Least Squares (OLS) Regression I</td>
<td>“Regression” (Urdan, Chapter 13)</td>
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<td>“Linear Regression” (Schroeder, Sjoquist, &amp; Stephan, Chapter 1)</td>
<td>Problem Set 7 distributed</td>
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<td>T</td>
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<td>Multivariate OLS Regression II</td>
<td>“Multiple Linear Regression” (Schroeder, Sjoquist, &amp; Stephan, Chapter 2)</td>
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<td>SPSS Lab 3: Multivariate Regression</td>
<td>“Hypothesis Testing” (Schroeder, Sjoquist, &amp; Stephan, Chapter 3)</td>
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<td>11/22</td>
<td>Class Cancelled – Thursday schedule</td>
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<td>T</td>
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<td>Multivariate OLS Regression III: Regression Assumptions</td>
<td>“Extensions to the Multiple Regression Model” (Schroeder, Sjoquist, &amp; Stephan, Chapter 4)</td>
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<td>“Problems and Issues of Linear Regression” (Schroeder, Sjoquist, &amp; Stephan, Chapter 5)</td>
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<td>T</td>
<td>12/6</td>
<td>SPSS Lab 4: Multivariate OLS Regression</td>
<td>“Correlation and Linear Regression Analysis” (Wagner, Chapter 8)</td>
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<td>T</td>
<td>12/13</td>
<td>Final Course Review</td>
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<td>SPSS Lab 5: Lab Time</td>
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*Final Exam: TBA*